

FACTORS AFFECTING JOB SATISFACTION OF EMPLOYEES IN A PUBLIC
INSTITUTION

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ABSTRACT

FACTORS AFFECTING JOB SATISFACTION OF EMPLOYEES IN A PUBLIC INSTITUTION

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In this study, it is aimed to determine important factors that affect the job satisfaction of employees working in a particular public institution and to investigate to what extent the public institution satisfies its employees. For this purpose, after extensive literature research, two different and subsidiary surveys, which are Analytic Hierarchy Process (AHP) Survey and Job Satisfaction Survey (JSS), are conducted on the subject employee group. It is assumed that the subject employee group, which consists of assistant experts and experts, is representative for the whole employees in the institution.

Expert Choice 11 and SPSS 21.0 software programs are used respectively for analysis of data collected from AHP Survey and Job Satisfaction Survey. By using AHP method, the important factors for job satisfaction are determined. Then, by using JSS, the satisfaction levels of main factors and sub-factors are determined. In addition, effects of demographic properties of participant on both overall satisfaction level and factor satisfaction levels are tested by using variance analysis techniques (ANOVA, MANOVA & Non Parametric Test).

In conclusion, results of both surveys are discussed in order to light the way for the future studies for the improvement of job satisfaction of employees in the public institution. Moreover, findings about satisfaction level of employees and recommendations for the institution are presented in the report.

Keywords: Job Satisfaction, Analytic Hierarchy Process, Job Satisfaction Survey.

ÖZ

BİR KAMU KURUMUNDA ÇALIŞANLARIN İŞ MEMNUNİYETİNİ ETKİLEYEN FAKTÖRLER

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Bu tezin amacı, bir kamu kuruluşunda çalışan kişilerin iş tatminini etkileyen faktörlerin tespit edilmesi ve bu faktörlerin kurum tarafından hangi ölçüde karşıladığının belirlenmesidir. Bu amaçla, kapsamlı literatür araştırması sonucunda, çalışanlara sırasıyla Analitik Hiyerarşi Süreci (AHS) ve İş Tatmini Anketi uygulanmıştır. Uzman ve uzman yardımcılardan oluşan örneklem grubunun, kurumdaki tüm çalışanları temsil ettiği varsayımı yapılmıştır.

Analitik Hiyerarşi Süreci ve İş Tatmini anketlerinin uygulanması sonucunda toplanan veriler “Expert Choice” ve “SPSS” yazılım programları kullanılarak analiz edilmiştir. AHS metodu ile iş tatminini etkileyen faktörler belirlenmiştir. Daha sonra, iş tatmini anketi ile faktörlerin tatmin edilme seviyesi belirlenmiştir. Ayrıca, katılımcıların demografik özelliklerinin; genel iş tatmine ve faktör bazında iş tatmine etkisi, varyans analiz yöntemleri ile (ANOVA-MANOVA-Parametrik Olmayan Analiz) test edilmiştir.

Araştırmanın sonucunda, her iki anketin sonuçları çalışanların iş tatminini geliştirmek için ileride yapılacak çalışmalara ışık tutmak için tartışılmıştır. Ayrıca, raporda çalışanların iş tatmini düzeyi ile ilgili bulgular ve kurum için tavsiyeler yer almıştır.

Anahtar Kelimeler: İş Tatmini, Analitik Hiyerarşi Süreci, İş Tatmini Anketi

To my dear family

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CHAPTER 1

INTRODUCTION

1.1. Main Context

Job satisfaction is defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1304). It is also defined by Newstrom (2011) as “a set of favorable or unfavorable feelings and emotions which employees view with their work” (Mahmood, 2011).

Work is one of the most important aspects in people’s lives in today’s highly competitive corporate environment. Since people spend about most of their waking hours at work, employee job satisfaction gains more importance in their working lives. Therefore, job satisfaction plays a vital role for efficient working environment. In accordance with that, influencing factors of job satisfaction are essential for improving the well-being of a large part of our society (Schneider and Vaught, 1993). Therefore, job satisfaction, as an important academic concept, has been popular in wide range of fields such as social psychology.

According to Miner (1992), job satisfaction is a significant issue in running of institutions and one of the main indicators of how healthy an organization is. Thus, organizations attach great importance to the job satisfaction issue. Satisfaction levels of employees are important for organizations, since satisfied workers contribute to effectiveness and long-term success of the organizations. The effectiveness and productivity of an organization depends on its staff and "a happy worker is an effective one". It is not possible for development of an organization without considering exploiting of the staff’s capabilities and improving their working conditions. Organizations consisting of highly satisfied worker are most probably more successful

than other organizations (Başar, 2011). For this kind of organizations, it is not difficult to get workers having desired qualifications.

Qualified, productive, and happy worker provides more to its organization to achieve success.

1.2. Problem Definition

Employee job satisfaction is considered as a critical success factor for organizations. Numbers of researches on this topic have been conducted all around the world. In recent decades, this issue has aroused interest in Turkey as well. Unfortunately, it is observed that there is not enough research made in Turkish major governmental institutions about job satisfaction. Non-profit public organizations are essential for the country and its economy. Therefore, the issue is significantly important for public institutions. For these reasons, one of the fundamental public institutions is selected for this study on measuring job satisfaction.

The aim of this study is to determine the most important factors that affect the job satisfaction of employees working in a particular public institution and to investigate to what extent the public institution satisfies its employees about these prominent factors. In this study, both general job satisfaction and segmented job satisfaction factors are being investigated in terms of demographic factors.

Job satisfaction is a crucial issue for the development and better functioning of key governmental organizations and the country as a whole, and also for the future expectations of the well-educated and qualified work force of the country. The public institution where this study is performed is a central governmental institution, subject to central government budget applications and limitations. This institution implements fundamental economic policies and activities mainly related to trade and investment in order to contribute to the national economy and development of the social welfare. Also, it has a critical responsibility for developing and implementing the policies for the coordination of international economic relations by means of diplomatic missions. Therefore, the job satisfaction is worth to be investigated and very important to be kept at high level in this kind of institutions. The intention of this study is to recommend the

public institution to take necessary steps to keep the employees satisfied with their work and other work-related factors for the success of the institution.

1.3. Structure of Thesis

The thesis is consisted of five chapters: After the introduction chapter, Chapter 2 summarizes explanations in the literature about job satisfaction concept, job satisfaction theories, determinants of job satisfaction and analytic hierarchy process. Chapter 3 consists of the methodology followed through the analysis of the problem and the results based on the statistical analyses that are reported in detail. Chapter 4 includes discussions relate with findings and existent studies in the literature. Finally, in Chapter 5, is about conclusions, recommendations and suggestions for the future. In addition, tables, software program applications and results about the thesis can be found in the Appendices of the report.

CHAPTER 2

LITERATURE REVIEW

2.1. Job Satisfaction

The most-used definition of job satisfaction is by Locke (1976) as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (A. Judge & Klinger, 2008). Locke, who is the leading academician among many researchers, states that there are important points in above definition of job satisfaction: an emotional state implied that there is an effective component to the job satisfaction; an appraisal process implied that there is a cognitive or evaluative component to the job satisfactions. In other words, Locke’s definition consists of three elements: effective, cognitive and job-focused.

There is no universally accepted definition of employee satisfaction, but there are many definitions of job satisfaction in the literature. The reason is that job satisfaction means different things to different people, since people are affected by various different factors including personal characteristics, needs, values, feelings and expectancies. Also, it varies from organization to organization, since job satisfaction influencing factors such as working environment, job characteristic, opportunities for employees and working environment differ according to organization (Harputlu, 2014).

There are various definitions of job satisfaction as mentioned, first of all, it can be defined as concerning one’s feeling or state of mind related with the work (Chughati & Perveen, 2013) and “an employee’s positive attitude towards the company, co-workers and, finally, the job” (Sypniewska, 2013). When the institution meets job expectations,

the individual experience positive feelings, so, these positive emotions indicate job satisfaction (Green, 2000).

In addition, an employee may change his/her perception based on experiences so that, the employee's perception of the organization evolve over time. Therefore, job performance and job satisfaction depends on perception of the employees. In addition, Spector (1997) indicates, "job satisfaction data is helpful in evaluating the emotional wellness and mental fitness of employees and so organization can use the information to improve its structure" (Concepts and Review of Related Literature, n.d.). According to Fogarty, job satisfaction refers to the extent to which employees gain enjoyment from their efforts in their workplace (Brunetto and Wharton, 2002). Moreover, a level of trust develops between the employee and the organization that encourages employees to behave cooperatively within the organization (Jone and George, 1998)

According to Zeffane (1994) and Spector (1997), most studies identified at least two categories: environmental factors, associated with the work itself or work environment, and personal characteristics, associated with individual attributes and characteristics (Ellickson, 2002).

Another definition of the job satisfaction concept is "the extent to which people like-satisfied- or dislike/dissatisfied with their job" (Spector, 1997). In fact, job dissatisfaction reduces individual's performance and causes some negative effects such as low productivity, absenteeism, and quitting the job and it is hard to prevent job dissatisfaction (Altuntas, 2014). In this context, "the evaluation of individual's assessment level that how the work environment fulfils their needs" (Dawis and Lofquist, 1984), and "general attitudes of employees towards their jobs" (Wickramasinghe, 2009) are the other definitions of job satisfaction. Simply stated, the more employees' work environment fulfills their needs, values, or personal characteristics, the greater the degree of job satisfaction (Ibrahim et al., 2012; Zaim et al., 2012).

Some other considerable definitions are as follows: "multi-disciplinary concept that results from employees' perception of their jobs" according to Ivancevich, et.al (2011) and "how people feel about their jobs and different aspects of their jobs" according to

Balzer (1990) (Zaim et al., 2012; Theron, 2010). The definitions of the job satisfaction are more or less about personal affections. According to Yuewei Chen (2005), if the employees have positive and pleasant feelings about the work, their attitudes to the work are defined as job satisfaction. On the other hand, if the employees have negative and unpleasant feelings in work, their attitudes to the work are defined as dissatisfaction (Zhu, 2013). In this context, job satisfaction is that how much the employees like or dislike their work and the extent how much their expectations concerning work are fulfilled. According to Wright and Kim (2004), Job satisfaction represents an interaction between workers and work environment and between what they want from their jobs, what they perceive and receive. It is commonly explained using the person–environment fit paradigm or needs–satisfaction model. The more a job fulfills the workers' needs, the higher their job satisfaction should be (Taylor and Westover, 2011).

According to Locke (1969), emotions that rise to job satisfaction has a three-step. First, employees experience some elements of the work environment; second, employees use a value standard to judge these work elements; and third, they evaluate how the perceived work element facilitates the achievement of preferred values (Davis, 2012). If a perceived work element provides positive emotions, this process is resulted in job satisfaction. In this context, Hoppock (1935) described the job satisfaction as “the employees' subjective reflections or subjective feelings about their working conditions and working environment”. However, elements of the work environment contradict the value preferences; it is resulted in job dissatisfaction. Locke (1976) states that there is a discrepancy between what the individual wants, and the importance of wanted, and what he/she perceives as getting (Staples & Higgings, 1998). The employees balance their satisfactions or dissatisfactions to their job and then form an overall conclusion about the job, satisfying or not (Zhu, 2013).

Job satisfaction is a very important aspect of an employee's well-being and has emotional, cognitive, and behavioral components (Saari and Judge, 2004). According to Kaplan (2008), emotional aspect refers one's feelings regarding the job, cognitive aspect refers one's thoughts and beliefs regarding the job, and, behavioral component refers to people's actions with respect to the job (Zaim, et al., 2012).

According to Buitendijk and De Witte (2005), job satisfaction is a feeling of mind of an individual like as needs, ethics and hopes. The persons assess their work regarding the factors being considered more important by them. According to Henderson (2003), some researchers agreed that individual's personality factor is closely related with job satisfaction (Ibrahim, et.al, 2012).

Locke's Job Satisfaction Model (1976) is a well-known corner stone theory in the job satisfaction literature. He uses mainly two dimensions for analyzing the job satisfaction: job components and comfort factors. Job components include reward, interest, challenge, autonomy, and relation with co-workers, opportunities to use abilities, creativity, variety, self-esteem, pay, promotion, and supervision. Comfort factors include working hours, travel time, physical surrounding, characteristics of the enterprise and its management, fit between employee, work, and expectations in the workplace. Locke's model is the clearest and most functional model within the job satisfaction theories and models.

Moreover, according to Locke's Job Satisfaction Theory, job satisfaction is the extent to which people are satisfied with outcome of the work. Workers are more satisfied with the work if they get outcomes that are more valuable. Not only the amount but also the type of rewards affects job satisfaction. Employees want to get desirable rewards in return for their efforts. Satisfied workers favor the betterment of organization (Locke, 1969). Job satisfaction refers a personal attitude toward the job and it shows how well the staff's expectations are compatible with the rewards the work (Amiri, et.al, 2010).

Oshagbemi (1999) defined job satisfaction as "an affective reaction to a job that results from the person's comparison of actual outcomes with those that are desired, anticipated, or deserved" (Eker et al., 2007). Employee satisfaction is also relevant to organizational outcomes such as commitment, extra-role behavior, turnover, productivity, and service quality and customer satisfaction. According to Saari and Judge (2004), there are three main streams about the job satisfaction, the first stream is focusing on reasons of employee satisfaction, the second is about personal and organizational outcomes and the third one is aiming to measure job satisfaction (Zaim, et al., 2012). In this case, the outcomes such as work conditions, development

opportunities are the causes such as employee performance and environmental factors (Staples and Higgings, 1998).

New society of employees with emerging needs has increased in 1980s, because of the development of the working life and technology. Tichy (1983) and Handy (1985) did researches in order to investigate the effects of the high-level technology on employees and organizations. The later studies contribute to seek the configuration of tasks about jobs and organizations for the development of social structure. In addition, job design studies take technology as a variable and consequently, are in interaction between personal, social, and organization needs. Many studies demonstrate the positive effects on total performance of job and organization needs (Atasoy, 2004).

In the literature, researchers have divided job satisfaction into two main categories: general satisfaction and specific satisfaction. General satisfaction, referred overall satisfaction, defined as an overall evaluation for the job. Specific satisfaction, in other words job facet satisfaction, is defined as an evaluation of various job aspects (Eker, et.al, 2007). Lussier (2005) defined the job satisfaction as the employees' overall attitude to the work. However, some other studies reflect employees' evaluations on every specific aspect of their work, differing from the overall definition (Zhu, 2013).

Weiner (2000) states that job satisfaction is dependent on the nature of the job itself, which is integrated with job challenges, autonomy, skill variety and job scope. Thus, nature of job itself is at the top places for researchers in order to understand what makes people to be satisfied with their jobs (Sedem, 2012).

Employee satisfaction has multidimensional construction with supervision at work, work itself, pay and conditions, appraisal, promotion practices and co-workers (Hackman and Oldman, 1980).

Many public organizations have become aware of the importance of job satisfaction and but there are still too few examples about addressing this issue systematically. In order to increase job satisfaction in public institutions, goals should be periodically measured and monitored (Tomozevic, et.al, 2013).

In addition, job satisfaction sometimes can be confused with motivation, but job satisfaction cannot be a substitute for motivation (Başar, 2011). However, there is an apparent relationship between these two concepts. Highly motivated people experience much satisfaction (Chughati & Perveen, 2013).

As a conclusion, the job satisfaction is the concept, which is affected by multiple factors, and is understood by many dimensions. At first sight the job satisfaction is seen as an abstract concept, however, it is actually in every aspect of the work life. It determines the coordination of the workers in the organization. The job satisfaction cannot be separated from the life of the work itself because it is related to the human conditions and as mentioned above, it reflects all considerable judgments which are; what the individual wants, and the importance of what is wanted, and what he or she perceives as getting.

2.2. Theories of Job Satisfaction

Job satisfaction is defined in the literature with several theorists according to their own workable conditions. This part of the chapter purposes to provide a highlight of the main theories and to give a broad perspective of the main developments in job satisfaction over the last decades.

There are various theories attempting to explain job satisfaction in the literature, among these theories, prominent ones are divided into two categories: content theories and process theories. Content theories identify factors leading to job satisfaction or dissatisfaction and suggest that job satisfaction come true when employees' need for growth and self-actualization are met by their job. Process theories attempt to describe the interaction between variables for job satisfaction and explain job satisfaction by looking at how well the job meets one's expectations and values. Each of two theory groups has been explored by many researchers. Content Theories are Maslow's Need Hierarchy Theory, Aldefe-ERG, Herzberg's Two Factor Theory, McClelland's Need Theory; and process theories are Vroom's Expectancy Theory, Locke's Goal- Setting Theory, Adams' Equity Theory and Job Characteristic Theory etc.

As mentioned above, job satisfaction cannot be a substitute for motivation, but these are related concepts. Some of the theories on job satisfaction are based on the motivation theories, and, some of them can be perceived as job satisfaction theories. Therefore, both theories of job satisfaction and motivation are strongly related with each other.

Before explaining the major content and process theories of job satisfaction, some of the developments in the literature are mentioned in the following part.

Theories of job satisfaction start with the idea of ‘Scientific Management’ or ‘Taylorism’ by Frederick W. Taylor in 1911. Frederick W. Taylor, Frank Gilbreth and Henry L. Gantt proposed salary incentive models to motivate people at work (Luthans, 1995). According to this idea, people could be motivated only by money.

It can be said that the origin of job satisfaction studies dates back to in 1911. In that time, Taylor began to study on employees and their job duties to develop better ways for the work and the workers. He defined a new and different concept related with the individual depends on industrial society and organizational structures. This new concept was towards the individual’s motivation, satisfaction, happiness and commitment, which have a strategic importance for development of organizations and industrial societies. In addition, Taylor was the first scientist who was concerned with time and motion studies. According to Taylor’s theory, the motions of each worker should be calculated to prevent useless movements to save time, however; a direct reward system should be provided in order to keep the workers motivated. According to him, some special incentives should be given such as giving the hope of rapid promotions or advancement higher wages, and rewards by constructing better working conditions. This is called as ‘Scientific Management or Task Management’ by Taylor. As a result, workers are encouraged to work hard for maximizing productivity thanks to scientific management (Atasoy, 2004).

Mayo was the first scientist who studied the effect of lighting and conducted experiments at the Hawthorne factory of the Western Electric Company in Chicago thought that workers are not just concerned with money but with their social needs met at work. He studied on the possible effect on employees’ productivity levels of changing factors such as lighting and working conditions, by creating great basis for

future studies that investigate about other factors that have an impact on employees' job satisfaction. Moreover, Mayo concluded that workers are best motivated by better communication between managers and workers (Concepts and Review of Related Literature, n.d.).

For Taylor's approach, it is not enough to explain job satisfaction procedures, since the human factors and human feelings are not significantly important. Workers are also dislike Taylor's approach as they are only responsible for repetitive tasks to carry out and this causes some reactions as dis-satisfied workers in the industry. In the following years, Taylor's theory was rearranged (Atasoy, 2004).

After scientific management, a new approach developed related with the theories of socio-technical systems and job design by Louis E.Davis by the Tavistock Institute in London around 1950. Second industrial revolution has begun with the progress in information technology. Davis's aim was to construct a balance and a relationship between people and technology. He dealt with autonomous groups, working together to complete their task.

2.2.1. Major Content Theories

Content Theories mainly deal with determining the satisfaction levels of particular needs, and their priority. These theories are still important for understanding what motivates people at work (Luthans, 1995).

2.2.1.1 Maslow's Hierarchy of Human Needs

A.H. Maslow developed the hierarchy of human needs model during 1940-50's. Maslow's hierarchy of needs is leading one of the fundamental motivation theories. According to Maslow's theory, human needs divided into five categories. These categories contain all human activities, which are "Physiological or Basic Needs", "Security or Safety Needs", "Belonging or Affection Needs", "Esteem or Ego Needs" and "Self-Actualization Needs".

According to Maslow, people tend to satisfy their needs, in a certain order of precedence; within each level, there are needs that employees would like to be fulfilled. For instance, when physiological and security needs are satisfied, higher needs that are

belonging, esteem, and self-actualization become important. In other words, the assumption of this model is that, only feeling satisfied, to a certain level, about needs of a lower level creates a desire to implement a need on a higher level (Sypniewska, 2013). Each employee of an organization would prefer to move to the next level after achieving the needs in the low level, then, the old need loses its importance since it is satisfied.

Five basic human categories of Maslow's hierarchy are as follows in detail:

Physiological or Basic Needs: This is the first level of needs in the Maslow's hierarchy of needs model. In this level of hierarchy, these are necessary to be satisfied in order to stay alive. Physiological needs consist of food, water, drink, shelter, warmth, sleep and other factors necessary for survival.

Security or Safety Needs: These are the needs in the second level of the hierarchy, which include self-protection, physical environment, law, limits, avoidance of harm, stability, freedom from emotional distress and provision for the future.

Belonging or Affection Needs: This is the third level of needs that an employee would like to achieve. These needs are friendships, companionship and grouping of people for various activities, affection, love, family, relationships and work group etc. Belongingness needs relate to desires for friendship and love.

Esteem or Ego Needs: The fourth level of needs consists of self-esteem, achievement, mastery, independence, status, dominance, prestige and managerial responsibility, possession, authority and receiving respect by other employees. These types of needs can be faced in work and social life.

Self-Actualization Needs: These are the fifth and the highest level of needs, which are self-fulfillment, realizing personal potential, seeking personal growth and experiences, personal growth and development. These kinds of needs represent to make the fullest of capabilities, to develop oneself and to be creative in the work environment (Gerçeker, 1998).

The theory makes a significant contribution to modern business life about motivation (Luthans, 1995) and it provides organizations to motivate their employees in the point of view that motivated employees expected to be more satisfied. Thanks to fundamental

approach of this theory, an organization offer different incentives to workers in order to fulfill needs of them and to progress up the hierarchy.

This theory has gained great acceptance due to its clarity and its structure. However, many researches criticized the theory and additional changes that are made based on the theory. The most prominent criticized point about the theory is related with its assumption: after a lower level of need is fully met, a worker is motivated of satisfying the next need up in the hierarchy. In the real life, it appears that various categories of needs simultaneously can be satisfied and certain behavior can be aimed at higher needs, while the lower ones have not been satisfied yet. Moreover, the other criticized points by some researchers that the theory simplifies

According to Graham (1992), Maslow's table underestimates the needs of people and it simplifies them by grouping into five classes, and, according to this hierarchy of needs, dissatisfaction toward a need cannot be explained.

2.2.1.2 The ERG Theory

Clayton Alderfer (1969) proposed Existence-Relatedness-Growth Theory. The ERG theory is an extension of Maslow's hierarchy of human needs theory. Alderfer stated that needs could be classified into three categories, rather than five and these are; existence needs, psychological and safety needs; and relatedness needs. Existence needs are similar to Maslow's physiological and safety need categories. Relatedness needs involve interpersonal relationships, which are similar to Maslow's belongingness and esteem needs. Growth needs are related with the attainment of one's potential, which are associated with Maslow's esteem and self-actualization needs (Barnet & Simmering, 2006).

Alderfer and Maslow's theories are similar, but Alderfer (1969) suggest that when an individual is continually unable to meet upper-level needs, the lower level needs become the major determinants of their motivation. In other words, the ERG theory differs from the hierarchy of needs in which it suggests that lower-level needs must not be completely satisfied before upper-level needs become satisfied (Burnet & Simmering, 2006).

Alderfer also stated that individuals are motivated by moving forward and backward between these levels (Ramprasad, 2013). In detail, according to Alderfer (1972), in the case of relatedness satisfaction decreases, the existence desires tend to increase while growth desires decrease (backward movement). On the other hand, in the case of relatedness satisfaction increases, growth desires tend to increase while existence desires decrease (forward movement).

2.2.1.3 McGregor's Theory X & Theory Y

Douglas McGregor introduced Theory X and Theory Y, which contains two different assumption sets corresponding to relationships between managers and employees (De Cenzo & Robbins, 1994). The main assumption of Theory X is that employees dislike work and have tendency to avoid it. This kind of people must be continuously controlled and threatened with punishment in order to succeed the desired aims. On the other hand, Theory Y is assumed that employees could have self-direction or self-control if he/she is committed to the jobs (Gerçeker, 1998). According to McGregor, Theory Y is considered as more valid and greater job involvement, autonomy and responsibility; given employees, increase employee motivation (De Cenzo & Robbins, 1994).

2.2.1.4 Herzberg-Two Factor Theory

Frederick Herzberg (1959) has closely related with Maslow's hierarchy of human needs theory and introduced two-factor theory of motivation.

According to Herzberg's two-factor theory of motivation, the factors are divided into two dimensions, "motivators" and "hygiene". According to him, certain factors that would directly motivate employees and cause satisfaction are intrinsic factors. Herzberg calls these factors as the "motivators" which give the intrinsic satisfaction, and represent the need for self-actualization and grow. The motivators are based on personal perceptions and internal feelings; including achievement, experience, the work itself, responsibility, changing status through promotion and opportunity for growth and advancement. On the other hand, "hygiene" factors, which lead to extrinsic satisfaction and cause dissatisfaction, include; supervision, inter-personal relationships, recognition,

management, company policy and administration, promotion, salaries and benefits, status, job security and physical working conditions (Waheed, 2011).

According to Herzberg's two-factor theory, the primary determinants of employee satisfaction are intrinsic factors, because employees are motivated to obtain more of them. If the motivator factors are not provided by the institution, individuals will be dissatisfied, as, dissatisfaction is caused by hygiene factors. Absence of hygiene factors contribute to job dissatisfaction but their presence does not contribute to satisfaction. In other words, when the hygiene factors are not met, dissatisfaction occurs but they do not motivate employees (Ghafoor, 2012).

According to this theory, for example, the implication of the motivator-hygiene theory is that needs such as improvement of salary, benefits and safety, which are extrinsic factors, will prevent employees from becoming actively dissatisfied but will not motivate them to exert additional effort toward better performance (Barnet & Simmering, 2006). In contrast, in order to motivate workers, managers must focus on changing the intrinsic factors by providing to some factors such as autonomy, opportunities, responsibility, recognition, skills and careers.

On the other hand, Herzberg's motivation-hygiene theory is also criticized on some points. Theory does not clarify the differences between the satisfaction and dissatisfaction. These two factors, called "motivators" and "hygiene", conclude differently from population to population. Any factor that causes dissatisfaction may contribute to satisfaction in any other condition or any other country. In addition, this difference is hard to put into effect, since people have different needs and expectations. According to researcher having opposite view, level of satisfaction cannot be predicted with the only motivator or hygiene (Stello, 2011).

2.2.1.5 Need for Achievement and Basic Needs Theory

Need for Achievement Theory was developed by McClelland (1951, 1961) and Atkinson (1964). Individuals' needs are divided into three psychological needs. These primary needs in this theory are the need for affiliation, for power, and for achievement. Firstly, the need for affiliation reflects a desire to establish social relationships with others. Secondly, the need for power is a desire to control one's environment and

influence others. Thirdly, the need for achievement is a desire to take responsibility, set challenging goals, and obtain performance feedback (Garrin 2014).

This theory has been a corner stone for many empirical and experimental researches. The main point of the theory is that when one of these needs is strong in a person, it has the potential to motivate behavior that leads to its satisfaction. Thus, especially managers should effort to develop an understanding of whether and to what degree their employees have these needs, and the extent to which their jobs can be structured to satisfy them (Higgins, 2011).

2.2.2. Process Theories of Job Satisfaction

Process theories attempt to explain job satisfaction by looking at expectancies and values Gruenberg (1979). Within this concept, Vroom, Adams and Hackman & Oldman became the most prominent theorists.

2.2.2.1 Expectancy Theory

Expectancy can be defined as a belief, which concerns a particular action following by a particular outcome (Lunenburg, 2011a). An American psychologist, Edward C. Tolman, introduced “Expectancy Theory” in the 1930s. This theory indicates that human behavior is motivated by the expectations. According to the theory, an individual decides to behave in a certain way to achieve the desired reward, motivates himself/herself to select a specific behavior concerning what they expect the result of that behavior (Ugah and Arua, 2011). For instance, if workers need more money to satisfy their needs, they are assured that if they work harder; they will receive more money.

Victor Vroom (1960s) applied the concepts of behavioral research in the following years, which was introduced by Tolman. Expectancy Theory is a process theory of job satisfaction and motivation. This theory describes expectations in which an individual’s effort is determined by the expected outcomes and the values of outcomes in a person’s mind (Liao, et al., 2011). In other words, the concept of expectancy is based on individual perception and personal behavior.

In addition, Locke (1976) states that needs are regardless of what the person wants, while values are subjective depending on the standards in the person's mind. It means that while people have the same basic needs, value of the needs differs according to people's standards.

According to Expectancy Theory, there is strong relationship between the effort, the performance, and rewards they get from their effort and performance. They become motivated when they believe that strong effort will lead to a good performance, and good performance will lead to a desired reward (Lunenburg, 2011a).

Vroom presented three basic variables in his theory: expectancies, instrumentalities, and valances:

Expectancy: is the degree to how much people believe that putting forth effort leads to a given level of performance.

Instrumentality: is the degree to how much people believe that a given level of performance results in certain outcomes or rewards;

Valence: is the extent to what the expected outcomes are attractive or unattractive.

Differently from the content theories, expectancy theory recognizes complexities of motivation process so that it is not a simplistic approach. Vroom's expectancy theory does not provide specific suggestions about the things that motivate employees, instead of; Vroom's theory provides a process, which reflects individual differences in work motivation. Expectancy theory provides guidelines for enhancing employee motivation by defining the individual's effort-to-performance expectancy and performance-to-reward expectancy (Lunenburg, 2011a).

The meaning of this theory is that if workers put forth more effort and perform better at work, then they are compensated. If discrepancies occur between expected compensation and actual outcome, this leads employees to dissatisfaction. In other words, if employees receive less than what they have expected or feel and believe to have been threatening unfairly, then dissatisfaction may occur (Worrell. 2004). Thus, managers should ensure that their employees believe high effort leading to valued rewards (Lunenburg, 2011a).

In 1964, Vroom also pointed out that the job satisfaction has seven aspects, i.e. the compensation, the supervisor, the colleagues, the working environment, the job content, the promotion, and the organization self in his study *Work and Motivation*. This study has been used by social scientists for many years (Zhu, 2013).

In addition, in the late 1960s, Porter and Lawler extend the Vroom expectancy model, which is known as the Porter-Lawler Expectancy Model. Although the basic concept of the Porter-Lawler model is based on Vroom's model, the Porter-Lawler model was more complex. It indicates that increased effort does not automatically lead to improved performance because individuals may not possess the necessary abilities needed to achieve high levels of performance, or they may have an inadequate perception of how to perform necessary tasks (Barnet & Simmering, 2006).

In this context, Smith, Kendall and Hulin develop Cornell Model. They suggest that job satisfaction is feeling of individual about different facets of his/her job. This feeling results from discrepancy of employee's perception between reasonable and fair outcomes. The concept of "frame of reference" refers to standards used while making an evaluation. These standards come from experiences and expectancies of employees. They make comparisons and judgments by using these references (Sun, 2002).

2.2.2.2 Equity Theory

Equity Theory is a motivation theory but there are important points about satisfaction and dissatisfaction in it. According to Adams (1963, 1965), satisfaction is determined by the perceived input-outcome balance. He states that, employees aim to reach a balance between their "inputs" and their "outcomes". Inputs are factors such as educational level, experience, ability, skill, effort, responsibility, age and effort, while outcomes are the things like performance, salary, good working conditions, work insurance, promotion, recognition, status, and opportunity (Holtum, 2007).

The degree of equity is a factor that is defined by the relationship between inputs and outcomes. Employees make a comparison between their own contribution and rewards. During this stage, if employees feel themselves as not being fairly treated, this will result in dissatisfaction. If the rates of reward are low than others, means inequality increases, employees try to increase their rewards. If this is not possible, they decrease

their contribution and performance. In contrast, if this rate is higher than another's rate, feeling of guilt emerges. In other words, not only under-reward but also over reward can lead to dissatisfaction and feeling of guilt (Al-Zawahreh & Al-Madi).

Some studies related with equality state that, for instance, female may be more tolerant or underpayment inequality than males, and they may experience less perceived inequality.

As a conclusion, Adams's Theory made a significant contribution to motivation theory by pointing out social comparisons. Apart from expectancy theories, which focus on the relationship between performance and reward, Adams's theory proposed that motivation process is more complicated and employees evaluate their rewards by social comparisons.

2.2.2.3 Discrepancy Theory

According to Discrepancy Theory, differences between received outcome levels and desired outcome levels determine the satisfaction. When received outcome level is below the desired outcome level, dissatisfaction occurs. Katzell (1961) and Locke (1968) have presented two most developed discrepancy theories. Locke proposed that perceived discrepancy is important, and satisfaction is determined by the difference between what people want, what they receive/perceive and what they expect to receive (Atasoy, 2004).

2.2.2.4 Job Characteristic Theory

Hackman and Oldman (1976) to explain aspects of job satisfaction develop Job Characteristic Model. It states that job characteristics are the best predictors of job satisfaction since job satisfaction is affected by interaction of task characteristics, characteristics of workers and organizational characteristics (Green, 2000). According to Job Characteristic Model, job satisfaction is based on five job characteristics, which are under three psychological states; experienced meaningfulness of the work, experienced responsibility for outcomes of the work, knowledge of the actual results of the work activities. Experienced meaningfulness has three job characteristics; they are skill variety, task identity and task significance. Job characteristic of experienced

responsibility is autonomy and job characteristic of knowledge of the actual results' is feedback.

Hackman and Lawler (1971) studies provide an important background for the Hackman-Oldham model (1975), their model stated the most widely accepted job characteristic approach with the six job attributes: variety, autonomy, task identity, feedback, dealing with others and friendship opportunities (Atasoy, 2004).

2.2.2.5 Goal-Setting Theory

Goal Setting Theory is developed by Locke and Latham, and according to the theory, goal setting is one of the most significant components of job satisfaction. Goal-setting theory emphasizes the importance of specific goals in obtaining motivation and satisfaction. In goal setting process, people want to achieve goals in order to get satisfied on emotions and desires (Luthans, 1995).

One of the findings of goal setting theory, specific and difficult goals necessitates the higher performance. Another is that goal setting would be most effective if effective feedback process exists. Therefore, manager should assess the reasons why objectives are reached or not, rather than giving punishment (Luthans, 1995).

2.2.3. Other Relevant Theories

According to Balance Theory, people create many relationships with other people, and these relationships have various impacts on people's attitudes and behaviors according to Rogers & Kincaid (1980). Furthermore, according to Heider (1958), balancing in relationships can be important because it affects positively an individual's cognitive or emotional (Chatzoglou, et al., 2011).

Cognitive Evaluation Theory is proposed by Deci (1975), who states "individuals aim at deciding about their own behavior so that regarding themselves as the causal of that behavior.

2.3. Factors that affect Job Satisfaction

Up until now, several approaches developed for determination of the employee job satisfaction and many studies were conducted about factors that affect employee job satisfaction in the literature. Therefore, significant background information is obtained about the related and effecting factors of job satisfaction.

Some researchers examined the determinants of job satisfaction. Locke (1976) defined the fundamental dimensions of job satisfaction as the job itself, payment, promotion, working conditions, benefits of the work, fellow workers, personal values, employee relationship. In 1962, Vroom pointed out that the job satisfaction has seven aspects, i.e. the compensation, the supervisor, the colleagues, the working environment, the job content, the promotion, and the organization itself. As a recent study, Şirin (2009) states the factors affecting job satisfaction as follows; feeling of success, relations with the management and employees, job safety, responsibility, recognition, high salary, promotion opportunity, clarity of roles, participation in decisions, freedom, good coordinated work, lack of continuity, relocation, performance, life satisfaction, and perceived work stress (Çınar & Karcıoğlu, 2012). All these kind of studies support the idea that employee satisfaction has many aspects and influenced by various factors (Zaim, et al., 2012).

According to some other studies in the literature, factors that affect job satisfaction can be sorted as follows: salary, benefits, the nature of work, pressure, career development, education and training, job nature, management style, safety, job security, appreciation, training, workload, pay, promotional opportunities, organizational support of career, rewards, meeting, the overall working environment, department environment, physical conditions, equity, task variety, intergroup conflict, perceived organizational support, organizational commitment, delegation of power, communication, organizational integration, role ambiguity, communication with management, style of management, communication between colleagues and other groups, teamwork and cooperation, personal development, content of work, variety of task, responsibility, working hours, timings, recognition of superiors, job characteristics, job clarity, role conflict, advancement opportunities, company culture, safety at work, work content, good relationships with coworkers, technology, atmosphere at work, workload, feelings of

accomplishment, performance, advancement opportunities, work exhaustion, turnover, absenteeism, performance evaluation systems, compensation, company's image and corporate culture. (Mihajlovic, et al., 2008, & Spniewska, 2013, & Van Saane et al., 2003)

Some of determinant factors are explained in detail in the following parts. The factors are divided into two main groups as the determinant factors of job satisfaction: environmental factors and personal factors according to the study of Spector (1997). Environmental factors consist of working conditions, personal development opportunities, rewards, supervision, co-workers and communication. Personal factors include demographic variables, which are gender, educational level, and seniority.

2.3.1. Environmental Factors

2.3.1.1 Working Conditions

Working conditions consists of the physical and social conditions at the work. People want to work in a comfortable, safe environment, a clean, modern and enough-equipped environment (Sun, 2002) and work in good conditions such as appropriate temperature, lighting and noise (Green, 2000). For example, people can be disturbed when they are distracted by unexpected noise such as telephones, conversations or crowding (Bridger & Brusher, 2011) and absence of temperature or lighting causes strain (MacMillan, 2012).

2.3.1.2 Self-Improvement

Workers want to improve their skills, abilities, knowledge, and to learn new things especially, which provide personal growth. In parallel with, if they are satisfied on self-improvement opportunities, their overall job satisfaction level increases. Therefore, job training plays a key role for personal development opportunities and helps employees to be more specific with their job, as a result, employee job satisfaction increases. In addition, employee development programs improve workers' satisfaction level by giving them more sense of confidence, providing to control over their career and increasing positive feelings towards their job (Jin & Lee, 2012).

2.3.1.3 Reward

According to Kalleberg (1977), reward is related with the employee's desire, and it motivates employees. It shows what an employee wants after performing a certain task. According to Gerald & Dorothee (2004), rewards are very strongly correlated with job satisfaction (Javed et al., 2012). Moreover, according to the related literature, rewards are divided into two categories as; extrinsic rewards and intrinsic rewards. Extrinsic rewards consist of money, promotion and benefits. Intrinsic rewards include having a sense of achievement, being part of a team success, being appreciated by superiors because of a good performance and feeling recognized. Job satisfaction increases with all these feelings and returns (Başar, 2011).

2.3.1.4 Supervision

Employee job satisfaction have positively affected by supervisors' support and recognition of employees (Yang, et al., 2011). Since the supervisors are representative for the institution, if they are supportive and helpful, employees perceive the organization as the same (Emhan, et al., 2014). Communication between supervisors and subordinates determines employees' attitudes towards their jobs. In addition, management style of supervisors is important and it can be different. For example, in one type, supervisors implement such things like checking to see employees' performance and communicating with subordinates. In another type, they allow their subordinates to participate in decisions related with their jobs (Yeltan, 2007, & Beşiktaş, 2009). Moreover, lack of communication between employees and supervisors negatively affect employees' job satisfaction.

2.3.1.5 Co-worker

Employees that have a better relationship with their coworkers are more likely to be satisfied with their job (Yang, et al., 2011). According to Locke, employees prefer to work with people being friendly, supportive, and cooperative (Başar, 2011). Since people spend majority of their times with colleagues, if co-workers make them happy, this has positive impact on their job satisfaction (Beşiktaş, 2009).

2.3.1.6 Communication

Communication within workplace is essential for organizations in terms of job satisfaction. According to Ozturk, Hancer et al. (2014), there are two different dimensions of internal communication in organizations. One of them is managerial communication such as giving oral presentation and giving feedback, the other one is informal interaction such as communication with each other beyond formal channels. Effective interaction and communication provide to improve job satisfaction; on the contrary, lack of communication causes dissatisfaction.

2.3.2. Personal Factors

2.3.2.1 Gender

In the literature, there are many studies investigating relationships between gender and job satisfaction. There are different results about this issue. Some of them propose that women are more satisfied than men are; some of them suggest the vice-versa. Because of the fact that men and women have different social roles, their expectancies from job may also be differ. For example, women give more importance to working conditions and social relationship, whereas men are more satisfied with some factors such as pay and promotion opportunities. This may be resulted from the difference between expectancy levels of each gender, in which expectancy of women are relatively less than men are, so, women can be satisfied with more (Beşiktaş, 2009, & Spector, 1997).

2.3.2.2 Educational Level

In the literature, most researches indicate that as the level of education increases, job satisfaction may decrease. Highly educated workers may be dissatisfied with their work if it requires performing the repetitive tasks (Green, 2000). Requirements of jobs should be fitted with educational level of employee, otherwise, if educational level of a worker is so high for requirements of the job, this causes dissatisfaction (Sun, 2002). Another reason of dissatisfaction among highly educated people is to have higher levels expectation for their job.

2.3.2.3 Seniority

Seniority is defined as how long employees have been working in their jobs within the same organization. There are different views about the relationship between seniority to job satisfaction. Some of studies states that as with age, seniority is also expected to contribute to increase of job satisfaction due to the familiarity with work content and work environment. On the other hand, some of them suggest that job satisfaction and seniority are negatively correlated as shown in De Santis and Durst's study (Green, 2000).

2.4. Measurement of Job Satisfaction

Unlike many technical issues, determination, measurement, and improvement of job satisfaction is not so easy, because there are psychological effects and concerns about them. In order to prevent this issue, many researches are conducted and questionnaire methods are developed to deal with factors related to job satisfaction and to measure job satisfaction level. Literature review about job satisfaction and measurement techniques is presented in the following part.

In the literature, there is a consensus among researchers about the definition of job satisfaction, however; measurement of it is still on debate. Measurement of job satisfaction is a complex issue since job satisfaction is explained by not only job characteristics, but also personal characteristics, needs, values, expectancies. Because of that reason, for example, two employees working in the same job can experience different satisfaction level (Harputlu, 2014).

Smith, Kendall and Hulin's on Job Description Index (1969), which is one of the most widely used approaches to identify factors affecting job satisfaction, indicates that job satisfaction can be measured with five aspects namely; pay, coworkers, promotions, supervision and the nature of the work. Minnesota Satisfaction Questionnaire was also designed to measure job satisfaction of employees. It contains three scales. These scales are intrinsic satisfaction, extrinsic satisfaction and general satisfaction (Zaim, et al., 2012).

In the literature, there are two main approaches for the measurement of job satisfaction: 'global approach' and 'facet approach'. Global satisfaction scales can be categorized into multi-item and single item instruments. The idea that 'job satisfaction is a single concept and employees produce overall attitude towards work' is prominent in studies in 1970s. Global job satisfaction measuring scales were developed in these years. However, some researchers criticized the use of single item measures because it has assumption about job satisfaction as being one-dimensional (Green, 2000). Among the global job satisfaction scales having multiple items, two most prominent are The Job in General Scale (JIG) and Michigan Organizational Assessment Questionnaire Subscale. The JIG contains 18 items and Michigan Organizational Assessment Questionnaire Subscale contains three items (Spector, 1997).

On the other hand, facet approach is used to obtain which aspects of the job cause satisfaction or dissatisfaction. Thanks to this approach, a more complete assessment about job satisfaction is reached than the goal approach (Spector, 1997). Facet specific scales also consist of a single item or multiple items per facet. Minnesota Satisfaction Questionnaire (MSQ) that was designed by Weiss et al. covers 20 facets. Long form of MSQ with 100 items contains five items per facet. In this case, usage of single-item measures is easier, less expensive and takes less time to complete. However, Spector (1997) presents two reasons to use multiple items per facet. The first one is, multiple item scale, is more reliable than single items. This is because, for instance, respondents can make mistakes while they are completing questionnaire and this may reduce the reliability of the questionnaire. When the number of items in a subscale is increased, the effect of the inconsistent responses decreases. Another advantage of the facet specific questionnaire is to provide assessment that is a more complete.

In addition, other examples of facet specific scales with multiple items are Job Descriptive Index (JDI) and Job Diagnostic Survey (JDS). JDI developed by Smith, Kendall and Hulin contains 5 facets and 72 items. Related with the index, Van Saane (2003) suggests that it did not meet quality criteria. In his study, twenty-nine instruments are described. It has very good psychometric properties compared with others and it is one of the most reliable and valid instruments for job satisfaction measures. Moreover, JDS was designed by Hackman and Oldman in order to investigate the effects of job characteristics on people. It consists of subscales to

measure the nature of work, motivation, personality, psychological states and reaction to the job like job satisfaction. Furthermore, it also covers several areas of job satisfaction: growth, pay, security, social and supervision as well as global satisfaction (Spector, 1997).

2.5. Analytic Hierarchy Process

The Analytic Hierarchy Process (AHP) is a systematic method to compare a list of items. It is a structured decision making tool for organizing and analyzing complex decisions with the set of alternatives and criteria. It was developed by Thomas L. Saaty in the 1970s, and became a widely used method for solving multiple criteria in decision-making problems.

According to the developments about decision-making process in the literature, it is revealed that traditional logical thinking to evaluate feelings and judgments is not enough, because it is to practice for a long time and lead not to discern their interconnections. In addition, complex problems usually have many related factors. In traditional measurement, the elements are measured one by one, not by comparing them with each other. It is needed to determine which objective outweighs another. Saaty recognizes shortcomings of traditional approach and AHP method is developed as a systematic approach. Thanks to this approach, people make judgments about decision-making problem and rank them according to importance, preference, and likelihood and so, they choose the best among alternatives in the presence of environmental, social, and other influences (Saaty, 1994).

In AHP methodology, if the subject group of the study consists of individuals that work closely together by interacting and influencing, the deterministic approach would be appropriate. If a large number of geographically scattered individuals provide their judgments, a statistical procedure would be appropriate to deal with the variation among several people for the weights of the alternatives (Basak & Saaty, 1993).

The most of the tasks in decision-making are related to deal with complex problems and are required to choose important factors that affect the problems and to make the best decision among multiple alternatives. Analytic hierarchy process is one of the most

useful techniques for a multi-criteria decision making approach. It is a systematic method for arranging factors in a hierarchical structure and comparing them as a list of objectives or alternatives.

Group decision-making process, for which AHP Methodology is used, is a critical issue. Group decision-making is a situation faced when individuals collectively make a choice from the alternatives. The multiple criteria decision-making process in a group accounts for the criteria of a group of people and the relevance of the criteria in view of a given problem with a consensus.

Judgments are the basis of the decision-making process, according to the AHP method and guided by the experience and knowledge of the decision making group, which is useful to evaluate the different components of the problem (Barcenas & Lopez-Huertas, 2012). It can be said that an important and distinctive property about AHP is to convert the comparisons, which are the empirical data (judgments), into numeric values and mathematical models (Badea, 2014).

In the framework of AHP, first the decision problem is decomposed into a hierarchy. In the hierarchy, there are many layers such as goal, criteria, sub-criteria, and decision alternatives. In other words, this hierarchy includes more easily comprehended sub-problems and each of which can be analyzed independently. Decomposition provides to break down the problem into manageable elements. This is a technique in which structuring a decision is to come down from the goal by decomposing it into the most general and most easily controlled factors. In a general hierarchical model, there are multiple levels of criteria located under the goal, and alternatives located in the bottom level of the hierarchy. By breaking the problem into levels, the decision-maker could focus on smaller sets of decisions.

Conceptually, there are two approaches for generating AHP hierarchy; one of them is “top down approach”, in which criteria are identified firstly and then the alternatives are determined, and the second one “bottom up approach”, in which alternatives are identified and then the criteria are determined. Determination of which approach is better depends on the information that the researcher has. If more is known about the criteria than about the alternatives, a top down approach is best because this knowledge

will help to identify alternatives. If more is known about the alternatives than the criteria, then a bottom up approach will be useful.

After setting up of the hierarchy, pairwise comparisons of factors influencing the decision are made. In the pairwise comparison stage, a priority scale of absolute judgments is used, which enables to measure the relative importance of elements and represents how much more; one element dominates another with respect to a given attribute (Saaty, 2008).

In the measurement stage, once the hierarchy is built, the decision makers evaluate its various elements with respect to the hierarchy scale. Evaluation is carried out with establishing and assessing weights to factors. A relative scale of the measurement of the priority or weights of the elements is obtained with the comparison. All of these weights give the importance of the alternatives (Saaty, 1985).

AHP has a fundamental scale of 1 to 9 and comparisons are made using this absolute judgments' scale. In the AHP technique, the numerical results of judgments are placed into a comparison matrix. For analysis, a matrix where the number in the i th row and j th column gives the relative importance of O_i as compared with O_j , is formed for a pairwise comparison and a 1–9 scale is used with:

- $a_{ij} = 1$ if the two objectives are equal in importance
- $a_{ij} = 3$ if O_i is weakly more important than O_j
- $a_{ij} = 5$ if O_i is strongly more important than O_j
- $a_{ij} = 7$ if O_i is very strongly more important than O_j
- $a_{ij} = 9$ if O_i is absolutely more important than O_j
- $a_{ij} = 1/3$ if O_j is weakly more important than O_i
- $a_{ij} = 1/5$ if O_j is strongly more important than O_i
- $a_{ij} = 1/7$ if O_j is very strongly more important than O_i
- $a_{ij} = 1/9$ if O_j is absolutely more important than O_i

As shown in Figure 2.1, pairwise comparisons are presented in the square matrices, which consist of the values, which are between $1/9$, and 9. The diagonal elements of the matrix are equal to 1 and the other ones verify two conditions. The i - j th element is equal to the comparison between element i and element j regarding the considered

criterion n . For i different from j , the i - j th element is equal to the inverse of the j -ith element (Jin-lou & Yi-fei & Zhao, 2011). To solve the reciprocal matrix, Saaty uses the eigenvector, which is a priority vector as an estimate of underlying preferences corresponding to the elements compared. Individual judgments in corresponding matrix are synthesized by using eigenvalue method to find consensus priority weights of the alternatives in a certain level of the hierarchy. When utilizing eigenvalue method, generally, geometric means of judgments are calculated to obtain eigenvectors. Besides geometric mean, taking averages of judgments is another method in order to use in the eigenvalue computations. Geometric mean is often used when comparing different items to find a single "figure" for these items. In AHP method, generally each item has different characteristics and ranges, so geometric mean approach is more appropriate than taking averages. Geometric mean and eigenvector calculations are explained as follows: after generating reciprocal matrix from paired comparisons, each column of the reciprocal matrix are summed up, each element of the matrix is divided with the sum of its column, and relative weights are normalized. Normalized principal eigenvector can be obtained by calculating geometric means across the rows, and the normalized principal eigenvector is also called priority vector, so, the priority vector shows relative weights among the things compared. Finally, after making all the pairwise comparisons, controlling the consistency of the subjective evaluations is required. The consistency index is derived from the Eigen vector. The consistency is determined by using the eigenvalue, λ_{\max} , to calculate the consistency index, CI as follows: $CI = (\lambda_{\max} - n) / (n - 1)$ where n is the number of criteria. So, judgment consistency could be checked by taking the consistency index (CI) with the appropriate value. The CI is acceptable, if it is does not exceed 0.10.

For the AHP analysis and results, software program Expert Choice is used. Expert Choice has an algorithm to combine the judgments in the matrices and automatically computes the geometric mean for each cell. Therefore, priority weights of the alternatives in a problem are obtained.

$$\begin{bmatrix} 1 & a_{12} & \dots & a_{1i} & \dots & a_{1j} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2i} & \dots & a_{2j} & \dots & a_{2n} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ 1/a_{1i} & 1/a_{2i} & \dots & 1 & \dots & a_{ij} & \dots & a_{in} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ 1/a_{1j} & 1/a_{2j} & \dots & 1/a_{ij} & \dots & 1 & \dots & a_{jn} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1/a_{in} & \dots & 1/a_{jn} & \dots & 1 \end{bmatrix}$$

Figure 2.1 AHP Pairwise Positive Reciprocal Comparison Matrices

As conclusion, making decision is one of the most important tasks in the professional business life; therefore, AHP is still one of the best analytical approaches for complex decisions making problems. Through decision-making process with help of AHP method, policy makers in organizations use multiple tradeoffs to analyze their complex problems. In addition, AHP technique is used for many different fields such as “benefit-cost analysis”, “planning and development”, “forecasting”, and “health and related fields” (Vaidya & Kumar, 2006).

2.6. Group Size in Decision – Making Problems

In decision-making problems, the most important issue is group size or in other words sample size. A larger sample can yield more accurate results but excessive responses can be time consuming. Therefore; finding a number which is small and enough for sample size is very important. In order to calculate sample size, it is necessary to know few terms about calculation;

Confidence Level : It is a type of interval and used for the calculation of the sample size with a percentage level of confidence (Kaewmanorom, 2013). The most common confidence intervals are 90% confident, 95% confident, and 99% confident. Confidence level corresponds to a Z-score (Smith, 2013) and the most common confidence levels:

- 90% – Z Score = 1.645
- 95% – Z Score = 1.96
- 99% – Z Score = 2.326

Margin of Error : Percentage of error outside the confidence level,

Standard of Deviation : It is the estimation of variance in the sample and the safe standard deviation to use in sample size calculations is 0.5.

Necessary Sample Size = $(Z\text{-score})^2 * StdDev * (1-StdDev) / (\text{margin of error})^2$

CHAPTER 3

METHODOLOGY AND RESULTS

This study aims to determine which factors are important for the job satisfaction of employees working in the public institution, and to assess the satisfaction level of employees with respect to these factors.

For this study, the employees, who are assistant experts and experts, having BS or MS degrees from prominent universities and working in a public institution in Ankara, are selected as the subject group. It is assumed that these employees all belong to similar socio-economic groups. Therefore, they are assumed to answer the questions in the surveys from similar perspectives.

In the first stage of the study, the factors, which affect satisfaction of these employees, are identified among various factors by investigating the previous studies in the literature and making comprehensive interviews with the employees. After the determination of the factors, which have an impact on the job satisfaction level, Analytic Hierarchy Process technique is used. They are classified and the related questionnaire forms are prepared. In the public institution, there are many different departments under different general directorates. These questionnaire forms related with the AHP survey are conducted on the employees working in these departments. After that, Expert Choice 11 Software is used to obtain the outcomes.

In the third stage, after analyzing the factors that are asked in the AHP questionnaire and identifying which ones are more important, Job Satisfaction Questionnaire forms were prepared and given to the personnel, who are the same employees answering AHP survey, in order to identify the satisfaction levels of employees with these important

factors. SPSS 21.0 software is used to evaluate and to analyze the results of the Job Satisfaction Survey.

For the comparison of the results of AHP Survey and Job Satisfaction Survey, the “percent of dissatisfaction ration” is utilized. In addition, effects of demographic properties of participants on both overall satisfaction level and factor satisfaction levels are investigated in terms of the determinant factors.

Another important issue for the analyzes is the necessary sample size of the subject employee group, explained in the literature part of the study. It is calculated by the formula, given below:

$$\text{Necessary Sample Size} = (Z\text{-score})^2 * \text{StdDev} * (1\text{-StdDev}) / (\text{margin of error})^2$$

Confidence interval is taken as 90%, and corresponding z-score is Z Score = 1.645. Margin of Error, which is the percentage of error, outside the confidence level, is taken as 0.01. And also, standard of deviation is taken as 0,5.

$$\begin{aligned}\text{Necessary Sample Size} &= (1.645)^2 * 0.5 * (1-0.5) / (0.1)^2 \\ &\approx 68\end{aligned}$$

In this research, the sample size has 70 employees who are assistant experts and experts and therefore it is proper to be representative for the whole expert and assistant expert employees in the institution.

3.1. Identification of Factors

In the literature, many researches are conducted about job satisfaction and corresponding factors that affect job satisfaction of employee. The previous studies demonstrate that there are many factors strongly related with job satisfaction, such as facilities of the organization, the working environment, self-improvement possibilities, internal group dynamics, and communication between the department members. Throughout the determination stage of the factors for this study, an extensive literature

research is done and opinions of the employees in the public institution are taken into consideration.

After the investigation of the factors, which are presented in the literature, an interview is made with 10 selected employees for obtaining factors that are specific to the institution. The main reasons of this interview are that; asking employees about their opinions of the job satisfaction factors, to determining suitable ones for this organization. By this way, all of the factors that are proper and specific to the institution about the job satisfaction are included in this research.

During the interview, open-ended questions are asked to the employees such as “What are the things in this institution that increase your satisfaction level?” and “What are the things in this institution that decrease your satisfaction level?” Then, additional factors, which are considered to affect the job satisfaction of the employees in this institution, are identified. At the end, the factors investigated and found in the literature are consolidated with the factors obtained from the interviews. The final list consisting of 25 factors was generated and presented in the Table 3.1.

In this study, the employees are not asked explicitly for the reasons of their preference for this particular governmental organization. It is assumed that their reasons for the choice of this institution are related to some widely accepted factors specific to this institution. Some of them are included in the study to be investigated, and some other factors, such as pay and job security are disregarded. According to general working conditions in Turkey in recent years and by taking into account the preferences for choosing this institution, salaries are considered quite satisfactory for government institutions compared to private sector especially for new graduates. This is one of the main reasons for new graduates for choosing this institution as a working place. One of the reasons that this factor is disregarded is that salaries are determined by the central government policies and cannot be changed by managerial initiatives of the institution. Another reason is that the employees have the knowledge of income levels once they start working, and they also know that wages are standard based on seniority, and depend on central government policies. Both for these reasons, this factor cannot be improved by the institution even if it appears to be non-satisfactory as a result of this study. In addition to payment, job security is also disregarded because employees

already know that being a civil servant in Turkey provides job security, and it is obvious that this is one of the most important determinants for choosing this particular institution.

Table 3.1 Factors Determined Through the Literature Research and the Interviews

Master Degree Opportunity
Overseas Appointment
Language Training Program
Working in a Preferred Department
Participating in International and National Meetings
Publishing an Academic Study in International and National Journals
Services such as Transportation and Food Service
Workload That Could Be Completed in Working Hours
Regular Workload (Not Varying Periodically)
Clarity of Job Description
Task routines (Unvarying Actions)
Work-Related Responsibilities given to Employees
Importance of Tasks for Institution
Time Constraint to Complete Work
Physical Conditions
Training Opportunities in the Country and Abroad
Working in the Projects that Develop the Capabilities of Employees
Appreciations & Rewards
Communication with Colleagues in the Department
Communication with Managers
Cooperation between the Department Members
Style of Supervision
Competitiveness between the Department Members
Equal Workload among Employees in the Department
Equal Chance among Employees to Access to Opportunities in the Department

3.2. Description of Factors

Master degree opportunity: Opportunity of obtaining a master degree at top schools of the world regarded as a special opportunity of this institution. (Every year, approx. 20 students, who get top score from the criteria put by institution, are selected to study master degree in world's famous schools).

Overseas appointment: Opportunity of being a diplomat in foreign countries all over the world can be seen as a special opportunity of the institution. (A diplomat appointed in

another country has higher salaries and has some advantages in the country that he/she is appointed)

Language training programs: The institution supports second and third language education of employees, so employees can get some discount advantages from selected language schools. By this opportunity, they improve themselves and prepare themselves for their overseas appointment.

Working in the preferred department: It is an opportunity that employees choose a department that they would prefer to work. With this opportunity, they have a chance to work in different department with different colleagues and managers, for different fields. This is an important factor for the employees to develop their working abilities and knowledge.

Participation into international and national meetings: This opportunity prepares the employees to work in international and national area. They learn many things from the other countries' experiences and they expand their knowledge about the specific subject related with their working field.

Publishing an academic study in international and national journals: This is an opportunity to publish their own academic study related with their working field in an international and/or national area for employees.

Services such as transportation and food service: It is an opportunity that is related to use services such as transportation and food. Taking good services is very important aspect of the job. It is also important for the institution to have more effective and efficient workers.

Workload that could be completed in working office hours: Working hours is varying from department to department in the institution according to department's workload, so it can cause boredom if it cannot be completed in regular working hours.

Regular workload (not varying periodically): Workload can be different according to department's conditions and it can vary from time to time in a year according to projects, meetings and some special conditions. Therefore; it is expected to affect job satisfaction (Trivellas, et al., 2013).

Clarity of job description: This factor explains that employee has a clear job definition and there exists certain boundaries so that any different jobs should not be given to employee without his or her responsibilities (Soonhee, 2009).

Task routines (Unvarying Actions): An employee working in the same and unvarying jobs tends to be bored about this routine, so this can make employee dissatisfied (Yang, et al., 2011).

Work-related responsibilities given to employee: Responsibilities given to employee have generally positive effect on job satisfaction. Employees want to take responsibilities related with their working area, because they think that responsibility is driving factor of development and promotion (Kim, 2009)

Importance of Tasks for Institution: This is the opinion and perception about the importance degree of the works. The more an employee attaches importance to his/her job, the more he/she is satisfied with the job (Lunenburg, 2011b).

Time constraint to complete work: Some projects or jobs have limited time to complete, so that this can cause stress and dissatisfaction. This institution contains heavy workloads because of its dynamic and inter-dependent structure, hence this results in time constraint to complete the works.

Physical conditions: Physical facilities and their conditions in the institution affect job satisfaction of employees (Peters, 2010). As mentioned before, employees want to work in a comfortable, safe, clean, and enough-equipped environment (Sun, 2002). Appropriate working conditions make employees more productive and satisfied.

Training opportunities in the country and abroad: There are, for instance, many special certificate programs related with the working fields of the institution such as “international new regulation programs or statistic programs” all over the world. Employees participate these kinds of programs for self-improvement and future knowledge of the institution (Schmidt, 2004).

Appreciations & rewards: Rewards and appreciations by managers are essential factors for job satisfaction. According to the related literature, rewards, which can be financial and non-financial, are very strongly correlated with job satisfaction (Kumar & Singh, 2011).

Projects that develop the capabilities of the employee: Workers want to improve their skills, abilities, knowledge, and want to learn new things, so that, they desire to work in the projects that develops the capabilities of themselves. These kinds of improvement opportunities enhance job satisfaction level of them.

Communication with Colleagues in the Department: Good communication and relationships with colleagues in the department has more likely to affect job satisfaction positively (Yang, et al., 2011). This is very critical issue to work in peace environment.

Cooperation between department members: Cooperation, solidarity and assistance between colleagues in a department affects job satisfaction positively. When employees accompany their colleagues in doing works, the things are done well.

Communication with Managers: Good communication with managers in the department is an important factor affecting job satisfaction of employees, since an employee carry the business with his/her managers (Steingrimsdottir, 2011)

Style of supervision: Managers may be more autocratic or democratic; so that, some of them could behave politely compared with others, some of them behave impolitely. This affects job satisfaction of employees directly. (Voon et al., 2011).

Competitiveness between department members: Competitiveness between colleagues is a kind of communication in the department, but it should be sobersidedly (Selladurai, 1991).

Equal workload among employees in the department: Balanced work share of colleagues is a crucial factor for satisfaction of employees. If there is an inequality of distribution of workload, this will suffer employees in the same department (Ari & Sipal, 2009)

Equal chance among employees to access to opportunities in the department: Opportunities such as overseas programs should be distributed to the employees equally. Otherwise, employees feel themselves as not being fairly treated, and this will result in dissatisfaction.

3.3. AHP Methodology

In this part of the study, the factors that are gathered from literature researches and interviews are examined. Since many factors are considered and analyzed in this study, it could be regarded as multi-criteria decision-making problem. With this point of view, before deciding on the suitable method for analysis, previous studies in the literature are investigated. In the light of the literature research, AHP technique is chosen as being the most appropriate and useful approach since it is widely used method for solving multiple criteria decision-making problems and our problem is kind of multi- criteria decision making problem with its dimensions. In addition, the main reason for choosing AHP method is that we need to eliminate some less important factors and to determine

more important factors among all predetermined factors, which are worth to be analyzed in the second part of the study.

Since it is not an easy problem and it consists of lots of different factors, it is not enough to ask employees “which factor is more important to you.” It is necessary to use more detailed and convenient technique, which enables to ask, “Which factor is more important to you when compared with the other one,” so that, the comparison and judgments among various alternative factors could be made better. AHP is a systematic method for arranging factors in a hierarchical structure; it provides comparisons between the factors that affect job satisfaction and it determines which factor outweighs the other. Relative measurements and judgments could be made with a priority scale, which is derived from pairwise comparison measurements, and evaluation of these measurements. By this way, weights to factors could be assessed. In other words, this technique forces the respondent to make a preference between two given alternatives at each stage and enables the decision maker to evaluate various factors systematically by comparing them with each other, finally, how much more one factor dominates the other is reached.

In addition, AHP technique has a distinctive property compared to other comparing techniques, which is a capability of transforming empirical data into mathematical models. It is important to obtain tangible results in order to make correct analysis. For all of these reasons, AHP is chosen as being the most appropriable method for our study.

3.3.1. Classification of the Factors

After deciding on the method for organizing and analyzing factors, a hierarchical structure is generated to evaluate the problem systematically according to AHP method. By constructing the hierarchy, the problem is decomposed into more easily comprehended sub-problems, each of which can be analyzed independently. In our AHP structure, the hierarchy is formed and factors are classified in order to make pairwise comparison.

In the hierarchy of our problem, predetermined factors are clustered into four main categories (main factors) which are Opportunities, Working Conditions, Self-

Improvement, and Internal Group Dynamics in the Department, and they can be seen in the hierarchy tree below. “Opportunities” factor refers to favorable circumstances provided to employees by the institution, “Working Conditions” factor refers to facilities related with work environment surroundings, “Internal Group Dynamics” factor refers to communication among employees and internal conditions in the department and “Self-Improvement” refers to personal development.

All of these categories also have several sub-factors that are determined in previous stage of the study. In order to obtain the classified main factors and sub-factors; credible senior experts in the institution are consulted. Then, each of sub-factors is placed in the most relevant main category. This helps to simplify the problem and lead us to see the importance of each heading and sub-headings easily, before analyzing phase.

In the literature, there are two approaches for generating AHP hierarchy; one of them is “top down approach”, in which first criteria are identified and then the alternatives are determined, and the second one “bottom up approach”, in which alternatives are identified and then the criteria are determined. If more is known about the alternatives than about the criteria, then a bottom up approach is useful. In our study, it is known more about the factors in the lower level of hierarchy, so, “bottom up approach” is used for classification of sub-factors and determination of main factors.

In the literature, AHP methodology is generally used for comparison of tangible concepts and determination of relationships between them. On the other hand, job satisfaction and determinant factors of it are intangible concepts. Thus, clustering of factors are more subjective issue and depend on the conditions of the study such as the organization where the study is conducted and the subject group of the study. Therefore, in this study, the sub-factors are tried to be placed in the most relevant main category by the help of the previous studies in the literature and credible senior experts in the institution. The corresponding classification is shown in the Table 3.2.

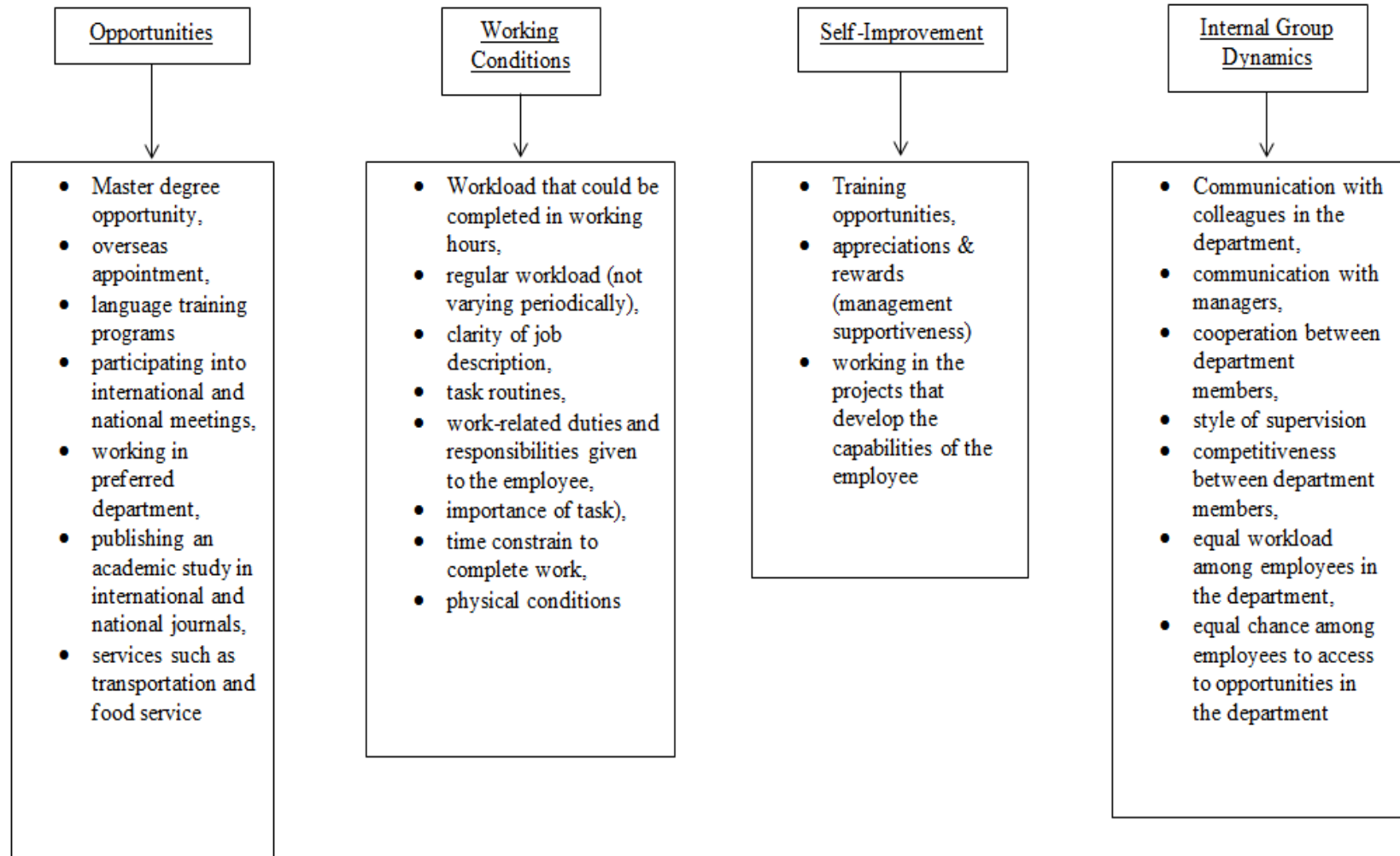
In addition, in this study, independence of factors is also taken into consideration. Main factors and sub factors in the AHP hierarchy are assumed independent. Independence of factors is important since there should not be any correlation between factors while

comparing with each other. Issues about independence of main factors are discussed in “Limitations” part of this study.

Table 3.2 Classification of Factors

<p><u>Working Environment:</u> Workload that could be completed in working hours, regular workload (not varying periodically), clarity of job description, task routines, work-related responsibilities given to the employee, importance of task, time constrain to complete work, physical conditions</p>
<p><u>Self-Improvement:</u> Training opportunities in the country or abroad (certificate programs etc.), appreciations & rewards about successes related with job, working in the projects that develop the capabilities of the employee.</p>
<p><u>Internal Group Dynamics and Communication in the Department:</u> Communication with colleagues in the department, communication with managers, cooperation between department members, style of supervision, competitiveness between department members, equal workload among employees in the department, equal chance among employees to access to opportunities in the department</p>
<p><u>Opportunities:</u> Master degree opportunity, overseas appointment, going to the language courses with the discount of the institution, working in preferred department, participating into international and national meetings, publishing an academic study in international and national journals, services such as transportation and food service</p>

Figure 3.1 Hierarchy Tree of AHP



3.3.2. Preparation and Execution of AHP Survey

After constructing the hierarchy, the questionnaire form is prepared. Pairwise comparisons between main factors and pairwise comparisons between sub-factors in each main factor are prepared in an answerable format. In the questionnaire, each comparison is correspond to one question, and the related question is “Which of the following given two factors is more important for your job satisfaction”. AHP rating has 9 points and bilateral 1-9 scale. Questionnaire form is given in the Appendix A. This rating mechanism, which is used in the questionnaire, is as follows:

- 1 If two factor have the same importance level
- 3 If a factor is more important a little bit than the other
- 5 If a factor is more important than the other
- 7 If a factor is a lot more important than the other
- 9 If a factor is more important beyond comparison

This questionnaire was conducted on employees in many departments in the institution. The necessary permissions are obtained from top management about conducting questionnaires. Questionnaires are not given to managers since there are supervision related questions that would address to judge themselves.

In order to provide employees comfortable answering settings and to avoid waste of paper, instead of handing out paper-based forms, it is thought that web-based questionnaire forms should be designed. Information Technologies department of the institution is collaborated in order to implement this plan through a few of writing procedures to get permission of the usage of the software programs. After these procedures, a survey application program of the questionnaire is generated; and structure of the form and questions in the questionnaire forms are transferred to the prepared program.

After that, in execution stage, one page of brief explanation related to the study and the link containing web-based questionnaire forms are sent to the employees by e-mail, given in Appendix A. Then, answers are received. Each employee who prefers to participate into this study answers the questions, which have AHP rating scale, marks

the number found to be convenient for him/her. Until the expiration date of the survey, 70 employees have been reached to participate into the survey.

3.3.3. Results of AHP Survey

After the execution phase of the AHP survey, analysis is made in order to identify which factors outweigh the others. All of the answers for each questions are exported to the excel format.

In the evaluation and analysis part, “Expert Choice 11” software program is used. First, matrices for main factors are prepared by using the data from all answers obtained from AHP Survey. Each matrix contains cells, which correspond to aggregated values for ‘pairwise comparison questions’. The averages of answers from all employees for each comparison are calculated and entered to these cells of matrix. After that, the matrices consisting of pairwise comparisons (judgments) were transferred to Expert Choice software program because the program allows entering all the values of judgments to the matrices in it. Then, the software automatically computes the geometric mean for each cell. Individual judgments in corresponding matrix are synthesized by using eigenvalue method to find consensus priority weights of the alternatives in a certain level of the hierarchy. When utilizing eigenvalue method, generally, geometric means of judgments are calculated to obtain eigenvectors. The reason is to use geometric means is that, in mathematics, the geometric mean is the central tendency and it is often used when comparing different items for finding a single "figure" for these items. In AHP method, each item generally has different characteristics and ranges, so geometric mean approach is more appropriate than taking averages.

After the data entering procedure, the program automatically calculated the importance level (priority weight) of each factor in the hierarchy. These calculated values are shown in the figures below (figures 3.2, 3.3, 3.4 & 3.5). Moreover, all judgments of participant employees in the subject group have equal importance.

According to answers of the employees, all factors are compared with the others and their values are presented in following figures (Figure 3.2, Figure 3.3, Figure 3.4, Figure 3.5, Figure 3.6). 0.1 is taken as a base value in order to eliminate some factors, which have low scores. Outcomes of Expert Choice, which are under 0.1, are

eliminated, and outcomes, which are above 0.1, are taken as more “important factors” and they are used in Job Satisfaction Survey.

“Opportunities” and “Self-Improvement” factors are seen at the forefront ones relative to the other two factors.



Figure 3.2 Expert Choice Output of “Importance Level” of “Main Factors”

Opportunities: **0.45**

Self-Improvement: **0.23**

Working Conditions: **0.16**

Internal Group Dynamics and Communication in the Department: **0.17**

Analysis of the sub-factors in the main factor groups is as follows:

First of all, for “Opportunities” main factor; “overseas appointment”, “master degree opportunity”, “working in preferred department” and “participating into international and national meetings” are more important factors according to base value of 0.1; comparing with all other factors which are listed in the Figure 3.3.

In addition, “overseas appointment opportunity” and “master degree opportunity” are the most important ones.

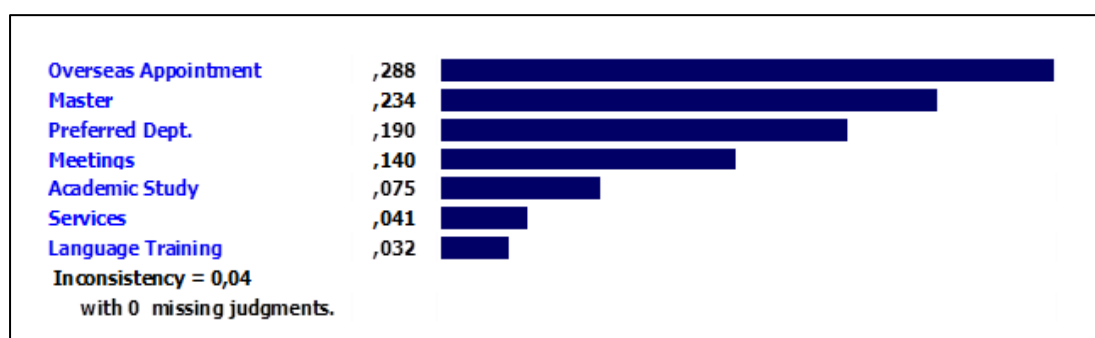


Figure 3.3 Expert Choice Output Corresponding To “Importance Level” of “Opportunities”

Overseas appointment: **0.29**

Master degree opportunity: **0.23**

Working in preferred department: **0.19**

Participating into international and national meetings: **0.14**

When looking at the sub-factors in the main factor “Self- Improvement”, all factors are resulted as more important according to base value of 0.1. These are “training opportunities in Turkey or abroad (certificate programs etc.)”, “appreciations & rewards”, “working in the projects that develop the capabilities of the employee”. Among them, the most important factor is “training opportunities in the country or abroad”.

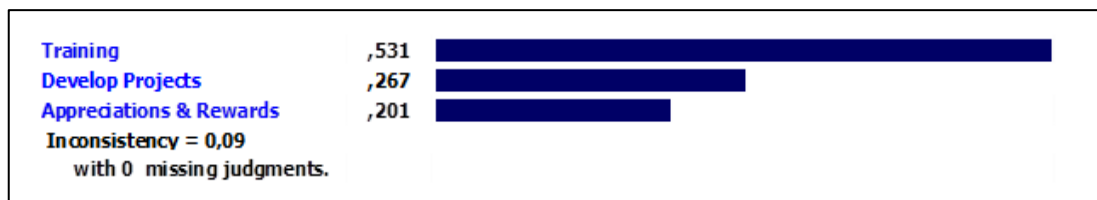


Figure 3.4 Expert Choice Output of “Importance Level” of “Self- Improvement”

Training opportunities in Turkey or abroad (certificate programs etc.): **0.53**

Appreciations & rewards: **0.27**

Working in the projects that develop the capabilities of the employee: **0.20**

For the main factor “Internal Group Dynamics and Communication in the Department”; “equal chance among employees to access to opportunities in the department”, “equal workload among employees in the department”, “cooperation between department members”, “style of supervision” and “communication with colleagues in the department” are the more important factors.

Among these important factors, “equal chance among employees to access to opportunities in the department” becomes the most important factor.

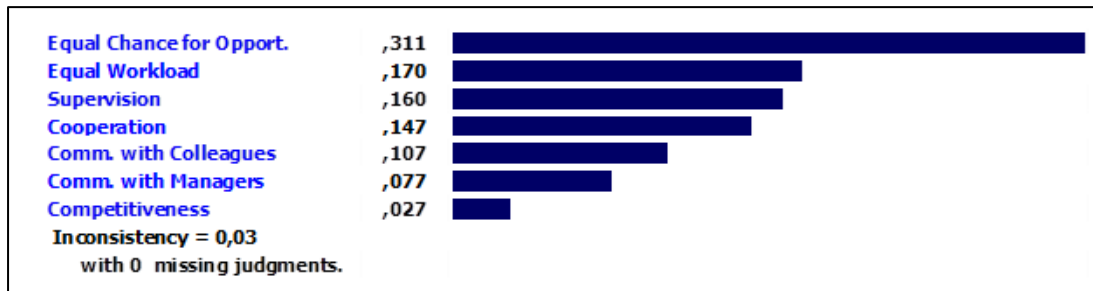


Figure 3.5 Expert Choice Output Corresponding To “Importance Level” of “Internal Group Dynamics and Communication in the Department”

Equal workload among employees in the department: **0.31**

Equal chance among employees to access to opportunities in the department: **0.17**

Cooperation between department members: **0.16**

Style of supervision: **0.15**

Good communication with colleagues in the department: **0.11**

For the main factor “Working Conditions”; “workload that could be completed in working hours”, “work-related responsibilities given to employee”, “importance of task”, “clarity of job description”, “time constrain to complete work” and “physical conditions” are the more important factors.

Among these important factors, “workload that could be completed in working hours” and “work-related responsibilities” are the most important factors.

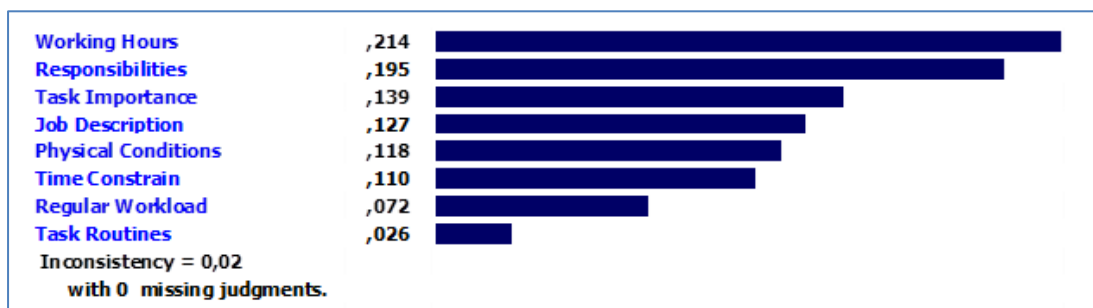


Figure 3.6 Expert Choice Output of “Importance Level” of “Working Conditions”

Workload that could be completed in working hours: **0.21**

Work-related responsibilities given to employee: **0.20**

Importance of task for institution: **0.14**

Clarity of job description: **0.13**

Physical conditions: **0.12**

Time constrain to complete work: **0.11**

Next stage after the determination of the values is to check the “Consistency Index.” Consistency Index is a tool that determines the consistency of the judgments. This index would enable us to make checks on subjective evaluations. “Inconsistency may be considered as a tolerable error in measurement only when it lowers ordered magnitude (10 %); otherwise, the consistency would bias the result with a sizeable error or exceeds the actual measurement itself” (Saaty, 1994, pp 27). The consistency is determined by using the eigenvalue, λ_{\max} , to calculate the consistency index, CI as follows: $CI = (\lambda_{\max} - n) / (n - 1)$ where n is the number of criteria .

When the subject group of the study consists of individuals who work closely together by interacting and influencing, they usually justify their judgments, therefore, the deterministic approach would be appropriate and inconsistency realized as low level in this case. When a large number of geographically scattered individuals provide the judgments, a statistical procedure would be appropriate, and inconsistency between individuals would be much more than inconsistency of a small and close group. In this study, since matrices including judgments are combined by calculating the geometric mean of the entries, AHP model checks out the consistency of judgments in a proper way. Values of consistency index can be seen in the figures above. The consistency ratio of the problems are around 0.02-0.09 for main factor groups and sub-factors, so, all of them are lower the 0.1 threshold value.

3.4. Methodology of Job Satisfaction Survey

After the determination of the factors considered as being more important and valuable for the employees, the availability of these factors within the institution is investigated and satisfaction levels of employees about these prominent factors are defined.

3.4.1. Preparation and Execution of Job Satisfaction Survey

After the execution and evaluation of the data by AHP method, important, and outstanding factors are obtained. These “outstanding factors” which will be used in Job Satisfaction Survey are listed below as main headings and sub-factors:

1-) Opportunities: Overseas appointment, master degree opportunity, working in preferred department, participating into international and national meetings

2-) Internal Group Dynamics and Communication in the Department: Equal chance among employees to access to opportunities in the department, equal workload among employees in the department, style of supervision, cooperation between department members, good communication with colleagues in the department

3-) Self-Improvement: Training opportunities in Turkey or abroad (certificate programs etc.), appreciations & rewards about successes related with job, working in the projects that develop the capabilities of the employee

4-) Working Conditions: Workload that could be completed in working hours, work-related responsibilities given to employee, importance of task, physical conditions, time constrain to complete work, clarity of job description

In order to determine the availability level and satisfaction level of the outstanding factors within the institution, the Job Satisfaction Questionnaire forms are prepared. Likert Scale is used in the questions for evaluations of employees. In this technique, the scoring is based on 5 different points which are ranging from “Strongly Disagree” to “Strongly Agree” in the questionnaire, employees were asked whether they are satisfied or not about each factor. Job Satisfaction Questionnaire form is presented in the Appendix B.

Likert Scale has the rating mechanism as follows:

- 1 Strongly disagree
- 2 Disagree
- 3 No idea
- 4 Agree
- 5 Strongly Agree

For the survey, instead of handing out paper-based forms, web-based questionnaire forms are used. The help of information technologies department of the institution is received again in order to implement the questionnaire to the employees in this stage. In addition, another survey application program for the questionnaire is generated and Likert Scale structure of the form was transferred to web-based platform. After that, similar to the previous questionnaire form, a brief explanation about the second stage of the study and usage of the web-based platform are sent to the employees by e-mail having the link of the webpage.

Each employee, who prefers to participate in the second part of the study, answers the questions and marks the number 1-5, which found to be convenient for him/her. End of the expiration date of the survey, after one week, 70 employees participated in Job Satisfaction Survey. At the beginning of the job satisfaction survey, employees' demographic/personal information' which are gender, educational level and seniority, are asked. Gender, educational level, and seniority are included to the questionnaire as independent variables. Related demographic information of the participant employees will be explained in the part of "Results of Job Satisfaction Survey" in detail.

3.4.2. Results of Job Satisfaction Survey

Job Satisfaction Survey is conducted on the personnel in order to identify to understand what extent the public institution satisfies employees about the predetermined and prominent factors. All data is collected through the questionnaires and SPSS 21.0 software program (Statistical Package for the Social Sciences) is used to analyze the results of the Job Satisfaction Survey.

All of the answers for each questions are exported to the excel format via web-based-survey. Then, SPSS is used for analysis of the data. This data is used to test, whether there is a significant difference in satisfaction levels, when demographic variables are considered as a main parameter. All the results of analysis, including variance analysis, will be explained in the following parts in this chapter.

3.4.3. Demographic Findings

Demographic properties of participants and general information about them are examined in this part.

Demographic properties of the employees who participated in this study can be grouped and examined according to gender, educational level, and number of years within the organization (seniority). Since;

- ✓ Gender could be considered as an important independent variable and man and woman could be affected differently in terms of job satisfaction.

- ✓ Educational level of the employees such as having master degree is another important parameter for job satisfaction and job satisfaction can differ according to the educational level.
- ✓ Number of years within the organization is also an important independent variable that can change the perception of employees about job satisfaction.

In this study, workers are grouped into two categories in terms of educational level, which includes employees having BS and MS degree. In addition, workers are grouped into three categories according to their seniority as 0-3 years of experience, 3-10 years of experience and over 10 years of working experience. Employees with 0-3 years of experience are assistant experts, employees with over 3-10 years of experience are experts, and employees over 10 years of experience are senior and experienced personnel. Frequencies of these categorical variables are presented in the following table.

Table 3.3 Frequencies of Demographic Variables

		Frequency	Valid Percent	Cumulative Percent
Gender	Male	41	58.6	58.6
	Female	29	41.4	100
Educational Level	Undergraduate	41	58.6	58.6
	Graduate	29	41.4	100
Seniority	0-3 Years	37	52.9	52.9
	3-10 Years	20	28.6	100
	> 10 Years	13	18.6	71.4
	Total	70	100	100

Number of females and males are 41 and 29, respectively in the subject group of our study. It means that 59 % of the total sample is men and 41 % is women. When looking at the population of the institution according to gender groups, 58 % of the population is consisted of males and 42 % is consisted of females. This shows that our sample represent the whole population well.

In terms of educational level, 41 of them have BS degree and 29 of them have MS degree, in other words, 59 % of the total sample consists of employees with undergraduate degree and 41 % consists of employees with graduate degree. For the

whole employee population of the institution, the ratios are 72 % and 28 %, respectively for people with undergraduate and graduate degree. By looking these data, it can be said that our subject group consists of more people with graduate degree compared with the whole population.

According to seniority, 37 of the employees (53 %) in the sample are in the group of the 0-3 years of experience, 20 of them (29 %) are in the group of 3-10 years of experience, and 13 of them (18 %) are the group of over 10 years of experience. Therefore, it can be said that almost half of the participants have been working for less than three years, and this means, most of participants are young people. According to data of the whole population of the institution, 26 % of employees are in the group of the 0-3 years of experience, 41 % of them are in the group of 3-10 years of experience, and 33 % are in the group of over 10 years of experience. This data is different from our sample's, since our study consists of more employees that are less than 10 years of experience.

For this kind of studies, frequencies of a demographic factor should be well balanced for better comparisons between groups with independent variables. In this study, it is assumed that demographic factors of participants are representative for the institution to make analyses.

3.4.4. Mean Values of Job Satisfaction Factors

Analysis of the factors, in which employees are satisfied/dissatisfied with their job, is made in this part of the chapter. After representation of demographic factors, descriptive statistics of four main factors and sub factors are examined. Mean values of main factors can be seen in Table 3.4. Sub-factor satisfaction scores are calculated by taking averages of the answers from all participants for the corresponding sub-factors. Mean values of main factors are calculated by taking averages of all sub-factors within the related main factor. Overall satisfaction level is the average of the satisfaction levels of main factors.

In this study, it is assumed that weight of each factor is equal; in other words, it is assumed that all factors have equal effect on the satisfaction levels and all analyses throughout this part are made according to this assumption. The reason of equal weight assumption is from the same assumptions in this kind of studies in the literature.

According to Quinn and Mangione (1973), “Most models for weighting job satisfaction by importance ratings assume a tabula rasa situation, an absence of preconceived ideas - a clean slate, in which all satisfaction items (or indices) have initially equal weights to which the importance ratings are then applied”. As can be seen from Quinn and Mangione’s study, equal weight assumption allows using unbiased factors for our study.

Table 3.4 Mean Values and Standard Deviation of “Main Factors”

	Opportunities	Self-Improvement	Internal Group Dynamics	Working Conditions	Overall Sat. Level
Mean	2.76	2.47	3.29	2.84	2.84
Std. Deviation	0.825	0.785	0.75	0.752	0.557

As mentioned in the previous part of the chapter, the Likert Scale has consisted of 1 to 5 rating system. Thus, 1 means pretty poor satisfaction, 2 means poor satisfaction, 3 means average satisfaction level, 4 means good satisfaction and 5 means pretty good satisfaction levels.

It is observed that mean value of overall satisfaction is realized as 2.84. This value indicates that a general satisfaction level of the employees with the institution is at a mediocre level. Moreover, the scores of the items show that “Internal Group Dynamics” which is greater than 3, is higher than the other groups of factors with the satisfaction level of 3.29. “Self-Improvement” factor has the lowest with a satisfaction level of 2.47.

Table 3.5 Mean Values of “Sub-Factors”

Main Factors	Sub-factors	Mean	Std. Deviation
Opportunities	Overseas Appointment	2.94	1.10
	Master Degree	3.14	1.35
	Working in Preferred Department	2.43	1.19
	Participating into International and National Meetings	2.54	1.10
Self-Improvement	Training Opportunities in the Country and Abroad	2.74	1.03
	Working in the Projects that Develop the Capabilities of Employees	2.27	1.15
	Appreciations & Rewards	2.39	0.97
Internal Group Dynamics	Equal Chance among Employees to Access to Opportunities in the Department	2.61	1.17
	Equal Workload among Employees in the Department	2.51	1.23
	Style of Supervision (such as autocratic or democratic)	3.23	1.14
	Cooperation between the Department Members	3.89	0.94
	Communication with Colleagues in the Department	4.19	0.82
Working Conditions	Workload That Could Be Completed in Working Hours	3.24	1.44
	Work-Related Responsibilities given to Employees	2.97	1.08
	Importance of Tasks for Institution	3.07	1.13
	Physical Conditions	2.01	1.23
	Time Pressure to Complete a Given Task	2.89	1.15
	Clear Job Description	2.86	1.23

Sub-factors have different satisfaction level as can be seen in the table above. Beside overall satisfaction level, facet approach is beneficial for observing deeply which factors of the work is more satisfied / dissatisfied. The results also show that, in “Opportunities” heading, “overseas appointment opportunity” and “master degree opportunity” are important factors for the employees in the institution, however, have moderate satisfaction level since mean values of them are close to 3. “Working in their preferred department” and “participating in international and national meetings” are seen considerably low according to satisfaction levels. For “Internal Group Dynamics” heading, “cooperation between department members” and “communication with

colleagues in the department” are the most satisfying factors for employees within this main factor and among all sub-factors. Style of supervisors is higher than most of the factors with the value of 3.23. Chance to access to the opportunities and workload among employees in the department are not seemed equally distributed since their satisfaction levels are 2.61 and 2.51 respectively. For “Working Conditions” heading, the average mean value of items is mediocre. For this factor, employees are not sufficiently satisfied with “work-related responsibilities” given to them. For the mean value of “importance of task” and “clarity of job description”, any predominant opinion could not be obtained positively or negatively since mean values of the factors are close to 3. Similarly, time constrains to complete work has mediocre satisfaction level. Workload that could be completed within working hours is considered to be satisfied more than other factors. Physical conditions have the worst satisfaction value among all sub-factors. the average mean value of items is found as 2.76. It means that employees generally are not satisfied with their works. Moreover, the mean value of “Self-Improvement” is found as 2.47 that is the worst satisfaction level among all other main factors. “Training opportunities in Turkey or abroad” are not considered as satisfying with the mean values of 2.74. Also, “working in the projects that develop the capabilities of the employee” factor is met by the institution at very low level and it is appeared that employees are not satisfied with these personal growth opportunities. The mean value of this factor is found as 2.27 and this value is the second worst value among the mean values of all factors. Also, people are not satisfied with the “rewards and appreciations” given by managers, since its mean value is 2.39.

As a result, for employees working in this institution “Internal group dynamics and communications in the department” is observed to be satisfied; on the other hand, “Opportunities”, “Working Conditions”, and especially “Self-Improvement” are not satisfied sufficiently. Results also imply that employees are not very satisfied in general point of view. The results are discussed and recommendations are made in Chapter 4 and Chapter 5.

3.4.5. Normality Tests

Normality test was used for total satisfaction, main factors and sub-factors in each group of independent variables by using Kolmogorov-Smirnov Test.

Threshold significance value is taken as the level of 5% because small p-value ($p \leq 0.05$) indicates strong evidence. Normality test in each group of independent variables are applied and null hypothesis is constructed such that data of the group is normally distributed. If the significant level of any group is above the 5% level, null hypothesis cannot be rejected. This means that the considering data is normally distributed.

Normality test of total satisfaction revealed that the values of total satisfaction in each group of independent variables are normal, since significant levels of the groups are above the 5% level of threshold significance value and null hypothesis cannot be rejected. These values are represented in the following three tables (Table 3.6, Table 3.7, and Table 3.8)

Table 3.6 Test of Normality for “Total Satisfaction” in “Gender” Groups

	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Total	Male	.066	41	.200*	.990	41	.971
Satisfaction	Female	.114	29	.200*	.965	29	.433

Table 3.7 Test of Normality for “Total Satisfaction” in Educational Level” Groups

	Educational Level	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Total	Undergraduate	.076	41	.200*	.990	41	.968
Satisfaction	Graduate	.126	29	.200*	.956	29	.259

Table 3.8 Test of Normality for “Total Satisfaction” in “Seniority” Groups

	Seniority	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Total	0-3	.068	37	.200*	.977	37	.638
Satisfaction	3-10	.087	20	.200*	.974	20	.837
	> 10	.152	13	.200*	.957	13	.710

Secondly, normality test of “4 main factors” in each group of independent variables were performed. Normality test for “4 main factors” realized that almost all values of the satisfaction level of each main factor in each independent variable group are normal

since significant levels of the groups are above the 5% level of threshold significance value. However, for a few of them, null hypothesis is rejected. Data of “Self-Improvement” factor in terms of “gender” groups and “educational level” groups are not normally distributed. Also, data of “Opportunities” factor for “seniority” group of over 10 years’ experience and “Internal Group Dynamics” factor for “seniority” group of over 0-3 years’ experience are not normally distributed. Results of these tests are represented in the following three tables (Table 3.9, Table 3.10, and Table 3.11)

Lastly, normality tests of “sub-factors within the main factors” for groups of gender, educational level, and seniority are also performed. Any of data of independent variable groups for each sub-factor is not normally distributed, given in Appendix C.

Table 3.9 Test of Normality for “4 Main Factors” in “Gender” Groups

	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Opportunities	Male	.117	41	.174	.974	41	.473
	Female	.128	29	.200 [*]	.971	29	.600
Self-Improvement	Male	.165	41	.007	.954	41	.093
	Female	.163	29	.049	.951	29	.194
Internal Group Dynamics	Male	.100	41	.200 [*]	.974	41	.471
	Female	.149	29	.098	.972	29	.606
Working Conditions	Male	.096	41	.200 [*]	.980	41	.678
	Female	.092	29	.200 [*]	.976	29	.742

Table 3.10 Test of Normality for “4 Main Factors” in “Educational Level” Groups

	Educational Level	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Opportunities	Undergraduate	.113	41	.200 [*]	.973	41	.417
	Graduate	.155	29	.072	.938	29	.086
Self-Improvement	Undergraduate	.140	41	.041	.949	41	.063
	Graduate	.210	29	.002	.944	29	.127
Internal Group Dynamics	Undergraduate	.118	41	.166	.978	41	.612
	Graduate	.140	29	.153	.950	29	.185
Working Conditions	Undergraduate	.125	41	.106	.968	41	.288
	Graduate	.093	29	.200 [*]	.970	29	.566

Table 3.11 Test of Normality for “4 Main Factors” in “Seniority” Groups

	Seniority	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Opportunities	0-3	.133	37	.096	.969	37	.391
	3-10	.137	20	.200 [*]	.954	20	.429
	> 10	.250	13	.026	.896	13	.117
Self-Improvement	0-3	.119	37	.200 [*]	.966	37	.320
	3-10	.184	20	.074	.930	20	.156
	> 10	.146	13	.200 [*]	.921	13	.257
Internal Group Dynamics	0-3	.153	37	.028	.960	37	.208
	3-10	.121	20	.200 [*]	.938	20	.223
	> 10	.185	13	.200 [*]	.936	13	.409
Working Conditions	0-3	.092	37	.200 [*]	.968	37	.362
	3-10	.165	20	.156	.923	20	.115
	> 10	.095	13	.200 [*]	.973	13	.928

3.4.6. Findings about Effects of Demographic Factors, Gender, Seniority, & Educational Level

For the total satisfaction level, variance analysis (One Way ANOVA) is performed between all groups of demographic factors; gender, educational level and seniority. ANOVA is a parametric test to analyze normally distributed data. Since all data groups in each independent variable are normally distributed in terms of total satisfaction, ANOVA is used in this part of the analyses. In addition, it is assumed that p-value is based on significance level of 5% for all analysis in this thesis. A small p-value ($p \leq 0.05$) indicates strong evidence against the null hypothesis; however, a large p-value ($p > 0.05$) indicates weak evidence against the null hypothesis. In order to make strong presumption against null hypothesis, p-value is taken as 0.05. So, hypothesis is rejected when p-value is less than predetermined significance level of 0.05 ($p < 0.05$), otherwise, it is fail to reject ($p > 0.05$).

One Way ANOVA is used in the existence of two assumptions. One of them is that each group should come from normal distribution. The second one is that variance of groups should be homogenous. In both tests, p-values (Sig.) must be greater than 0.05 so that null hypothesis is not rejected, in this case, the data is distributed normally and homogeneously. Normality tests of total satisfaction score showed normal distribution as

explained previous part. Results of homogeneity tests of variances (Levene statistics) are also presented below in Table 3.12. According to these results, assumption of variance homogeneity held for all groups of demographic factors.

When analyzing the significance of each group in demographic factors in terms of overall satisfaction, null hypothesis is constructed. First, male and female are not different according to overall job satisfaction. Second, employee groups having BS and MS degrees are not different in terms of overall job satisfaction. Third, employee groups with 0 to 3 years of experiences, 3 to 10 years and over 10 years of experiences are not different in terms of overall job satisfaction. None of null hypothesis cannot be rejected since all significant levels are above the 5% level of threshold significant value ($p=0.05$). It means that there is no significant difference in the overall job satisfaction level of each group of independent variables.

Table 3.12 Results of ANOVA Interdependent Variable and Total Satisfaction

		N	Mean	Std. Deviation	Homogeneity of Variance (Sig.)	ANOVA (Sig.)
Gender	Males	41	2.74	0.595	0.171	0.081
	Female	29	2.98	0.475		
Educational Level	Undergraduate	41	2.79	0.555	0.925	0.385
	Graduate	29	2.91	0.562		
Seniority	0-3 Years	37	2.92	0.531	0.907	0.136
	3-10 Years	20	2.88	0.581		
	> 10 Years	13	2.56	0.548		

According to results of ANOVA, as seen on Table 3.12, any significant difference in terms of total satisfaction was not identified among employees in the groups of gender, educational level, and seniority since their significant values are higher than 0.05.

In order to investigate effects of the independent variables on job satisfaction of “4 main factors”, multivariate variance analysis (MANOVA) is performed. Effects of each independent variable on all main factors are examined one by one.

MANOVA is also a parametric test for analyzing normally distributed data. In addition to assumptions of ANOVA (normality and homogeneity), MANOVA also assumes that covariance matrices of dependent variables are equal across groups. For this assumption to hold, equality of covariance matrices of Box's test is used. In this test, if Sig. value is greater than 0.05, null hypothesis is not rejected. Therefore, it is concluded that covariance matrices are equal. Also, Levene's test is used for testing equality of variances.

Before performing MANOVA, normality tests are applied for groups of each independent variable (as seen in previous part of the chapter). It is seen that almost all groups in terms of main factors are normally distributed except for a few of factors.

In this context, it is investigated that whether MANOVA could be used when data is not normal. In the literature, Finch (2005) compared the performance of a non-parametric and parametric test. He examined the two assumption of MANOVA, normality or homogenous of variances. He found that when the assumption of homogenous of variances is not met, the nonparametric approach is more robust with a lower type 1 error rate and higher power than parametric analysis. However, when the assumption of normality is not met, the parametric statistics becomes robust and outperforms the nonparametric statistic in terms of type 1 error and power. Therefore, MANOVA could be performed, despite violation of normality assumption.

In the light of this information, in this thesis, MANOVA is used for all main factors including the ones that are not normally distributed. However, Non-Parametric Test is also performed on non-normal distributed factors for the confirmation of MANOVA results, additionally. Non-Parametric Tests reveal the same results in terms of Sig. values, despite different figures. Results of Non-Parametric Tests are given in Appendix E.

In MANOVA, when analyzing the significance of groups in demographic factors in terms of "main factors", null hypothesis are constructed as follows. Firstly, male and female are not different in terms of main factors' satisfaction. Secondly, employee groups having BS and MS degrees "4 main factors" are not different in terms of main

factors' satisfaction. Thirdly, employee groups seniority groups a not different in terms of main factors' satisfaction.

Results of multivariate tests, Box's test, Levene's test and Sig. values are presented in the tables presented below (Table 3.13, Table 3.14, and Table 3.15). Assumption of variance homogeneity held for all groups of demographic factors and covariance matrices are equal. Also, results show that significant levels of 'Internal Group Dynamics' factor group is considerably lower than 5% and this means that groups in "seniority" is significantly different in terms of this factor. On the other hand, there is no significant difference on satisfaction level of men or women in terms of the main factors. In addition, satisfaction level of employee groups of educational level in terms of the main factors does not show any significant difference.

Table 3.13 Results of MANOVA for Gender and Main Satisfaction Factors

					Levene's Test of Equality of Error Variances		Test of Between-Subjects Effect	
Source	Multivariate Tests (Sig. of Pillai's Trace)	Box's Test of Equality of Covariance Matrices		Dependent Variable	F	Sig.	F	Sig.
Gender 1:Female 2:Male	0.337	Box's M	12.977					
		F	1.211	Opportunities	1.117	0.294	0.288	0.593
		df1	10	Self-Improvement	0.86	0.357	2.943	0.091
		df2	17046.7	Internal Group Dynamics	1.559	0.216	2.375	0.128
		Sig.	0.278	Working Conditions	0.221	0.64	1.654	0.203

Table 3.14 Results of MANOVA for Educational Level and Main Satisfaction Factors

					Levene's Test of Equality of Error Variances		Test of Between-Subjects Effect	
Source	Multivariate Tests (Sig. of Pillai's Trace)	Box's Test of Equality of Covariance Matrices		Dependent Variable	F	Sig.	F	Sig.
Educational Level 1: Undergraduate 2: Graduate	0.46	Box's M	3.858					
		F	0.36	Opportunities	0.004	0.952	1.277	0.262
		df1	10	Self-Improvement	1.114	0.295	2.235	0.14
		df2	17046.7	Internal Group Dynamics	0.122	0.728	0.295	0.589
		Sig.	0.964	Working Conditions	0.753	0.389	0.131	0.719

Table 3.15 Results of MANOVA for Seniority and Main Satisfaction Factors

					Levene's Test of Equality of Error Variances		Test of Between-Subjects Effect	
Source	Multivariate Tests (Sig. of Pillai's Trace)	Box's Test of Equality of Covariance Matrices		Dependent Variable	F	Sig.	F	Sig.
Seniority 1: 0-3 Years 2: 3-10 Years 3: >10 Years	0.261	Box's M	30.948					
		F	1.377	Opportunities	4.276	0.018	0.942	0.395
		df1	20	Self-Improvement	0.515	0.6	1.137	0.327
		df2	5472.2	Internal Group Dynamics	0.004	0.996	3.877	0.026*
		Sig.	0.122	Working Conditions	0.408	0.666	0.192	0.826

After MANOVA analysis, to investigate where the difference comes from, additional analysis should be made. If there exists two categories in a variable, it can be easily interpreted by looking means of satisfaction levels of these groups that which group is more satisfied. Thus, for educational level and gender, the results can be seen clearly by looking the mean values table. However, if there exists more than two groups in a demographic factor, in order to determine which groups are significantly differs from each other; post-hoc analysis must be performed. Therefore, this analysis is applied for seniority.

For gender and educational level, it can be observed that the mean values of the groups in each demographic variable are close to each other. Male and female employees' satisfaction levels in terms of main factors do not show so much difference. Also, there is no significant difference between employees having MS and BS degrees in terms of main factors. It means that having MS and BS degrees do not create so much difference between people's perception about the work.

Table 3.16 Mean Values of Dependent Main Factors for Educational Level Groups

Dependent Variable	Educational Level	N	Mean	Std. Deviation
Opportunities	Undergraduate	41	2.67	0.809
	Graduate	29	2.90	0.844
Self-Improvement	Undergraduate	41	2.35	0.813
	Graduate	29	2.63	0.726
Internal Group Dynamics	Undergraduate	41	3.33	0.772
	Graduate	29	3.23	0.727
Working Conditions	Undergraduate	41	2.81	0.713
	Graduate	29	2.88	0.817

Table 3.17 Mean Values of Dependent Main Factors for Gender Groups

Dependent Variable	Gender	N	Mean	Std. Deviation
Opportunities	Female	29	2.83	0.744
	Male	41	2.72	0.884
Self-Improvement	Female	29	2.66	0.748
	Male	41	2.33	0.792
Internal Group Dynamics	Female	29	3.45	0.673
	Male	41	3.17	0.787
Working Conditions	Female	29	2.98	0.785
	Male	41	2.74	0.722

Results of MANOVA imply that groups of “seniority” are significantly different in terms of “Internal Group Dynamics” factor, but, which group of “seniority” is less/more satisfied should be analyzed with Post Hoc analysis. There are more than two groups of the independent variables in “seniority”, therefore, post-hoc analysis is performed in this group. At this point, it is important to check significance level by the pairwise comparisons of three groups of employees having 3 years of experience, between 3-10 years and over 10 years of experience. It is observed that employees having 3 years of experience are more satisfied than employees having 10 years of experience in terms of “Internal Group Dynamics”. This means that younger people are not as dissatisfied as senior personnel are on this factor.

In addition, in post-hoc analysis applied for the groups of ‘seniority’, Tukey HSD test is used. These tests can be used only if homogeneity of variances assumption holds. On the other hand, results of Tamhane’s T2 should be used instead of Tukey since assumption of variance homogeneity cannot hold. In this study, since the assumption is hold for seniority variable, results of Tukey test are used. Post-hoc analysis table of seniority variable is presented in Table 3.18. As seen in the table, difference exists between the first and the third groups and also between the second and third groups.

Table 3.18 Post Hoc Analysis of Main Factors in MANOVA for Seniority Variable

Dependent Variable	Test	(I) Seniority	Mean	(J) Seniority	Mean Difference (I-J)	Std. Error	Sig.
Internal Group Dynamics	Tukey HSD	1: 0-3 Years	3.3892	3-10 Years	-0.0308	0.19986	0.987
				> 10 Years	.6046*	0.23218	0.03
		2: 3-10 Years	3.42	0-3 Years	0.0308	0.19986	0.987
				> 10 Years	.6354*	0.25655	0.041
		3: > 10 Years	2.7846	0-3 Years	-.6046*	0.23218	0.03*
				3-10 Years	-.6354*	0.25655	0.041*

In addition to total satisfaction and main factor satisfaction, in terms of the job satisfaction of sub-factors, in order to investigate effects of the independent variables, Non-Parametric Tests are used. Since the corresponding data of sub factors is not distributed normally, Non-Parametric Tests are used and null hypothesis are constructed as follows. Firstly, male and female are not different in terms of sub-factors' satisfaction. Secondly, employee groups having BS and MS degrees are not different in terms of sub-factors' satisfaction. Thirdly, employee groups having 3 years of experience, 3-10 years of experience and over 10 years of experience are not different in terms of sub-factors' satisfaction. In this part of the analysis, results of Non-Parametric Independent Sample Tests are presented in Appendix D.

Satisfaction levels related with “working in the projects that develop the capabilities of the employee” and “work-related responsibilities given to employee” are resulted different in gender groups. Females showed more satisfaction than males showed, since males may attach more importance to self- improvement and taking responsibility. In order to see the significant difference explicitly, mean values are shown in the table below (Table 3.19). As it can be seen in Appendix D, there is no significant difference between groups of educational level in terms of sub-factors.

Table 3.19 Mean Values of Sub-Factors as Dependent Variable for Gender as Independent Variable

Dependent Variable	Gender	N	Mean	Std. Deviation	95% Confidence Interval	
					Lower Bound	Lower Bound
Working In the Projects That Develop The Capabilities Of The Employee	Female	29	2.62	0.209	2.204	3.037
	Male	41	2.02	0.175	1.674	2.374
Work-Related Responsibilities Given To Employee	Female	29	3.28	0.996	2.886	3.666
	Male	41	2.76	1.09	2.428	3.084

At this point, which group of “seniority” is less/more satisfied should be analyzed with Post Hoc analysis. It is observed from the table below (Table 3.20) that employees having over 10 years of experience are less satisfied with the factors “overseas appointment” and “equal chance to access to opportunities in the department”. According to the results, assistant experts, who are in the group of employees having 0-3 years of experience, are more satisfied with these factors than chief experts are, and dissatisfaction with “overseas appointment” arises significantly after 3 years. This study also showed that satisfaction level of “equal chance to access to opportunities” decreases after significantly 10 years of experience. It means that younger employees are more satisfied about obtaining opportunity for overseas appointment and obtaining equal chance to access to opportunities.

Table 3.20 Post Hoc Analysis of Sub-Factors in MANOVA for Seniority Variable

Dependent Variable	Test	(I) Seniority	Mean	(J) Seniority	Mean Difference (I-J) ^a	Std. Error	Sig.
Overseas Appointment	Tukey HSD	0-3 Years	3.11	3-10 Years	-0.04	0.291	0.989
				> 10 Years	.95 [*]	0.338	0.017
		3-10 Years	3.15	0-3 Years	0.04	0.291	0.989
				> 10 Years	1.00 [*]	0.374	0.026
		> 10 Years	2.15	0-3 Years	-.95 [*]	0.338	0.017*
				3-10 Years	-1.00 [*]	0.374	0.026*
Equal Chance among Employees to Access to Opportunities in the Department	Tukey HSD	0-3 Years	2.7	3-10 Years	-0.25	0.311	0.708
				> 10 Years	0.86	0.362	0.054
		3-10 Years	2.95	0-3 Years	0.25	0.311	0.708
				> 10 Years	1.10 [*]	0.4	0.02
		> 10 Years	1.85	0-3 Years	-0.86	0.362	0.054
				3-10 Years	-1.10 [*]	0.4	0.02*

CHAPTER 4

DISCUSSION OF THE FINDINGS

The aim of this study is to determine the important factors that affect the job satisfaction of employees working in a particular public institution and to investigate to what extent the public institution satisfies the needs of its employees in terms of these prominent factors. The outcomes of the study are discussed in detail throughout this chapter.

As a result of this study, overall satisfaction score is 2.84 which is the average of 18 important factors. The scoring is between 1 and 5, and average satisfaction is represented by 3. This means that employees are not quite satisfied with their jobs. This value brings a general perspective about job satisfaction of employees in the institution. Factor satisfaction will be discussed after the evaluations of overall satisfaction.

According to the results of the study, in addition to descriptive statistics of the job satisfaction factors, the significance levels of factors are investigated in terms of demographic factors. Findings show that there is no significant difference between men and women in terms of overall job satisfaction (2.74, 2.98, respectively). In the literature, according to some researches, job satisfaction level of men is higher than women. For example, the result of the study in Turkish major research institution conducted by Harputlu (2014) indicates that males are more satisfied with some factors in terms of general satisfaction. On the other hand, other previous studies commonly propose that job satisfaction level of females is higher than males. Kim (2005)'s study indicates that there are three main explanations why women are more satisfied than men are. First reason is that women have lower expectations than men do. In other words,

since females expect from work less, they are satisfied with less. Second reason is that women may not prefer to express their discontent, therefore, they seem more satisfied. The final reason is that women and men may value different characteristics in a job so that there could be a difference between their satisfaction levels. In the light of this information, the findings of our study may be attributed that male and female employees in our subject group have similar expectations and they value similar characteristics towards their jobs in this institution.

Findings obtained from this study also show that, there is no significant difference in overall job satisfaction level between employee groups of different educational levels, which correspond to bachelor's degree and master's degree. Some previous researches showed that, if educational level of employees increases, their expectations also increase from their job. Therefore, increase in educational level of employees may cause dissatisfaction about their job (Sun, 2002). In our study, findings indicate that their expectation levels are close to each other in the groups of employees having BS and MS degree. Therefore, it can be said that having MS or BS degrees do not create much difference in people's perception about their work.

Another finding about overall satisfaction is that there is a significant difference between employees with 0-3 years of experience and over 10 years of experience. People who have 0-3 years of experience are more satisfied with their jobs. It can be because of the enthusiasm and dynamism of the young employees towards their jobs, compared to the senior employees. Our results are also supported by the study of De Santis and Durst who says that seniority and job satisfaction are negatively related (Green, 2000).

In addition to overall satisfaction, facet approach is used in this study since it provides detailed analysis to detect high and low areas of job satisfaction. Findings about the main factors and sub-factors are discussed in the following parts.

4.1. Discussion about Main Factors

According to the study, in terms of the importance levels and satisfaction levels of the main factors, "Opportunities" is considered to be the most important factor among other

main factors; however, this factor is not considered to be satisfied by the employees since its satisfaction level is 2.76. “Internal Group Dynamics” is realized as the most satisfied main factor with the level of 3.39, while “Self-Improvement” factor has the lowest satisfaction level of 2.47. These results indicate that inter-relations between employees are satisfactory but personal development opportunities are not satisfied sufficiently by the institution. This may attributed that while factors that are mainly supplied by the institution realized as dissatisfied, the interrelationships that are created by employees themselves are seen as more satisfied.

In terms of demographic factors, it is observed that there is no significant difference on the satisfaction level of men and women for each main factor.

According to the results of this study, no significant difference in employee groups having BS and MS degrees is observed in terms of main factors.

In terms of “Internal Group Dynamics”, employees with 0-3 years’ experience are more satisfied than employees with over 10 years of experience. Results of our study may be attributed that young and beginner employees have better and strong relationships with their colleagues and their supervisors.

As mentioned before, it is assumed that weights of job satisfaction factors are equal, therefore, all sub-factors have equal effect on the satisfaction levels, and all analyses are made according to this assumption. However, in this study, the weights of job satisfaction factors are obtained from the results of AHP, also. Therefore, additional concept is defined in order to make comparison of importance levels (weights) and satisfaction levels of factors, which is called as “dissatisfaction ratio”. Dissatisfaction Ratio is a ratio proportional with the importance level (v_i) of the factor and inversely proportional with the availability (u_i) of the factor. The importance level (v_i) is the outcomes of AHP survey, and the availability level (u_i) is the normalized values of the outcomes of job satisfaction survey. Dissatisfaction ratio is calculated by dividing v_i to u_i (v_i/u_i). By using this ratio, “Percent Dissatisfaction Ratio” (c_i) is formulated as $c_i = \frac{v_i/u_i}{\sum_{i=1}^n v_i/u_i} * 100 \quad i=1,...,n$. The reason of taking percentages of factors is that the percentage enables us to compare all sub-factors with each other easily. When the importance level of a factor is high and the availability of a factor in the institution is

low, dissatisfaction ratio and percent dissatisfaction ratio of that factor becomes high. In other words, higher percent dissatisfaction ratio indicates that the corresponding factor needs to be paid more attention. Therefore, percent dissatisfaction ratio has a negative meaning in it. With the help of the percent dissatisfaction ratio, the institution could observe and evaluate which factors are more important for employees and which factors are less satisfied (having less availability level) in the institution. This means that the factors are more important and less satisfied compared with the other factors. More importance should be attached to these factors, which have higher c_i values, in order to improve satisfaction level of them.

4.1.1. Opportunities

According to this study, “overseas appointment opportunity” and “master degree opportunity” are the most important sub-factors for the job satisfaction of employees as far as the “Opportunities” is concerned. They are regarded as special opportunities of the institution. Therefore, they deserve special attention in the institution.

“Overseas appointment opportunity” has the highest c_i value, as presented in Table 4.1. This value indicates that although it is very important factor (0.29 out of 1); the satisfaction level of “overseas appointment” is not sufficient (2.94). For “overseas appointment”, there are determined countries where a senior diplomat is assigned; and there exists limited places (there are 158 cities, all of which have an attaché) for the institution to send their employees. Therefore, the employees generally might not have a chance to go the place that they want. This might cause dissatisfaction for them.

In addition, the satisfaction levels of “seniority” groups are significantly different in “overseas appointment”. Employees with over 10 years of experience are less satisfied than younger employees. This might be resulted from the institution’s policies about assigning young employees, who are more dynamic and enthusiastic for “overseas appointment”. This study indicates that as seniority increases, expectations of employees are not met by the institution, so their disappointments cause dissatisfaction.

Although “master degree opportunity” is considered as one of the most important factors (0.23 out of 1), it is obvious that its satisfaction level is mediocre (3.14 out of 5).

This factor provides an opportunity to obtain a master degree at top schools of the world. Every year, 20 students, who get top scores from the criteria put by institution, have a chance to study master degree in world's famous schools. However, every year approximately 80 people start to work in the institution. Therefore, this situation results in the accumulation of the employees who want to be selected for master degree opportunity. The employees probably think that they could not benefit from this opportunity it causes dissatisfaction for them.

Employees also want to work in preferred department; however they do not think that they could have a chance to choose a department in which they prefer to work. People are accepted to start work in this institution by this way; firstly they pass a general exam for public enterprises, secondly, they pass an exam prepared by the institution, and finally, they pass an oral interview. After all these procedure, they might expect to make a kind of preference list when starting the job. However, they could not have a chance for that; therefore, the factor is not satisfactory for the employees. Also related with this factor, it has high importance levels (0.19 out of 1 and 3rd place within "Opportunities" and low satisfaction level (2.43). This means that the dissatisfaction ratio of this factor is considerably high and it should be taken into consideration by the institution.

Table 4.1 Percent Dissatisfaction Ratio of the "Sub Factors" in "Opportunities"

Opportunities	AHP Results - Importance (vi)	SPSS Results – Availability (ui)	Dissatisfaction Ratio (vi/ui)	Percent Dissatisfaction Ratio (ci)
Overseas Appointment	0.338	0.266	1.270	32%
Master Degree	0.275	0.284	0.967	24%
Preferred Dept.	0.223	0.220	1.014	26%
Int. & Nat. Meetings	0.164	0.230	0.715	18%
Total	1	1	3.966	100%

4.1.2. Self-Improvement

The mean value of “Self-Improvement” (2.47) shows that the employees perceive their jobs as not contributing to their professional growth. “Training opportunities in the country or abroad” has great importance, but, it is not found satisfied by workers, with the satisfaction level of 2.74. People probably expect from their institution that further work-related training and self-development programs all over the world should be followed strictly and employees should be sent to these kinds of programs more frequently.

“Working in the projects that develop the capabilities” is met at quite low level (2.27) by the institution so it indicates that employees are not satisfied with the personal growth opportunities of the institution.

Employees think that their efforts are not recognized and their performances are not rewarded by their managers when they complete the assigned work or obtain a successful result from a specific work. According to Kalleberg (1977) reward is strongly correlated with job satisfaction. In addition, results of this study related with the reward could be supported by the performance-outcome expectancy, presented in Vroom’s Expectancy Theory. If discrepancies occur between expectation and actual outcome, this leads employee dissatisfaction (Lunenburg, 2011a). Therefore, it might be attributed that the satisfaction level of “rewards & appreciations” is low in the institution, whereas the expectancy of employees with their good performance in this area is quite high.

In addition to given explanation above, all the three factors in this heading have high ci values. Especially, “training opportunity” has the highest importance level and percent dissatisfaction ratio of training factor (%49) is considerably high among all sub-factors. In the light of the outcomes of the surveys and ci values of sub-factors, it is certainly indicated that employees are not satisfied with the “Self-Improvement” factor and its sub-factors.

Table 4.2 Percent Dissatisfaction Ratio of the “Sub Factors” in “Self-Improvement”

Self-Improvement	AHP Results Importance (vi)	SPSS Results –Availability (ui)	Dissatisfaction Ratio (vi/ui)	Percent Dissatisfaction Ratio (ci)
Training	0.531	0.370	1.434	49%
Self-Development Projects	0.267	0.307	0.870	30%
Rewards& Appreciations	0.201	0.323	0.622	21%
Total	1	1	2.927	100%

In terms of “working in the projects that develop the capabilities of the employee” factor, gender groups show significant difference. Males have significantly low satisfaction level compared to females. This difference could be interpreted that men are more willing to improve themselves compared to women. According to some previous studies in the literature, men and women have different expectations from the job. Among the theories related with the job satisfaction, the value-percept theory (Locke, 1976) may be more appropriate to explain this result. It argues that discrepancies between what is desired and what is received cause dissatisfaction only if the job satisfaction factor is important to the employee. According to Kim (2005), the value-percept theory is better to explain gender differences in job satisfaction. Women evaluate that the discrepancies in the factors are not so high; while, men evaluate that the discrepancy in the job satisfaction factors is big enough for them to be dissatisfied.

4.1.3. Internal Group Dynamics

Findings of the study show that communication and cooperation with co-workers are the most satisfied factors among all job satisfaction determinants. Employees find their co-workers cooperative, supportive, and competent in performing the jobs. According to previous researches, employees’ relationships with co-workers are important for their success at work and establishing positive relationships at work may create more enjoyable workspace and increase job satisfaction. Similar to our study, according to the results of a study in Turkish major research institution conducted by Harputlu

(2014), relationships with co-workers are satisfactory. In addition, employees working in this institution are satisfied with management style of their supervisors.

According to Equity Theory of Adams, if employees feel themselves as not being fairly treated, this will result in dissatisfaction. In our study, the results of this study, according to “equal chance to access opportunities” and “equal workload among employees” factors, could be supported with this theory. In the light of this theory, it can be said that if employees think that there exists inequality in workload and in given opportunities in the department, then they are not satisfied with these factors. Employees in this institution probably think that distribution of workload and opportunities in the department is not fairly done by the managers.

In addition to given results above, “equal chance to access opportunities” has the highest ci values in “Internal Group Dynamics”. According to employees, it is the most important and almost the least satisfied factor. This factor also has the second highest percent dissatisfaction ratio (%40) among all sub-factors. It indicates that people think that they do not have an equal chance to access opportunities in their department.

Table 4.3 Percent Dissatisfaction Ratio of the “Sub Factors” in “Internal Group Dynamics”

Internal Group Dynamics	AHP Results Importance (vi)	SPSS Results –Availability (ui)	Dissatisfaction Ratio (vi/ui)	Percent Dissatisfaction Ratio (ci)
Equal Access to Opt.	0.347	0.159	2.187	40%
Equal Workload	0.190	0.153	1.243	23%
Style of Supervisors	0.179	0.197	0.909	17%
Cooperation	0.164	0.237	0.694	13%
Communication btw. Co-workers	0.120	0.255	0.469	9%
Total	1	1	5.503	100%

In terms of “equal chance among employees to access to opportunities in the department”, “seniority” groups show significant difference. Employees having over 10

years of experience are less satisfied compared with the younger employees. Hence, it could be said that seniors become more aware of the lack of some opportunities due to their experiences in the work environment. Also, it could indicate that younger people have positive feelings about their jobs, so, they are not dissatisfied with the equality issue compared to the senior employees.

4.1.4. Working Conditions

According to employees, “work-related responsibilities” given to them are not enough to be satisfied. They probably think that they are not participating the decision making process in work related issues. Findings obtained from this study is in line with the previous academic studies, which revealed that responsibility is an important factor for job satisfaction and employees want to be more involved in the decision making processes. By this way, employees feel a sense of belonging and it makes them more satisfied and committed (Steingrimsdottir, 2011).

According to the findings of this study, employees put great importance to have proper workload, which could be completed in working hours. People also need to spend time outside of the work, so, in our study, workload that could be completed in the working hours is the most important factor (importance level is 0.21 out of 1) among all factors in “working conditions”. According to the results of our study, it can be said that they are relatively satisfied with their workload with the level of 3.24. This shows that they think their workload could be completed in working hours.

Another findings obtained from this study is that satisfaction levels of clear job definition and importance of tasks are mediocre. Employees do not think that their jobs and the given tasks to them are important for the institution. In other words, they do not think that their contribution to the institution is meaningful since job descriptions are not sufficiently clear for them.

According to results of this study, satisfaction level of “physical conditions” is the lowest one among all sub-factors (2.21). It can be interpreted that employees may find office environment not comfortable and employees are not satisfied with the current state of the physical conditions of their working environment. In the light of this

information, some improvements about physical conditions need to be considered by the institution and more comfortable work office conditions could be suggested for efficiency of workers. Lee (2006) found in his study that workplace satisfaction is positively correlated with the job satisfaction; it means that when employees work in appropriate environment, the satisfaction increases. The reason of the low satisfaction level of physical conditions in this institution is probably that, employees think that rooms are congested and room conditions are not appropriate for working. The question of this reason is not asked to employees openly and not obtained detailed answers from them. In order to investigate which kind of aspects should be made better in physical conditions, another specific study could be done.

Also from the study it is understood that, “work-related responsibilities” and “workload that could be completed in the working hours” have the highest ci values among all working condition related factors. Percent dissatisfaction ratio is additional critical indicator to get the attention of the institution to take some serious steps about these factors.

Table 4.4 Percent Dissatisfaction Ratio of the “Sub Factors” in “Working Conditions”

Working Conditions	AHP Results Importance (vi)	SPSS Results –Availability (ui)	Dissatisfaction Ratio (vi/ui)	Percent Dissatisfaction Ratio (ci)
Working Hours	0.237	0.190	1.246	21%
Responsibilities	0.216	0.174	1.239	21%
Task Importance	0.154	0.180	0.854	14%
Job Description	0.141	0.168	0.838	14%
Physical Conditions	0.131	0.118	1.108	18%
Time Pressure	0.122	0.170	0.718	12%
Total	1	1	6.004	100%

In terms of “work-related responsibilities given to employee” factor, “gender” groups show significant difference. Men have significantly low satisfaction level about these factors compared to women. This difference indicates that males are willing to take

responsibilities compared with females. Previous studies in the literature also support our findings and states that females' expectations could be lower for some factors such as responsibilities. The analyses are verified that women perceived less supervisory responsibility in their jobs than men do (Valentine, 2012). Females are less likely to take responsibility for the jobs than men are.

CHAPTER 5

CONCLUSION & RECOMMENDATIONS

In this study, the aim is to identify the important factors for the job satisfaction of employees in a certain public institution and to what extent this institution satisfies the employees with respect to these prominent factors. The public institution, selected for this study is a central governmental institution, implementing fundamental economic policies and activities in order to contribute to the national economy and development of the social welfare.

For this purpose, initially, main job satisfaction theories and job satisfaction factors are investigated in the literature. After an extensive literature review, AHP Survey and Satisfaction Survey are conducted to define the important factors for the employees of this institution and to determine the satisfaction levels of these factors. These surveys are covered to employees that are assistant experts and experts having BS or MS degrees in the public institution.

In this study, 4 main factors and 25 sub factors within main factors are modelled within a hierarchy with the help AHP technique. AHP survey is conducted on the employees who want to participate into the study. Expert Choice 11 software program is used and 18 out of 25 sub-factors are realized as more “important factors”. After that, job satisfaction survey is conducted on the employees for the determination of satisfaction levels of these factors. SPSS software program is utilized for analysis of data considering demographic properties.

According to the descriptive analysis of these factors, it is seen that general job satisfaction level of employees is mediocre. In terms of main factors, mean values of them shows that employees are dissatisfied with “Self-Improvement”, “Opportunities”, and “Working Conditions”. However; they are satisfied with “Internal Group Dynamics”.

The level of overall satisfaction and factor satisfactions are tested by using variance analysis techniques (ANOVA & MANOVA & Non Parametric Tests) in terms of demographic characteristics.

According to the results, males and females do not show any significant difference in terms of general satisfaction. On the other hand, in terms of factor satisfaction, males are more dissatisfied in ‘taking responsibility’ compared with females. Managers could try to give more responsibility to male employees. They need to be satisfied by taking more responsibilities. Also, male employees are more dissatisfied with ‘working in the self-development projects’. Therefore; the institution should follow self-development programs related to the working fields and employees should be assigned to these programs more frequently.

As far as “seniority” is concerned, there is a significant difference between the groups. In addition, up to 3 years of experience employees are more satisfied with “Internal Group Dynamics” than employees with over 10 years of experience. Young people have better relationships in their departments. Another result about this study is that workers with fewer than 10 years of experience in the institution are more satisfied with “overseas appointment” and “equal chance to access to opportunities”. There is a limited place for the institution to send their employees to overseas appointment. This issue is also important for its influential power and prestige as a major public institution. This could be improved by sending the employees for shorter time periods for circulation of employees. In addition, “equal chance to access opportunities” also has the second highest ci value among all sub-factors. Therefore, managers should try to pay more attention to treat employees fairly, only by this way; employees could be satisfied with the equity of chance to access to the opportunities.

According to sub-factor satisfaction levels, although “communication and cooperation with co-workers” are the most satisfied factors among all job satisfaction determinants, employees do not satisfied many sub-factors. They do not think that they have a chance to choose a department in which they prefer to work. Maybe, when employees start to work, before the assignments, employees characteristic specialties should be taken into consideration. In addition, as a special opportunity of this institution, “master degree opportunity” for a master degree at top schools of the world should be rearranged, quota for this opportunity is tried to be increased; therefore, more people, who get top score from the criteria put by institution, could have a chance to study master degree in world’s famous schools. “Training opportunity” has the highest level of percent dissatisfaction ratio among all factors. The results indicate that further work-related training programs should be followed strictly by the institution and employees should be assigned to these kinds of programs more frequently like for self-improvement projects. Also, they think that some improvements need to be considered by the institution for more comfortable physical conditions. Human resource departments could take an active role in taking all necessary requirements to improve job satisfaction factors.

It can be said that this thesis contributes to the understanding and improving of job satisfaction factors of employees working in a major public institution. Being aware of the needs of its employees, realizing the influences of job satisfaction factors in the work, and developing institutional programs and policies according to necessary improvements are the important things for public institutions. It is important to pay attention to job satisfaction of employees, by concerning specific differences by employee demographics such as gender, educational level, and seniority.

Consequently, significant results are obtained with this thesis. We hope that the findings of this study will guide the future studies in this institution, and will shed a light on the studies in other governmental and private sector institutions. Hopefully; the recommendations of this thesis will be able to help the institution to take necessary steps for improvement about the job satisfaction levels of the important factors.

5.1. Limitations

In this study, in the classification stage where the AHP method is used, independence of factors is taken into consideration. Main factors and sub factors in the AHP hierarchy are assumed independent in order to compare them with each other. However, “Self Improvement” factor and “Opportunities” factor seem to be inter-dependent and some sub-factors within these main factors could be placed in both main factor group. However, “Self-Improvement” factor is desired to be emphasized as a distinct factor group. This can be seen as a limitation of our study. These main factors would be clustered in single group in another study.

5.2. Future Studies

For the future studies, the presented system with the surveys and analyses in this thesis would be reapplied in certain periods and the necessary steps could be taken by authorized managers and departments. If important factors and their availability are poor for two consecutive periods, more attention should be attached specifically to these factors. Continuous improvement could be achieved towards the job satisfaction of employees via this way. This would enable the institution to recognize the improvements of factors related with the job satisfaction of employees. Further analysis might be made on the determination of other factors, affecting the job satisfaction of employees in this institution, such as pay and job security. Also, some other demographic factors such as age and marital status could be investigated in the future studies.

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APPENDIX A

AHP SURVEY - QUESTIONNAIRE EXPLANATION (IN TURKISH)

Değerli Çalışanlar;

“Kamu Çalışanlarının İş Tatminini Etkileyen Faktörlerin Tespit Edilmesi ve Kamu Kurumunun Bu Faktörleri Hangi Ölçüde Karşıladığının Belirlenmesi” konulu tez çalışması kapsamında, kamu kurumunda iş tatmini üzerinde etkili olan faktörler aşağıdaki anketle değerlendirmenize sunulmaktadır. Anket yapılırken katılımcıların isimleri istenmeyecek ve gizlilik ilkeleri gözetilecektir.

Anket yaklaşık olarak **15 dakikanızı** alacaktır. Yapması kolay, keyifli bir ankettir. Sıkılmadan yapmanızı dilerim. Anketin **24 Nisan Perşembe** günü akşama kadar dilediğiniz zaman yapabilirsiniz.

Çalışan memnuniyeti, kamu kurumları için önemli ve dikkat edilmesi gereken bir konudur. Bu kapsamda, anketteki soruların cevaplanması, hem çalışanların kendilerini etkileyen faktörleri gözden geçirmeleri hem de bu faktörlere yönelik pozitif adımların atılması açısından oldukça önemlidir.

Tüm katılımcılara emekleri için ve zaman ayırdıkları için, şimdiden teşekkürlerimi sunarım.

Anketle ilgili **önemli** birkaç nokta aşağıda yer almaktadır. Ankete başlamadan önce, anketi daha rahat yapabilmek için aşağıdaki açıklamaları gözden geçirmenizi önemle tavsiye ederim. (Ayrıca detaylı açıklama anketin başlangıç kısmında da yer almaktadır.)

- Anketi bitirebilmeniz için **bütün soruları** cevaplamanız gerekmektedir. Anketi bitirdikten sonra en aşağıdaki **“Gönder”** butonuna basarak anketinizi tamamlayabilirsiniz. Eğer, atladığınız bir soru olmuşa, anket **uyarı** verir ve sizi işaretlemediğiniz soruya götürür. Eksik bıraktığınız soruyu da işaretledikten sonra tekrar “Gönder” butonuna basarak anketi tamamlamış olacaksınız.

- Ankette, ana başlıklara ve alt başlıklara ayrılmış olan tüm faktörler ikili gruplar halinde karşılaştırmalı şekilde sorulmaktadır. Göstergelerin anlamları aşağıda yer almaktadır:
 - 1 Eğer iki faktör de sizin için aynı öneme sahipse
 - 3 Eğer bir faktör diğerinden az da olsa daha önemli ise
 - 5 Eğer bir faktör diğerinden daha önemli ise
 - 7 Eğer bir faktör diğerinden çok daha önemli ise
 - 9 Eğer bir faktör diğeri ile karşılaştırılamayacak kadar önemli ise
- Örneğin, “Yurtdışında yüksek lisans eğitimi olanağının sağlanması” faktörü ile “Yurtiçindeki dil kurslarına indirimli olarak gidebilme imkânı” faktörü karşılaştırmalı olarak sorulmaktadır. Sonucunda, çalışanlar için hangi faktörün daha önemli olduğu tespit edilecektir. Bahsedilen örnek karşılaştırma aşağıda yer almaktadır:

Yurtdışında yüksek lisans eğitimi olanağının sağlanması	9	7	5	3	1	3	5	7	9	Yurtiçindeki dil kurslarına indirimli olarak gidebilme imkânı
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

- “Yurtdışında yüksek lisans eğitimi olanağının sağlanması” faktörü sizin için “Yurtiçindeki dil kurslarına indirimli olarak gidebilme imkânı” faktöründen az da olsa daha önemli ise yukarıda gösterildiği gibi işaretleme yapmanız gerekmektedir. Ankette, aynı işlemin bütün faktör eşleşmeleri için yapılması istenmektedir.
- Belirlenen faktörlerin ana ve alt başlıkları aşağıdaki gibidir:
 - 1-) Sağlanan İmkânlar: Yurtdışında yüksek lisans eğitimi olanağının sağlanması, Ataşe olarak yurtdışında tayin yapılması, yurtiçindeki dil kurslarına indirimli gidebilme, vb.
 - 2-) Çalışma Koşulları: İş yükünün düzenli olması (dönemsel değişkenlik göstermemesi) , iş yükünün mesai saatlerinde tamamlanabilir düzeyde olması vb.
 - 3-) Bireysel Gelişim: Yurtiçinde ve yurtdışında eğitim olanakları, başarıların takdir edilmesi-ödüllendirilmesi, çalışanın kendisini geliştirebileceği projelerde yer alması.
 - 4-) Departmanlar İçerisindeki Dinamikler: Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması, üstlerle ilişkilerin iyi olması, departman içinde iş konularında dayanışma olması vb.

AHP QUESTIONNAIRE

Aşağıda Belirtilen Faktörlerden Hangisi İş Tatmininiz (Çalışma Memnuniyetiniz) Açısından Daha Önemlidir?

Sağlanan imkânlar	9	7	5	3	1	3	5	7	9	Çalışma Koşulları
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sağlanan imkânlar	9	7	5	3	1	3	5	7	9	Bireysel Gelişim
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sağlanan imkânlar	9	7	5	3	1	3	5	7	9	İnsan İlişkileri
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Çalışma Koşulları	9	7	5	3	1	3	5	7	9	Bireysel Gelişim
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Çalışma Koşulları	9	7	5	3	1	3	5	7	9	İnsan İlişkileri
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Bireysel Gelişim	9	7	5	3	1	3	5	7	9	İnsan İlişkileri
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

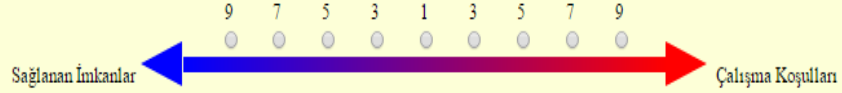
Figure A.1 Template of Web Based AHP Questionnaire

WEB BASED AHP QUESTIONNAIRE

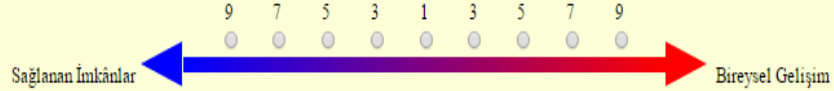
AŞAĞIDA BELİRTİLEN ANA FAKTÖRLERDEN HANGİSİ İŞ TATMİNİNİZ (ÇALIŞMA MEMNUNİYETİNİZ) AÇISINDAN DAHA ÖNEMLİDİR?

(Örnek açıklama: Mavi renkli lasım, 4-0 aralığı, "Sağlanan İmkanlar" - Kırmızı renkli lasım, 0-4 aralığı, "Çalışma Koşulları"na göre ağırlıktandırılmıştır. Önem derecesine göre işaretleyiniz.)

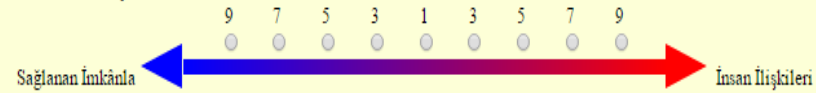
* Sağlanan İmkanlar - Çalışma Koşulları



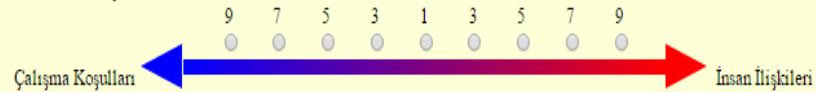
* Sağlanan İmkanlar - Bireysel Gelişim



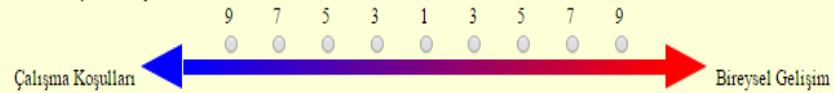
* Sağlanan İmkanlar - İnsan İlişkileri



* Çalışma Koşulları - İnsan İlişkileri



* Çalışma Koşulları - Bireysel Gelişim



* Bireysel Gelişim - İnsan İlişkileri

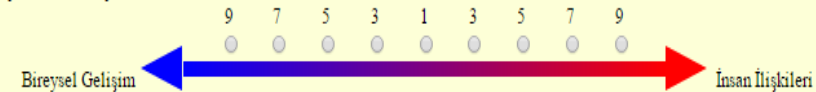


Figure A.2 Web Based AHP Questionnaire

"SAĞLANAN İMKÂNLAR" KAPSAMINDA AŞAĞIDA BELİRTİLEN FAKTÖRLERDEN HANGİSİ İŞ TATMİNİNİZ AÇISINDAN DAHA ÖNEMLİDİR?

(Örnek açıklama: Mavi renkli kısım, 4-0 aralığı, "Yurtdışında yüksek lisans eğitimi olanağının sağlanması" - Kırmızı renkli kısım, 0-4 aralığı, "Ticaret Ataşesi olarak yurtdışında tayin yapılması" şeklinde ağırlıklandırılmıştır. Önem derecesine göre işaretleyiniz.)

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Ticaret Ataşesi olarak yurtdışında tayin yapılması

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Ticaret Ataşesi olarak yurtdışında tayin yapılması

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Yurtiçindeki dil kurslarına indirimli olarak gidebilme imkânı

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Yurtiçindeki dil kurslarına indirimli olarak gidebilme imkânı

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Tercih ettiğim departmanda çalışma olanağı

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Tercih ettiğim departmanda çalışma olanağı

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Bir çalışmamızın uluslararası ya da ulusal bir akademik alanda yayımlanması

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Bir çalışmamızın uluslararası ya da ulusal bir akademik alanda yayımlanması

* Yurtdışında yüksek lisans eğitimi olanağının sağlanması - Yemek, ulaşım gibi hizmetlerin sağlanması

9 7 5 3 1 3 5 7 9

Yurtdışında yüksek lisans eğitimi olanağının sağlanması

Yemek, ulaşım gibi hizmetlerin sağlanması

Figure A.2 Web Based AHP Questionnaire (continued)

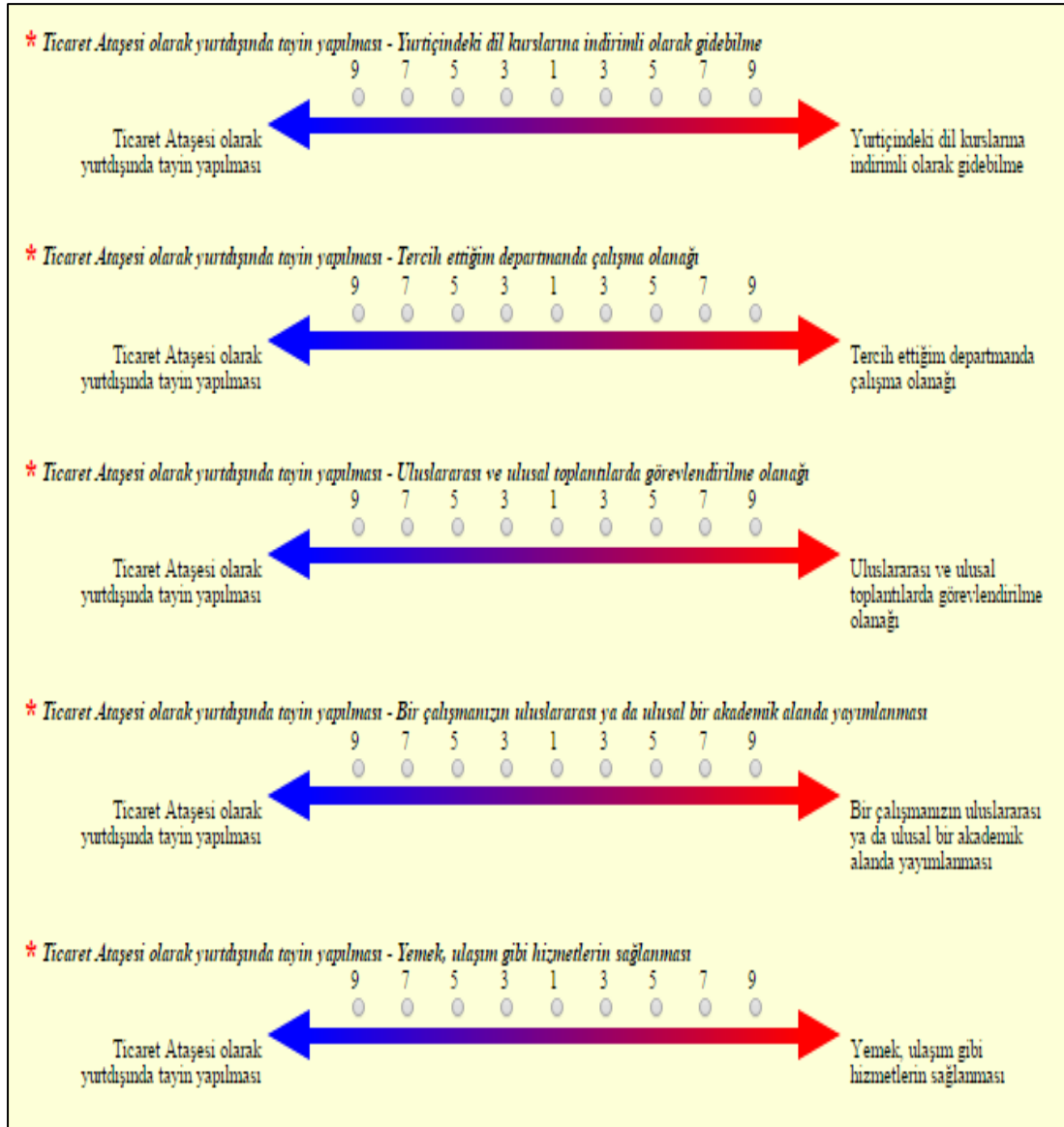


Figure A.2 Web Based AHP Questionnaire (continued)

* Yurtiçindeki dil kurslarına indirimli olarak gidebilme - Tercih ettiğim departmanda çalışma olanağı

9 7 5 3 1 3 5 7 9

Yurtiçindeki dil kurslarına indirimli olarak gidebilme

Tercih ettiğim departmanda çalışma olanağı

* Yurtiçindeki dil kurslarına indirimli olarak gidebilme - Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

9 7 5 3 1 3 5 7 9

Yurtiçindeki dil kurslarına indirimli olarak gidebilme

Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

* Yurtiçindeki dil kurslarına indirimli olarak gidebilme - Bir çalışmamızın uluslararası ya da ulusal bir akademik alanda yayımlanması

9 7 5 3 1 3 5 7 9

Yurtiçindeki dil kurslarına indirimli olarak gidebilme

Bir çalışmamızın uluslararası ya da ulusal bir akademik alanda yayımlanması

* Yurtiçindeki dil kurslarına indirimli olarak gidebilme - Yemek, ulaşım gibi hizmetlerin sağlanması

9 7 5 3 1 3 5 7 9

Yurtiçindeki dil kurslarına indirimli olarak gidebilme

Yemek, ulaşım gibi hizmetlerin sağlanması

* Tercih ettiğim departmanda çalışma olanağı - Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

9 7 5 3 1 3 5 7 9

Tercih ettiğim departmanda çalışma olanağı

Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

Figure A.2 Web Based AHP Questionnaire (continued)

* Tercih ettiğim departmanda çalışma olanağı - Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması

9 7 5 3 1 3 5 7 9

Tercih ettiğim departmanda çalışma olanağı

Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması

* Tercih ettiğim departmanda çalışma olanağı - Yemek, ulaşım gibi hizmetlerin sağlanması

9 7 5 3 1 3 5 7 9

Tercih ettiğim departmanda çalışma olanağı

Yemek, ulaşım gibi hizmetlerin sağlanması

* Uluslararası ve ulusal toplantılarda görevlendirilme olanağı - Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması

9 7 5 3 1 3 5 7 9

Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması

* Uluslararası ve ulusal toplantılarda görevlendirilme olanağı - Yemek, ulaşım gibi hizmetlerin sağlanması

9 7 5 3 1 3 5 7 9

Uluslararası ve ulusal toplantılarda görevlendirilme olanağı

Yemek, ulaşım gibi hizmetlerin sağlanması

* Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması - Yemek, ulaşım gibi hizmetlerin sağlanması

9 7 5 3 1 3 5 7 9

Bir çalışmamın uluslararası ya da ulusal bir akademik alanda yayınlanması

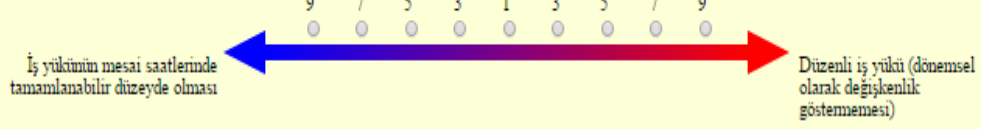
Yemek, ulaşım gibi hizmetlerin sağlanması

Figure A.2 Web Based AHP Questionnaire (continued)

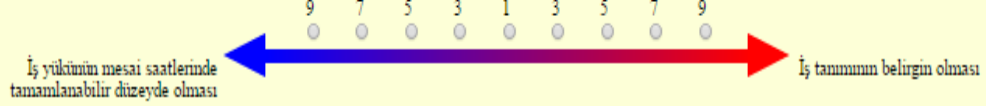
"ÇALIŞMA KOŞULLARI" KAPSAMINDA AŞAĞIDA BELİRTİLEN FAKTÖRLERDEN HANGİSİ İŞ TATMİNİNİZ AÇISINDAN DAHA ÖNEMLİDİR?

(Örnek açıklama: Mavi renkli kısım, 4-0 aralığı, "Departmanlar arası mobilité (başka departmana atanabilme)" - Kırmızı renkli kısım, 0-4 aralığı, "Çalışma saatlerinin düzenli olması (fazla mesai olmaması)" şeklinde ağırlıklandırılmıştır. Önem derecesine göre işaretleyiniz.)

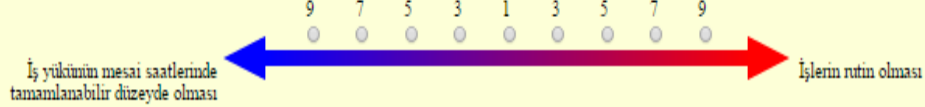
* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - Düzenli iş yükü (dönemsel olarak değişkenlik göstermemesi)



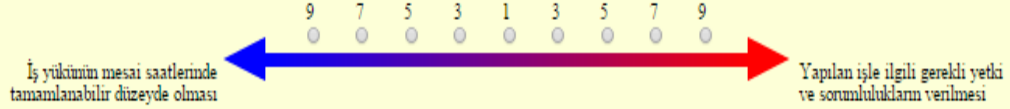
* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - İş tanımının belirgin olması



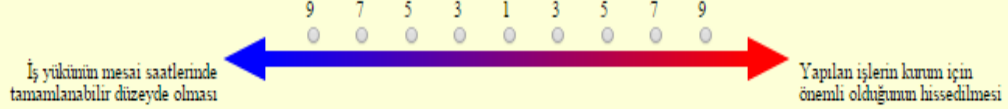
* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - İşlerin rutin olması



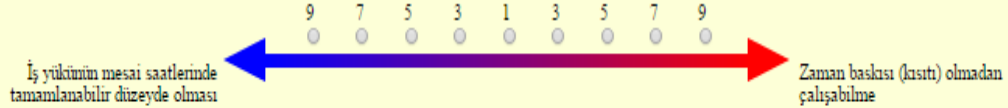
* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - Yapılan işle ilgili gerekli yetki ve sorumlulukların verilmesi



* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - Yapılan işlerin kurum için önemli olduğunun hissedilmesi



* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - Zaman baskısı (kısıtı) olmadan çalışabilme



* İş yükünün mesai saatlerinde tamamlanabilir düzeyde olması - Fiziksel koşulların (oda koşulları vb.) çalışmaya uygun olması

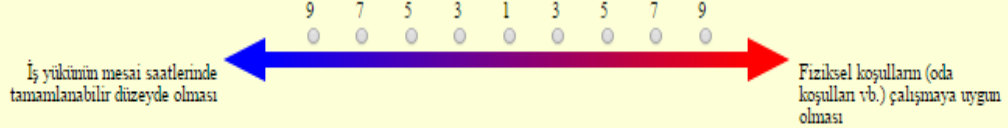
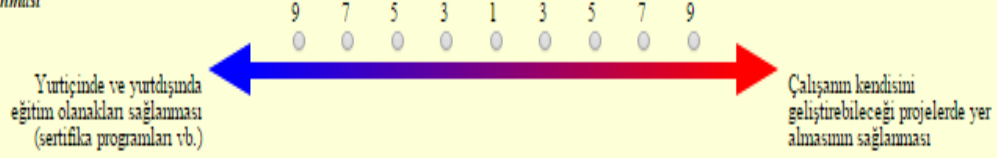


Figure A.2 Web Based AHP Questionnaire (continued)

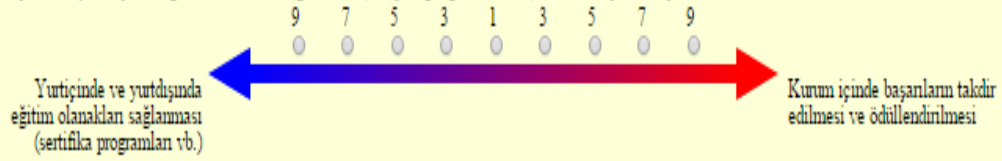
"BİREYSEL GELİŞİM" KAPSAMINDA AŞAĞIDA BELİRTİLEN FAKTÖRLERDEN HANGİSİ İŞ TATMİNİNİZ AÇISINDAN DAHA ÖNEMLİDİR?

(Örnek açıklama: Mavi renkli kısım, 4-0 aralığı, "Yurtiçinde ve yurtdışında eğitim olanakları sağlanması" - Kırmızı renkli kısım, 0-4 aralığı, "Çalışanın kendisini geliştirebileceği projelerde yer almasının sağlanması" şeklinde ağırlıklandırılmıştır. Önem derecesine göre işaretleyiniz.)

* Yurtiçinde ve yurtdışında eğitim olanakları sağlanması (sertifika programları vb.) - Çalışanın kendisini geliştirebileceği projelerde yer almasının sağlanması



* Yurtiçinde ve yurtdışında eğitim olanakları sağlanması (sertifika programları vb.) - Kurum içinde başarıların takdir edilmesi ve ödüllendirilmesi



* Çalışanın kendisini geliştirebileceği projelerde yer almasının sağlanması - Kurum içinde başarıların takdir edilmesi ve ödüllendirilmesi

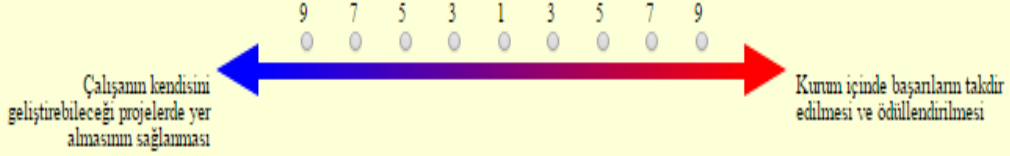


Figure A.2 Web Based AHP Questionnaire (continued)

"DEPARTMAN İÇERİSİNDEKİ DİNAMİKLER VE İNSAN İLİŞKİLERİ" KAPSAMINDA AŞAĞIDA BELİRTİLEN FAKTÖRLERDEN HANGİSİ İŞ TATMİNİNİZ AÇISINDAN DAHA ÖNEMLİDİR?

(Örnek açıklama: Mavi renkli kısım, 4-0 aralığı, "Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması" - Kırmızı renkli kısım, 0-4 aralığı, "Üstlerle ilişkilerin iyi olması" şeklinde ağırlıklandırılmıştır. Önem derecesine göre işaretleyiniz.)

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Üstlerle ilişkilerin iyi olması

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Üstlerle ilişkilerin iyi olması

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Departman içinde iş konularında dayanışma ve yardımlaşma olması

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Departman içinde iş konularında dayanışma ve yardımlaşma olması

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Amirlerin yönetim biçimleri (otokratik, demokratik vb.)

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Amirlerin yönetim biçimleri (otokratik, demokratik vb.)

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Departmanda çalışanlar arasında rekabet olması

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Departmanda çalışanlar arasında rekabet olması

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Departmanda çalışanlar arasında iş yükü eşitliği olması

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Departmanda çalışanlar arasında iş yükü eşitliği olması

* Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması - Sağlanan olanakların (yurtdışı görev vb.) departman çalışanları olanakların eşit dağılımı

9 7 5 3 1 3 5 7 9

Departmandaki çalışma arkadaşları ile ilişkilerin iyi olması

Sağlanan olanakların (yurtdışı görev vb.) departman çalışanları arasında eşit

Figure A.2 Web Based AHP Questionnaire (continued)

* Üstlerle ilişkilerin iyi olması - Departman içinde iş konularında dayanışma ve yardımlaşma olması

9 7 5 3 1 3 5 7 9

Üstlerle ilişkilerin iyi olması

Departman içinde iş konularında dayanışma ve yardımlaşma olması

* Üstlerle ilişkilerin iyi olması - Amirlerin yönetim biçimleri (otokratik, demokratik vb.)

9 7 5 3 1 3 5 7 9

Üstlerle ilişkilerin iyi olması

Amirlerin yönetim biçimleri (otokratik, demokratik vb.)

* Üstlerle ilişkilerin iyi olması - Departmanda çalışanları arasında rekabet olması

9 7 5 3 1 3 5 7 9

Üstlerle ilişkilerin iyi olması

Departmanda çalışanları arasında rekabet olması

* Üstlerle ilişkilerin iyi olması - Departmanda çalışanlar arasında iş yükü eşitliği olması

9 7 5 3 1 3 5 7 9

Üstlerle ilişkilerin iyi olması

Departmanda çalışanlar arasında iş yükü eşitliği olması

* Üstlerle ilişkilerin iyi olması - Sağlanan olanakların (yurtdışı görev vb.) departmanda çalışanları arasında eşit dağılımı

9 7 5 3 1 3 5 7 9

Üstlerle ilişkilerin iyi olması

Sağlanan olanakların (yurtdışı görev vb.) departmanda çalışanları arasında eşit dağılımı

Figure A.2 Web Based AHP Questionnaire (continued)

APPENDIX B

JOB SATISFACTION SURVEY - QUESTIONNAIRE EXPLANATION

(IN TURKISH)

Değerli Çalışanlar;

“Kamu Çalışanlarının İş Tatminini Etkileyen Faktörlerin Tespit Edilmesi ve Kamu Kurumunun Bu Faktörleri Hangi Ölçüde Karşıladığının Belirlenmesi” konulu tez çalışması kapsamında, önceki anket çalışmasında kamu kurumunda iş tatmini üzerinde etkili olan faktörleri **değerlendirmiştiniz**.

Bu aşamada, öne çıkan faktörlerin kurumumuz tarafından hangi ölçüde karşılandığının tespit edilmesi için **kısa bir anket** daha yapılması gerekmektedir. Önceki ankette verdiğiniz yanıtlar doğrultusunda çıkan sonuçlara dayalı olduğu için, bu anketi de doldurmanız önem taşımaktadır.

Böylece bu anket de tamamlandığında, kurumumuzda iş tatmini açısından önemli ve dikkat edilmesi gereken faktörlerin görülmesi, gözden geçirilmesi ve eğer yeterli ölçüde karşılanmıyor ise gerekli ve pozitif adımların atılmasına katkı sağlanacaktır.

Bu anket, diğeri gibi kapsamlı ve uzun değildir, önceki anketin tamamlayıcı niteliğinde olup, yalnızca **2 dakikanızı** alacaktır. Anketle ilgili açıklama aşağıda yer almaktadır.

Tüm katılımcılara katkılarından dolayı tekrar teşekkürlerimi sunarım.

Anket Açıklaması: Bu ankette, önceki ankette verdiğiniz cevaplar doğrultusunda çıkan sonuçlar analiz edilerek, ön plana çıkan ve en çok önemsenen faktörler belirlenmiştir. 28 adet alt faktörün içerisinde **18 adedinin** ön plana çıktığı ve kurumumuz çalışanları tarafından oldukça önemsendiği tespit edilmiştir.

“Öne Çıkan Faktörler” in, 1’den 5’e kadar derecenin yer aldığı ankette, önem derecesine göre karşılaştırılması istenmektedir. Göstergelerin anlamları aşağıda yer almaktadır:

- 1 Kesinlikle katılmıyorum
- 2 Katılmıyorum
- 3 Fikrim yok
- 4 Katılıyorum
- 5 Kesinlikle katılıyorum

Örneğin, “Yurtdışında yüksek lisans eğitimi olanağının sağlanması” faktörünün sizce kurum tarafından yeterli ölçüde karşılanmakta olup olmadığı sorulmaktadır. “Yurtdışında yüksek lisans eğitimi olanağının sağlanması” faktörünün kurum tarafından karşılanmasının yeterli ölçüde olduğuna katılıyorsanız aşağıdaki örnekteki gibi 4 numaralı kutuyu işaretlemeniz gerekmektedir.

JOB SATISFACTION QUESTIONNAIRE

Table B.1 Job Satisfaction Questionnaire

	1	2	3	4	5
I feel that I can get the opportunity of overseas appointment					
I feel that I can get the opportunity of going the top universities of the world for master degree				✗	
I feel that I can work in my preferred department.					
I am satisfied with participating in international and national meetings.					
I feel satisfied with training opportunities in Turkey or abroad such as certificate programs					
I feel that I can work in the projects that develop my capabilities and skills					
I feel the rewards and appreciations are obtained, resulting from performing well.					
I feel that I have a chance to access to opportunities in the department.					
I feel that workload is equally distributed by managers among employees in the department.					
I am satisfied with style of supervisor (such as autocratic or democratic).					
I am satisfied with cooperation between colleagues in the department.					
I am satisfied with good relationships with colleagues in the department.					
I feel that I workload that could be completed in working hours					
I am satisfied with having work-related responsibilities.					
I feel that the tasks are important for the institution.					
I am not satisfied with physical conditions.					
I work in such tasks to do in a certain time, so I feel time pressure.					
I feel my job description is clear.					

<p>* 1 - Ataşe olarak yurtdışında tayin yapılması imkânı benim için tatminkâr düzeydedir.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 2 - Yurtdışında yüksek lisans eğitimi olanağının sağlanması tatminkâr düzeydedir.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 3 - Tercih ettiğim departmanda çalışma olanağı sağlandığını düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 4 - Ulusal ve uluslararası projelerde çalışma imkânı tatminkâr düzeydedir.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 5 - Yurtiçinde ve yurtdışında eğitim olanakları sağlanması tatminkâr düzeydedir</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 6 - Kendimi geliştirebileceğim projelerde yer alabildiğimi düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>

Figure B.1 Web Based Job Satisfaction Questionnaire

<p>* 7 - Başarılarının takdir edilip ödüllendirildiğini düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 8 - Sağlanan olanakların departman çalışanları arasında eşit dağıtıldığını düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 9 - Departmanda çalışanlar arasında iş yükü eşitliği olduğunu düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 10 - Amirlerin yönetim biçimlerinden (otokratik, demokratik vb.) memnunum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 11 - Departman içinde iş konularında dayanışma ve yardımlaşma düzeyinden memnunum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>* 12 - Mesai saatlerinin düzenli olmasından (fazla mesai olmamasından) memnunum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>

Figure B.1 Web Based Job Satisfaction Questionnaire (continued)

<p>★ 13 - Yapılan işle ilgili gerekli yetki ve sorumlulukların verilmesi imkânından memnunuz.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>★ 14 - Yapılan işlerin kurum için önemli olduğunu düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>★ 15 - Fiziksel koşullar (oda koşulları vb.) çalışmaya uygun olduğunu düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>★ 16 - Zaman baskısı (kısıtı) olmadan çalışabildiğimi düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>★ 17 - İş tanımının belirgin olduğunu düşünüyorum.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>
<p>★ 18 - Departmandaki çalışma arkadaşlarımla iyi ilişkilerin olmasından memnunuz.</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5</p>

Figure B.1 Web Based Job Satisfaction Questionnaire (continued)

APPENDIX C

NORMALITY TESTS FOR SUB FACTORS

Table C.1 Test of Normality for “Sub Factors” in “Gender” Groups

Comparison Factor	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I feel that I can get the opportunity of overseas appointment.	Male	.214	41	.000	.903	41	.002
	Female	.239	29	.000	.892	29	.006
I feel that I can get the opportunity of going the top universities of the world for master degree.	Male	.200	41	.000	.871	41	.000
	Female	.171	29	.030	.909	29	.016
I feel that I can work in my preferred department.	Male	.249	41	.000	.822	41	.000
	Female	.208	29	.003	.878	29	.003
I feel that I can work in my preferred department.	Male	.211	41	.000	.889	41	.001
	Female	.229	29	.000	.905	29	.013
I feel satisfied with training opportunities in Turkey or abroad such as certificate programs.	Male	.181	41	.002	.859	41	.000
	Female	.206	29	.003	.853	29	.001
I feel that I can work in the projects that develop my capabilities and skills.	Male	.277	41	.000	.815	41	.000
	Female	.234	29	.000	.903	29	.012
I feel the rewards and appreciations are obtained, resulting from performing well.	Male	.223	41	.000	.875	41	.000
	Female	.272	29	.000	.863	29	.001
I feel that I have a chance to access to opportunities in the department.	Male	.245	41	.000	.871	41	.000
	Female	.190	29	.009	.862	29	.001
I feel that workload is equally distributed by managers among employees in the department.	Male	.187	41	.001	.852	41	.000
	Female	.293	29	.000	.851	29	.001
I am satisfied with style of supervisor (such as autocratic or democratic).	Male	.177	41	.002	.916	41	.005
	Female	.247	29	.000	.889	29	.005

Table C.1 Test of Normality for “Sub Factors” in “Gender” Groups (continued)

Comparison Factor	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I am satisfied with cooperation between colleagues in the department.	Male	.273	41	.000	.856	41	.000
	Female	.323	29	.000	.784	29	.000
I am satisfied with good relationships with colleagues in the department.	Male	.282	41	.000	.761	41	.000
	Female	.281	29	.000	.781	29	.000
I feel that we have regular workload in a day.	Male	.152	41	.018	.880	41	.000
	Female	.230	29	.000	.858	29	.001
I am satisfied with having work-related responsibilities.	Male	.198	41	.000	.914	41	.005
	Female	.249	29	.000	.891	29	.006
I feel that the tasks are important for the institution.	Male	.244	41	.000	.879	41	.000
	Female	.187	29	.011	.919	29	.030
I am satisfied with physical conditions.	Male	.292	41	.000	.785	41	.000
	Female	.294	29	.000	.766	29	.000
I work in such tasks to do in a certain time, so I feel time pressure.	Male	.246	41	.000	.887	41	.001
	Female	.254	29	.000	.870	29	.002
I feel my job description is clear.	Male	.174	41	.003	.888	41	.001
	Female	.217	29	.001	.888	29	.005

Table C.2 Test of Normality for “Sub Factors” in “Educational Level” Groups

Comparison Factor	Educational Level	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I feel that I can get the opportunity of overseas appointment.	Undergraduate	.238	41	.000	.855	41	.000
	Graduate	.156	29	.069	.920	29	.030
I feel that I can get the opportunity of going the top universities of the world for master degree.	Undergraduate	.218	41	.000	.885	41	.001
	Graduate	.177	29	.021	.885	29	.004
I feel that I can work in my preferred department.	Undergraduate	.202	41	.000	.855	41	.000
	Graduate	.207	29	.003	.860	29	.001
I feel that I can work in my preferred department.	Undergraduate	.187	41	.001	.870	41	.000
	Graduate	.280	29	.000	.877	29	.003
I feel satisfied with training opportunities in Turkey or abroad such as certificate programs.	Undergraduate	.176	41	.003	.866	41	.000
	Graduate	.213	29	.002	.846	29	.001
I feel that I can work in the projects that develop my capabilities and skills.	Undergraduate	.233	41	.000	.829	41	.000
	Graduate	.182	29	.015	.902	29	.011
I feel the rewards and appreciations are obtained, resulting from performing well.	Undergraduate	.230	41	.000	.880	41	.000
	Graduate	.190	29	.009	.878	29	.003
I feel that I have a chance to access to opportunities in the department.	Undergraduate	.193	41	.001	.905	41	.002
	Graduate	.242	29	.000	.821	29	.000
I feel that workload is equally distributed by managers among employees in the department.	Undergraduate	.210	41	.000	.885	41	.001
	Graduate	.265	29	.000	.863	29	.001
I am satisfied with style of supervisor (such as autocratic or democratic).	Undergraduate	.208	41	.000	.900	41	.002
	Graduate	.219	29	.001	.888	29	.005
I am satisfied with cooperation between colleagues in the department.	Undergraduate	.267	41	.000	.842	41	.000
	Graduate	.352	29	.000	.773	29	.000
I am satisfied with good relationships with colleagues in the department.	Undergraduate	.265	41	.000	.783	41	.000
	Graduate	.302	29	.000	.760	29	.000

Table C.2 Test of Normality for “Sub Factors” in “Educational Level” Groups
(continued)

Comparison Factor	Educational Level	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I feel that we have regular workload in a day.	Undergraduate	.194	41	.000	.879	41	.000
	Graduate	.173	29	.027	.876	29	.003
I am satisfied with having work-related responsibilities.	Undergraduate	.182	41	.002	.917	41	.005
	Graduate	.224	29	.001	.901	29	.010
I feel that the tasks are important for the institution.	Undergraduate	.252	41	.000	.820	41	.000
	Graduate	.176	29	.022	.909	29	.016
I am satisfied with physical conditions.	Undergraduate	.283	41	.000	.798	41	.000
	Graduate	.308	29	.000	.723	29	.000
I work in such tasks to do in a certain time, so I feel time pressure.	Undergraduate	.237	41	.000	.874	41	.000
	Graduate	.269	29	.000	.881	29	.004
I feel my job description is clear.	Undergraduate	.185	41	.001	.904	41	.002
	Graduate	.201	29	.004	.909	29	.017

Table C.3 Test of Normality for “Sub Factors” in “Seniority” Groups

Comparison Factor	Seniority	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I feel that I can get the opportunity of overseas appointment.	0-3 Years	.229	37	.000	.871	37	.000
	Over 10 Years	.260	13	.016	.883	13	.078
	3-10 Years	.232	20	.006	.887	20	.024
I feel that I can get the opportunity of going the top universities of the world for master degree	0-3 Years	.247	37	.000	.836	37	.000
	Over 10 Years	.314	13	.001	.851	13	.030
	3-10 Years	.235	20	.005	.880	20	.018
I feel that I can work in my preferred department.	0-3 Years	.197	37	.001	.855	37	.000
	Over 10 Years	.229	13	.061	.886	13	.087
	3-10 Years	.216	20	.015	.842	20	.004
I am satisfied with participating in international and national meetings.	0-3 Years	.235	37	.000	.867	37	.000
	Over 10 Years	.184	13	.200*	.896	13	.116
	3-10 Years	.212	20	.019	.894	20	.032
I feel satisfied with training opportunities in Turkey or abroad such as certificate programs	0-3 Years	.212	37	.000	.850	37	.000
	Over 10 Years	.307	13	.001	.856	13	.035
	3-10 Years	.188	20	.061	.848	20	.005
I feel that I can work in the projects that develop my capabilities and skills	0-3 Years	.206	37	.000	.867	37	.000
	Over 10 Years	.235	13	.048	.851	13	.029
	3-10 Years	.228	20	.008	.840	20	.004
I feel the rewards and appreciations are obtained, resulting from performing well.	0-3 Years	.207	37	.000	.883	37	.001
	Over 10 Years	.281	13	.006	.811	13	.009
	3-10 Years	.216	20	.015	.880	20	.018
I feel that I have a chance to access to opportunities in the department.	0-3 Years	.216	37	.000	.885	37	.001
	Over 10 Years	.281	13	.006	.811	13	.009
	3-10 Years	.245	20	.003	.864	20	.009
I feel that workload is equally distributed by managers among employees in the department.	0-3 Years	.251	37	.000	.887	37	.001
	Over 10 Years	.246	13	.031	.841	13	.022
	3-10 Years	.292	20	.000	.761	20	.000
I am satisfied with style of supervisor (such as autocratic or democratic).	0-3 Years	.212	37	.000	.906	37	.004
	Over 10 Years	.268	13	.011	.847	13	.026
	3-10 Years	.314	20	.000	.835	20	.003

Table C.3 Test of Normality for “Sub Factors” in “Seniority” Groups (continued)

Comparison Factor	Seniority	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
I am satisfied with cooperation between colleagues in the department.	0-3 Years	.299	37	.000	.802	37	.000
	Over 10 Years	.195	13	.190	.931	13	.353
	3-10 Years	.333	20	.000	.768	20	.000
I am satisfied with good relationships with colleagues in the department	0-3 Years	.273	37	.000	.784	37	.000
	Over 10 Years	.295	13	.003	.736	13	.001
	3-10 Years	.309	20	.000	.762	20	.000
I feel that we have regular workload	0-3 Years	.184	37	.003	.874	37	.001
	Over 10 Years	.203	13	.146	.886	13	.087
	3-10 Years	.232	20	.006	.858	20	.007
I am satisfied with having work-related responsibilities.	0-3 Years	.209	37	.000	.915	37	.008
	Over 10 Years	.250	13	.026	.864	13	.043
	3-10 Years	.256	20	.001	.866	20	.010
I feel that the tasks are important for the institution.	0-3 Years	.260	37	.000	.855	37	.000
	Over 10 Years	.232	13	.054	.918	13	.238
	3-10 Years	.191	20	.055	.920	20	.100
I am not satisfied with physical conditions.	0-3 Years	.296	37	.000	.793	37	.000
	Over 10 Years	.254	13	.021	.815	13	.010
	3-10 Years	.308	20	.000	.691	20	.000
I work in such tasks to do in a certain time, so I feel time pressure.	0-3 Years	.264	37	.000	.867	37	.000
	Over 10 Years	.181	13	.200*	.938	13	.436
	3-10 Years	.342	20	.000	.828	20	.002
I feel my job description is clear.	0-3 Years	.189	37	.002	.887	37	.001
	Over 10 Years	.166	13	.200*	.938	13	.437
	3-10 Years	.203	20	.030	.896	20	.035

APPENDIX D

RESULTS OF NON-PARAMETRIC TEST FOR GROUPS OF INDEPENDENT VARIABLES IN TERMS SUB-FACTORS

Table D.1 Results of Non-Parametric Test for “Gender” in Terms of Sub-Factors

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of OverseasAppointment is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.239	Retain the null hypothesis.
2	The distribution of MasterDegree is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.821	Retain the null hypothesis.
3	The distribution of PreferredDepartment is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.094	Retain the null hypothesis.
4	The distribution of Meetings is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.332	Retain the null hypothesis.
5	The distribution of TrainingOpportunities is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.169	Retain the null hypothesis.
6	The distribution of SelfDevelopmentProjects is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.022	Reject the null hypothesis.
7	The distribution of RewardsAppreciations is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.866	Retain the null hypothesis.
8	The distribution of EqualAccessToOpt is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.327	Retain the null hypothesis.
9	The distribution of EqualWorkload is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.277	Retain the null hypothesis.
10	The distribution of StyleOfSupervisors is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.257	Retain the null hypothesis.
11	The distribution of Cooperation is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.276	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table D.1 Results of Non-Parametric Test for “Gender” in Terms of Sub-Factors
(continued)

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
12	The distribution of CommunicationBtwCoworkers is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.506	Retain the null hypothesis.
13	The distribution of WorkingHours is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.234	Retain the null hypothesis.
14	The distribution of Responsibilities is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.044	Reject the null hypothesis.
15	The distribution of TaskImportance is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.616	Retain the null hypothesis.
16	The distribution of PhysicalConditions is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.581	Retain the null hypothesis.
17	The distribution of TimePressure is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.960	Retain the null hypothesis.
18	The distribution of JobDescription is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.127	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table D.2 Results of Non-Parametric Test for “Educational Level” in Terms of Sub-Factors

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of OverseasAppointment is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.931	Retain the null hypothesis.
2	The distribution of MasterDegree is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.141	Retain the null hypothesis.
3	The distribution of PreferredDepartment is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.427	Retain the null hypothesis.
4	The distribution of Meetings is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.451	Retain the null hypothesis.
5	The distribution of TrainingOpportunities is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.060	Retain the null hypothesis.
6	The distribution of SelfDevelopmentProjects is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.153	Retain the null hypothesis.
7	The distribution of RewardsAppreciations is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.784	Retain the null hypothesis.
8	The distribution of EqualAccessToOpt is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.897	Retain the null hypothesis.
9	The distribution of EqualWorkload is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.720	Retain the null hypothesis.
10	The distribution of StyleOfSupervisors is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.378	Retain the null hypothesis.
11	The distribution of Cooperation is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.433	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table D.2 Results of Non-Parametric Test for “Educational Level” in Terms of Sub-Factors (continued)

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
12	The distribution of CommunicationBtwCoworkers is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.618	Retain the null hypothesis.
13	The distribution of WorkingHours is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.864	Retain the null hypothesis.
14	The distribution of Responsibilities is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.109	Retain the null hypothesis.
15	The distribution of TaskImportance is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.202	Retain the null hypothesis.
16	The distribution of PhysicalConditions is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.204	Retain the null hypothesis.
17	The distribution of TimePressure is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.219	Retain the null hypothesis.
18	The distribution of JobDescription is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.315	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table D.3 Results of Non-Parametric Test for “Seniority” in Terms of Sub-Factors

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of OverseasAppointment is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.017	Reject the null hypothesis.
2	The distribution of MasterDegree is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.676	Retain the null hypothesis.
3	The distribution of PreferredDepartment is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.745	Retain the null hypothesis.
4	The distribution of Meetings is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.830	Retain the null hypothesis.
5	The distribution of TrainingOpportunities is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.439	Retain the null hypothesis.
6	The distribution of SelfDevelopmentProjects is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.829	Retain the null hypothesis.
7	The distribution of RewardsAppreciations is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.078	Retain the null hypothesis.
8	The distribution of EqualAccessToOpt is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.026	Reject the null hypothesis.
9	The distribution of EqualWorkload is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.498	Retain the null hypothesis.
10	The distribution of StyleOfSupervisors is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.153	Retain the null hypothesis.
11	The distribution of Cooperation is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.058	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table D.3 Results of Non-Parametric Test for “Seniority” in Terms of Sub-Factors
(continued)

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
12	The distribution of CommunicationBtwCoworkers is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.473	Retain the null hypothesis.
13	The distribution of WorkingHours is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.680	Retain the null hypothesis.
14	The distribution of Responsibilities is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.510	Retain the null hypothesis.
15	The distribution of TaskImportance is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.639	Retain the null hypothesis.
16	The distribution of PhysicalConditions is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.634	Retain the null hypothesis.
17	The distribution of TimePressure is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.062	Retain the null hypothesis.
18	The distribution of JobDescription is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.481	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

APPENDIX E

RESULTS OF NON-PARAMETRIC TEST FOR GROUPS OF INDEPENDENT VARIABLES IN MAIN FACTORS

Table E.1 Results of Non-Parametric Test for “Gender” in Terms of Main Factors

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Selfimprovement is the same across categories of Gender.	Independent-Samples Kruskal-Wallis Test	.113	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table E.2 Results of Non-Parametric Test for “Educational Level” in Terms of Main Factors

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Selfimprovement is the same across categories of EducationalLevel.	Independent-Samples Kruskal-Wallis Test	.122	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table E.3 Results of Non-Parametric Test for “Seniority” in Terms of Main Factors

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Opportunities is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.471	Retain the null hypothesis.
2	The distribution of InternalGroupDynamics is the same across categories of Tenure.	Independent-Samples Kruskal-Wallis Test	.030	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

APPENDIX F

PERCENT DISSATISFACTION RATIO

Tables related with dissatisfaction ratios of sub-factors are represented in the following pages.

Table F.1 Percent Dissatisfaction Ratio of Sub-Factors

Importance (vi)			Availability (ui)			Dissatisfaction Ratio (vi/ui)			Percent Dissatisfaction Ratio (ci)	
Opportunities	AHP Results	Normalized Results	Opportunities	SPSS Results	Normalized Results	Opportunities	Results	Normalized Results	Opportunities	Ratio
Overseas appointment	0.29	0.338	Overseas appointment	2.94	0.266	Overseas appointment	1.27	0.320	Overseas appointment	32%
Master degree	0.23	0.275	Master degree	3.14	0.284	Master degree	0.97	0.244	Master degree	24%
Preferred Dept.	0.19	0.223	Preferred Dept.	2.43	0.220	Preferred Dept.	1.01	0.256	Preferred Dept.	26%
Int. & Nat. Meetings	0.14	0.164	Int. & Nat. Meetings	2.54	0.230	Int. & Nat. Meetings	0.71	0.180	Int. & Nat. Meetings	18%
Total	0.85	1.000	Total	11.05	1.000	Total	3.97	1.000	Total	100%
Importance (vi)			Availability (ui)			Dissatisfaction Ratio (vi/ui)			Percent Dissatisfaction Ratio (ci)	
Working Conditions	AHP Results	Normalized Results	Working Conditions	SPSS Results	Normalized Results	Working Conditions	Results	Normalized Results	Working Conditions	Ratio
Working hours	0.21	0.237	Working hours	3.24	0.190	Working hours	1.25	0.208	Working hours	21%
Responsibilities	0.20	0.216	Responsibilities	2.97	0.174	Responsibilities	1.24	0.206	Responsibilities	21%
Task importance	0.14	0.154	Task importance	3.07	0.180	Task importance	0.85	0.142	Task importance	14%
Job description	0.13	0.141	Job description	2.86	0.168	Job description	0.84	0.140	Job description	14%
Physical conditions	0.12	0.131	Physical conditions	2.01	0.118	Physical conditions	1.11	0.185	Physical conditions	18%
Time pressure	0.11	0.122	Time pressure	2.89	0.170	Time pressure	0.72	0.120	Time pressure	12%
Total	0.90	1.000	Total	17.04	1.000	Total	6.00	1.000	Total	100%

Table F.1 Percent Dissatisfaction Ratio of Sub-Factors (continued)

Importance (vi)			Availability (ui)			Dissatisfaction Ratio (vi/ui)			Percent Dissatisfaction Ratio (ci)	
Self-Improvement	AHP Results	Normalized Results	Self-Improvement	SPSS Results	Normalized Results	Self-Improvement	Results	Normalized Results	Self-Improvement	Ratio
Training	0.53	0.531	Training	2.74	0.370	Training	1.43	0.490	Training	49%
Self-development projects	0.27	0.267	Self-development projects	2.27	0.307	Self-development projects	0.87	0.297	Self-development projects	30%
Rewards& appreciations	0.20	0.201	Rewards& appreciations	2.39	0.323	Rewards& appreciations	0.62	0.213	Rewards& appreciations	21%
Total	1.00	1.000	Total	7.40	1.000	Total	2.93	1.000	Total	100%
Importance (vi)			Availability (ui)			Dissatisfaction Ratio (vi/ui)			Percent Dissatisfaction Ratio (ci)	
Internal Group Dynamics	AHP Results	Normalized Results	Internal Group Dynamics	SPSS Results	Normalized Results	Internal Group Dynamics	Results	Normalized Results	Internal Group Dynamics	Ratio
Equal access to opt.	0.31	0.347	Equal access to opt.	2.61	0.159	Equal access to opt.	2.19	0.398	Equal access to opt.	40%
Equal workload	0.17	0.190	Equal workload	2.51	0.153	Equal workload	1.24	0.226	Equal workload	23%
Style of Supervisors	0.16	0.179	Style of Supervisors	3.23	0.197	Style of Supervisors	0.91	0.165	Style of Supervisors	17%
Cooperation	0.15	0.164	Cooperation	3.89	0.237	Cooperation	0.69	0.126	Cooperation	13%
Communication btw. co-workers	0.11	0.120	Communication btw. co-workers	4.19	0.255	Communication btw. co-workers	0.47	0.085	Communication btw. co-workers	9%
Total	0.90	1.000	Total	16.43	1.000	Total	5.50	1.000	Total	100%