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ANALYSIS OF JOB SATISFACTION LEVELS OF POLICE WITH STRUCTURAL EQUTION MODELING: THE CASE OF SAMSUN

Taner TUNÇ[1], Seval ENÖZ[1]*

[1]*Ondokuz Mayıs University, Department of Statistics, 55139 Samsun, Turkey*

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Abstract

Job satisfaction is a spiritual pleasure, which employees feel in exchange of their job. Based on this, it can be said that job satisfaction of employees increases when expectations comply with the properties of the work. Spiritual pleasure is very important in terms of providing more efficient and qualified service in sectors that provide services. For this purpose, a study was conducted on police working in law enforcement agency which is thought to have the greatest responsibility on the society's order and trust and which provides the most important services to society. The sample of the study consists of 396 police in the city center and towns of Samsun. In the study, the sub-dimensions that influence general job satisfaction and the associations between these were tested with structural equation modeling.

Keywords: Structural equation modeling, Job satisfaction, Police, LISREL

***Corresponding author:** Ondokuz Mayıs University, Department of Statistics, 55139, Samsun, Turkey
Email: ttunc@omu.edu.tr (T. TUNÇ)

1. Introduction

The importance of job in a person's life lies on the uses it provides to the person's psychology more than "economic" functions that meet the person's physical needs. Job satisfaction is a variable that is frequently included in studies since it is a significant factor about employees' health. Job satisfaction is an abstract concept and it is mostly defined as loving a job and being committed to a job (İncir, 1990). In order to assess job satisfaction, scales developed on this subject are generally used.

The most common technique used in measuring job satisfaction is using a scale. Job description index measures attitudes about the dimensions of pay, the job itself, opportunities of being promoted, audition and colleagues. In addition to these dimensions, Minnesota satisfaction questionnaire measures the personal aspects or states of a job such as advancement, independence, social status and working conditions (Schultz and Schultz, 1986). Minnesota satisfaction questionnaire (MSQ), which is one of the most frequently preferred questionnaires to measure employees' job satisfaction, assesses job satisfaction. MSQ was developed by Weiss et al. in 1967 and it was adapted to Turkish by Baycan in 1985 after reliability and validity were checked. MSQ is a 5-Likert scale which is scored between 1 and 5. It has items that can determine the intrinsic (job satisfaction based on personal factors) and extrinsic (job satisfaction based on environmental factors) and general job satisfaction levels. General job satisfaction level is directly

proportional to the rate of intrinsic and extrinsic satisfaction scores.

All the institutions have duties within social order; however, more specifically, law enforcement agency has a very big share in these duties. Police are in charge of guarding the social order. Speaking of social order, the first thing that comes to mind is peace, safety and security. Professional life is a very important part of a person's life. Thus, considering that the spiritual pleasure police get from their job will be reflected in their jobs, their job satisfaction levels were examined with structural equation modeling (SEM).

Within this context, this study will form a background to approaches that can provide police to work more efficiently and effectively by keeping their job satisfaction high and thus will have a positive effect on their professional life.

2. Material and Methods

SEM can explain random and non-random errors of measurement, it can easily associate related dependent variables and models and it can compare complicated models.

SEM is superior to other multi-variate statistical techniques since it can be used in testing casual relations between observed variables and latent variables. The concept of causality, which is put forward by SEM, does not refer to experimental designs that include analyzing the change depending on guidance. That is, it refers to testing direct and indirect relations between variables in terms of the model built by the researcher (Kelloway 1998).

In studies conducted about SEM, selecting the samples is very important. Minimum sample size should be about ten times of the number of parameters that will be predicted by the model. 5 times can be sufficient for data sets in which normal distribution assumption is met. However, under no circumstances is it suitable to make PA, DFA or SEM analysis with a sample size of less than 150 (Kline, 2005; Bentler and Chou, 1987, Anderson and Gerbing, 1988).

The process of model prediction is very important in SEM. Different prediction methods have different distributional assumptions. When the process of prediction converges to an acceptable solution, the model's fit should be assessed. The concept of model fit defines the degree of suitability of SEM to sample data.

After parameter predictions are obtained for the model, the model's fit to the data should be assessed. The most frequently used goodness of fit indices in assessing this fit are rate of similarity chi-square statistics(χ^2), RMSEA (Root-mean-square error approximation), SRMR (Standardized Root Mean Square Residual), GFI (Goodness-of-fit index) and AGFI (Adjusted Goodness-of-fit index) (Joreskog and Sörbom, 2001).

The rate (χ^2/sd) calculated with structural equation modeling being smaller than 2 means that the factor model which is being tested is in accordance with real data (Sümer, 2000). There are also researchers who recommend a (χ^2/sd) rate smaller than 5 (Bollen, 1989). However, since the sample size influences χ2 value, other fit criteria are also used in model goodness of fit assessment. Researchers who use LISREL frequently use the criteria of GFI, AGFI, RMSEA, CFI and NNFI in their works in addition to chi-square value. Table 2 gives the acceptable threshold values of the most used goodness of fit criteria (Schermelleh-Engel and Moosbrugger, 2003).

Goodness of fit can be determined with how well the variables of *Y* and *X* measure and the analysis of multiple correlation coefficients (coefficient of specificity) measured for the variables of *Y* and *X*. These coefficients have values between 0 and 1. A coefficient close to 1 means that the variable explains the latent structure better (Yılmaz, 2004).

3. Results

The scale developed by Minnesota which found the job satisfaction of employees was administered to police working at Samsun Police Department and the effective items and factors of the scale were found. It was assumed that with the determined items, the causal relationship between Intrinsic Job Satisfaction and Extrinsic Job Satisfaction, which are the factors (latent variables), could be explained and it was also assumed that the causal relationship between general job satisfaction and Intrinsic Job Satisfaction and Extrinsic Job Satisfaction could be explained. For this purpose, path analysis in the structural equation modeling was applied for the analysis of data. Analyses were conducted by using LISREL 8.8 and SPSS 20.0 statistical packet programs.

Face-to-face questionnaire method was used to collect the required information from police working at Samsun Police Department. Of the police who participated in the study, 84.8% were men, 15.2% were women, 88.6% were married, 9.6% were single and 1.8% were widowed or divorced. The average age of the police who participated in the study was 38.29 7.03, 40.7% were younger than 37, 41,9% were between 38 and 45 years of age, 16.7% were between 46 and 53 years of age and 0.8% were older than 54. In addition, it was found that 4.8% had been working for less than a year, 43.2% had been working for 10 to 17 years, 29.5% had been working for 18 to 25 years, 15.7% had been working for 2 to 9 years and 6.3% had been working for more than 25 years. 49.55% of the

participants were found to have graduated from Open University and other universities, 36.4% had graduated from Police Vocational High School, 6.8% had graduated from Police School, 3.8% had graduated from Police Academy, 3.0% had graduated from Police Vocational Training Center and 0.5% had graduated from Police College.

Table 1. Demographic characteristics of the police in the study

	Frequency	Percentage
Gender		
Men	336	84.8
Women	60	15.2
Marital Status		
Married	351	88.6
Single	38	9.6
Widowed/Divorced	7	1.8
Age		
<37 years of age	161	40.7
Between 38 and 45 years of age	166	41.9
Between 46 and 53 years of age	66	16.7
>54 years of age	3	0.8
School Graduated		
Police Academy	15	3.8
Police College	2	0.5
Police School	27	6.8
Police Vocational High School	144	36.4
Police Vocational Training Center	12	3.0
Other Universities (Open university, etc.)	196	49.5
Total years of service in the occupation		
Less than 1 year	19	4.8
Between 2 to 9 years	62	15.7
Between 10 to 17 years	173	43.2
Between 18 to 25 years	117	29.5
More than 26 years	25	6.3

First of all, Cronbach Alpha values were checked to measure the reliability of "Job Satisfaction Scale" and this value was found to be 0.954. Later, structural validity of the scale was analyzed and the number of factors was found. Factor analysis results showed that the items had been grouped under 2 sub-dimensions, and of the original 20 items, 5 items which had factor loads of <0.430 according to first analysis results were excluded and the scale was reorganized. When the total scores were assessed, the lowest job satisfaction score was found to be 18.0, while the highest job satisfaction score was found to be 73.0. The participants who had general job satisfaction scores of higher than the average were classified as "high job satisfaction level" and those with job satisfaction scores of lower than the average were classified as "low job satisfaction level". When the items of the sub-dimensions created were taken into consideration, these sub-dimensions were named as "Intrinsic Job Satisfaction" and "Extrinsic Job Satisfaction". The items of sub-dimensions are as follows:

Intrinsic Job Satisfaction: V1- V2- V3- V5- V9- V10- V17- V18- V20

Extrinsic Job Satisfaction: V11- V12- V13- V14- V15- V19

Table 2. Values of the questions in the scale

Questions in the Scale	Factor Loads	
V1: With regard to the freedom of implementing and using my own decisions (judgments)	0.645*	
V2: With regard to the feeling of completing works undertaken successfully	0.677*	
V3: With regard to having a choice not to do unconscionable things	0.716*	
V5: With regard to being permanent in my job	0.676*	
V9: With regard to having a chance to do something for others	0.721*	
V10: With regard to having been given a chance to be "respected" person in society	0.487*	
V11: With regard to possibilities of promotion	0.654**	
V12: With regard to policies of the institution and the way they are implemented	0.790**	
V13: With regard to being praised when I do something good	0.676**	
V14: With regard to my superior's ability and skill of making decisions	0.808**	
V15: With regard to senior management's methods of controlling the employees	0.686**	
V17: With regard to colleagues getting on (well) with each other	0.536*	
V18: With regard to having the chance to do something different once in a while	0.575*	
V19: With regard to the pay I get for the job that I do	0.464**	
D20: With regard to having the chance to use my own methods while doing my job	0.466*	
General Job Satisfaction Score	Min: 18.0	Max: 73.0

(*: Intrinsic Job Satisfaction - **: Extrinsic Job Satisfaction)

Within the scope of the study, Mann Whitney- U and Kruskall Wallis tests were used according to the structure of the data to find out whether there were differences between job satisfaction scores for the demographic characteristics of the police in the study. Job satisfaction scores of the police who participated in the study were not found to be statistically different with regard to their genders. No statistically significant difference was found between the job satisfaction scores of the units. However, when the average job satisfaction scores were examined with regard to schools graduated, significant difference was found, with "Police Academy" graduates having higher job satisfaction. Later, a measurement model was created and analyzed in line with the purposes of the study. After a statistically suitable measurement model was developed, analyses were conducted to find out the causal relationships in the recommended theoretical model and the theoretical model was tested. After the measurement model was obtained, the study model was analyzed.

Table 3. Comparison of Job Satisfaction Scores

Gender- General job satisfaction score	p= 0.306	Z= -0.211
Unit- General job satisfaction score	p= 0.453	X2=1.115
School graduated- General job satisfaction score	p= 0.01*	X2= 15.470

Following the measurement model created by implementing the fit and feasible modifications between observed variables, structural model was formed. Analysis results of the formed structural model are given in Figure 1. 9 items belonging to the dependent latent variable of intrinsic job satisfaction were found to have positive coefficients. The highest of these coefficients belonged to V1, which means that as the intrinsic satisfaction of the police increased, positive answers given to the item "With regard to the freedom of implementing and using my own decisions (judgments)" also increased. 6 items belonging to the dependent latent variable of extrinsic job satisfaction were found to have positive coefficients. The highest of these coefficients belonged to items V14 and V15 (0.75, 0.76). This means that as the satisfaction of the police about their superiors' skills in making decisions and their methods of controlling their employees increased, their extrinsic satisfaction also increased. Extrinsic job satisfaction was found to be more effective than intrinsic job satisfaction on general job satisfaction, which is the latent dependent variable. It can be seen that the items which were found to be associated with each other under the same sub-dimension were similar items that supported each other. During the analysis, the error variance of the observed variable was fixed to "1" in order to be able to take into account the measurement errors of variables with single observed variables.

Goodness of fit measurement results of the proposed model are given in Table 4. When the goodness of fit results is compared, it can be seen that the model is within acceptable limits. Statistical fit of the model was tested with χ^2/sd and with the calculated $\chi 2/sd=3.35<$ 5 rate, variance covariance matrix of the model and variance covariance matrix of the population were decided to have good fit. Since p=0.00< 0.05, the model can be said to be statistically significant. Descriptive fit criteria given in Table 4 criteria based on model comparison and criteria based on model consistency were used in deciding that the model formed was a suitable study model.

Table 4. Goodness of fit criteria of the proposed model

Fit criteria	Good fit	Acceptable fit	Model's value
RMSEA	0<RMSEA<0.05	0.05<RMSEA<0.10	0.077
NFI	$0.95 \leq NFI \leq 1$	$0.90 \leq NFI \leq 0.95$	0.97
NNFI	$0.97 \leq NNFI \leq 1$	$0.95 \leq NNFI \leq 0.97$	0.97
CFI	$0.97 \leq CFI \leq 1$	$0.95 \leq CFI \leq 0.97$	0.98
GFI	$0.95 \leq GFI \leq 1$	$0.9O \leq NFI \leq 0.95$	0.98
χ^2 /sd	$1<\chi^2$ /sd <2	$2<\chi^2$ /sd <3	3.35
SRMR	$0.05 \leq SRMR \leq 1$	$0.00 \leq SRMR \leq 0.05$	0.061
P	$0.05 \leq p \leq 1$	$0.00 \leq GFI \leq 0.05$	0.00

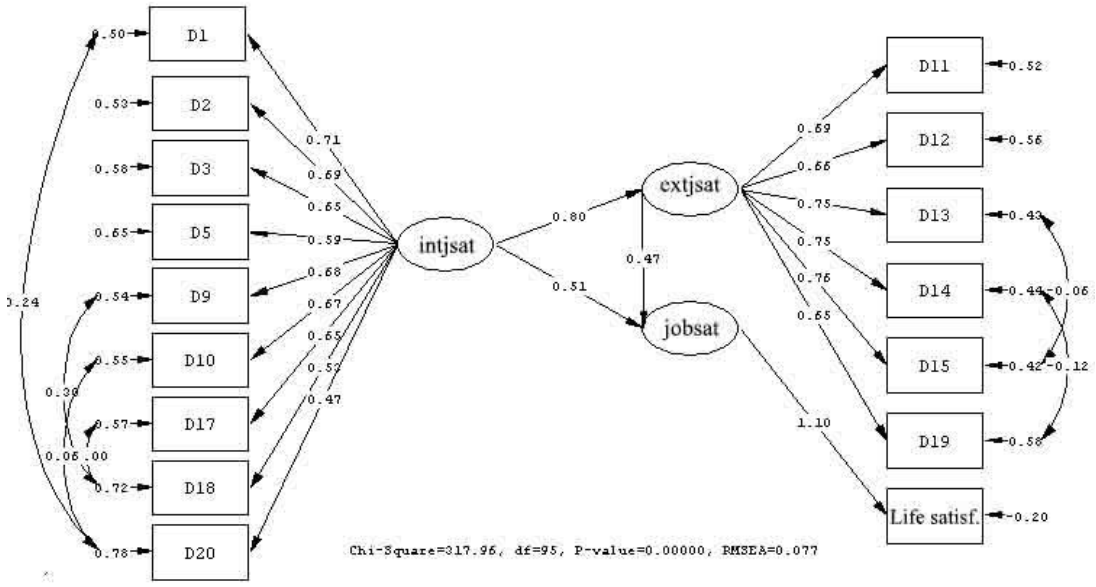

Figure 1. Path diagram of the structural model

In the model which was formed to find out the effects of intrinsic and extrinsic job satisfaction of police on their general job satisfaction, as can be seen from Figure 1, the values of the coefficients of all observed variables are significant (p=0.00). As a conclusion, the proposed model with 16 observable, 2 dependent and 1 independent latent variable was found to be significant.

4. Discussion

All institutions have certain duties for the social order; however, it can be said that law enforcement agency has a very big share of these duties. Policing is an institution in charge of protecting the social order. The first things that come to mind about social order are peace, safety and security.

Policing is an active occupation with difficult working hours, risks and responsibilities, superior-subordinate conflicts, all kinds of crime and criminals. Thus, it is quite difficult for an individual with problems to serve other individuals experiencing problems, to find solutions to their expectations and problems. It is a known fact that workers who have too many responsibilities feel more distressed. The fast tempo and chaos in today's working life cause people to feel overwhelmed (Cerrah and Semiz, 2000).

The purpose of this study is to find out the associations between the job satisfaction levels of police working in the city center and towns of Samsun by considering their working conditions and responsibilities. In the light of results obtained from this study, the factors, which are effective in police's doing their jobs, can be found and ways that can help them to do their jobs better can also be found.

When the analysis results were examined, it can be seen that the job satisfaction levels of police do not differ in terms of demographic features. That is, the genders, ages, marital status and schools graduated do not have an influence on police's job satisfaction levels. The model proposed in the study was tested with structural equation modeling. As a conclusion, extrinsic job satisfaction was found to be dependent on intrinsic job satisfaction (0.80). It can be said that as intrinsic job satisfaction increases, extrinsic job satisfaction of police also increases. Intrinsic job satisfaction (0.51) was found to be more effective than extrinsic job satisfaction (0.47) on general job satisfaction. In addition, since these latent variables provide positive effect on general job satisfaction, it was found that as the intrinsic or extrinsic job satisfaction of police increases, their general job satisfaction will also increase.

A variable, which is thought to have an effect on job satisfaction, is individuals' desire to develop themselves professionally and their efforts on this subject. In terms of occupation, self development is associated with personal variables such as opportunities, age, income and the individual's intrinsic motivation to develop. As the individual's personal and environmental opportunities and their motivation to use these increase, it seems more possible for them to develop themselves professionally (Hamamcı et al., 2004). This in turn influences their job satisfaction.

The item, which was found to have the most influence on intrinsic job satisfaction, was V1. That is, the individual attaches importance to the freedom of implementing and using his own decisions while doing his job. In extrinsic job satisfaction, the items most effective were V13, V14 and V15 and the praise an

individual received and the decision making skills and methods of the management were found to have a positive effect on their extrinsic job satisfaction.

Based on these results, police need to increase their job satisfaction in order to do their jobs better and fondly. This can only be ensured by improving the effective items.

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