

EXAMINING THE EFFECTS OF ORGANIZATIONAL COMMITMENT ON MOTIVATION VIA STRUCTURAL EQUATION MODELLING: TURKISH ACADEMICIANS CASE

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ABSTRACT

Earlier studies on motivation have all showed that there is a strong correlation between the organizational commitments and motivations of the workers. The purpose of this study is to investigate the effects of organizational commitment on individual's extrinsic and intrinsic motivation which are effective factors of job motivation. With this purpose Explanatory Factor Analysis and Structural Equation Modelling (SEM) used to determine the effects of three sub factors of organizational commitment (affective commitment, continuance commitment and normative commitment) on extrinsic motivation and the effects of extrinsic motivation on intrinsic motivation.

The data set is obtained from academicians at Afyon Kocatepe University-Turkey, by using "Organizational Commitment Questionnaire" which is modified form of Meyer and Allen's (1997) organizational commitment scale (OCS) and the "Motivation Questionnaire" which is developed based on Mottaz (1985), Brislin et al. (2005), and Mahaney and Lederer's (2006) motivation works.

The results indicate that the intrinsic motivations of the academicians are more than their extrinsic motivation and much experienced academicians' intrinsic and extrinsic motivations are higher than the others. The most effective organizational commitment on extrinsic motivation found as affective commitment while there is no significant effect of continuance commitment on extrinsic motivation. The effect of extrinsic motivation on intrinsic motivation is also found significant as expected. Because there were no statistically significant effects of organizational commitments on intrinsic motivation, structural equation modelling for this analysis is not given in the application part.

Keywords: Structural Equation Modelling, Intrinsic Motivation, Extrinsic Motivation, Job Motivation, Organizational Commitment.

ÖRGÜTSEL BAĞLILIĞIN MOTİVASYON ÜZERİNDEKİ ETKİLERİNİN YAPISAL EŞİTLİK MODELLEMESİ İLE İNCELENMESİ: TÜRK AKADEMİSYENLER ÖRNEĞİ

ÖZET

Motivasyon üzerine yapılan daha önceki çalışmaların tamamı çalışanların örgütsel bağlılıkları ile motivasyonları arasında güçlü bir ilişki olduğunu göstermiştir. Bu çalışmanın amacı, bireylerin içsel ve dışsal motivasyonları üzerinde örgütsel bağlılığın etkilerini araştırmaktır. Bu amaçla örgütsel bağlılığın üç alt faktörünün (Duygusal Bağlılık, Sürekli Bağlılık ve Kuralcı Bağlılık) dışsal motivasyon üzerindeki ve dışsal motivasyonun içsel motivasyon üzerindeki etkilerini belirleyebilmek için Açıklayıcı Faktör Analizi ve Yapısal Eşitlik Modellemesinden yararlanılmıştır.

Veri seti, Afyon Kocatepe Üniversitesi-Türkiye' de görev yapmakta olan akademisyenlerden, Meyer ve Allen'in (1997) örgütsel bağlılık ölçeğinden uyarlanan "Örgütsel Bağlılık Anketi" ile Mottaz (1985), Brislin et al. (2005), ve Mahaney ve Lederer'in (2006) motivasyon üzerine olan çalışmalarından geliştirilen "Motivasyon Anketi" aracılığı ile elde edilmiştir.

Sonuçlar göstermektedir ki, akademisyenlerin içsel motivasyonları dışsal motivasyonlarından daha yüksektir ve deneyimi daha fazla olan akademisyenlerin içsel ve dışsal motivasyonları diğer akademisyenlerden daha yüksektir. Dışsal motivasyon üzerinde en etkili örgütsel bağlılık, duygusal bağlılık olarak bulunurken dışsal motivasyon üzerinde sürekli bağlılığın anlamlı bir etkisi bulunmamıştır. Beklenildiği üzere, dışsal motivasyonun içsel motivasyon üzerinde anlamlı bir etkisinin olduğu da belirlenmiştir. Çalışmanın uygulama kısmında örgütsel bağlılığın içsel motivasyon üzerindeki etkileri istatistiksel olarak anlamlı bulunmadığından bu analize ilişkin yapısal eşitlik modellemesine yer verilmemiştir.

Anahtar Kelimeler: Yapısal Eşitlik Modellemesi, İçsel Motivasyon, Dışsal Motivasyon, İş Motivasyonu, Örgütsel Bağlılık.

1. Introduction

In terms of Motivation of Human resources, there has been numerous research studies conducted in organizations which, in turn, has led to the emergence of various theories of motivation. In recent decades, much attention has been paid in the literature to "motivation for work", in which researchers at the Research Institute for Psychological Services of Pittsburgh, led by Frederic Herzberg (1959) conducted the study. Those researchers analyzed job interview of 200 Engineers and accountants working in Pittsburgh Pennsylvania in eleven different companies that were asked to mention the special events conducive to their job satisfaction or dissatisfaction (Davoudi and Mousavi, 2012).

Organization development while being of benefit to society is not merely skillful management of the employees by creatively and flexibly reacting to the challenges and changes in the external environment but also a special focus on the employee as a unique resource. Motivation at work serves this purpose with the aim to induce employees to accomplish their goals and in this way to satisfy human needs of each staff member. Employee needs satisfaction by employing individual physiological and intellectual abilities in the work environment implies a direct link with the organizational productivity, which, in turn, influences the life quality of the individual, organization and society therefore resolution of the job motivation process development problem must be conceptualized through search for and introduction of motivation mechanisms. Since the development of work motivation has direct links to the organization's existence and development, and the organization as a socio-cultural system is fully aware that the more developed the system, the less dependent on the external environment, and work motivation opportunities offered by creative use of performance implies growth. Even the antique Greece provided that, if the organization's goals and activities consistent with the four principles: the benefits, the truth, goodness and beauty, it is then possible to speak of development, providing benefits not only the organization but also employed people (Savareikiene, 2012).

Commitment of employees can be an important instrument for improving the performance of the organizations. Researchers conducted on commitment have shown that employees with higher organizational commitment engage in organizational citizen behavior and this, in turn, results in better performance and higher work motivation that are beneficial to the organization (Chang et al., 2007). So employees' productivity is largely related to their motivation levels and a higher level of organizational commitment. Therefore, it is important for an organization to examine the relationships between these two variables. Furthermore, the term of "commitment" has been defined, measured and investigated variously and extensively but what is important is to examine the relationships between these two variables (organizational commitment and work motivation) (Altindis, 2011).

In operationalizing work motivation, Moynihan and Pandey, (2007) do not reinvent the wheel but instead use three previously established concepts as dependent variables: job satisfaction, organizational commitment, and job involvement. Locke's (1997) review of the theories and associated empirical work on work motivation places these as central and interrelated components in explaining or representing the concept of work motivation

For the impact of organizational commitment on performance, Meyer et al. (1989) think that the emotional commitment, normative commitment (to a lesser extent) should be positively correlated with job performance, while sustained commitment and job performance are unrelated or negatively correlated (Wang, 2010).

Meyer and Allen (1997) took several models and definitions of commitment, combined them and determined the underlying themes. From this they were able to construct their "Three Component Model of Commitment". They defined commitment as a psychological state linking an employee to an organization. Thus, organizational commitment is a multidimensional construct that has been examined and studied to determine its antecedents, process, types of commitment, and consequences. Characteristics of the work environment, management practices, socialization experiences, and personal and psychological characteristics affect work behavior, role states, and psychological contracts. These, in turn, develop into the three components of commitment: affective, continuance, and normative.

The consequences of all these factors are retention and productive behavior (Meyer and Allen 1997, Klein et al. 2009) and psychological and physiological well-being (Meyer 2009), among others. Affective commitment pertains to the employees who are part of the organization because they want to be; hence, one would expect them to be present at work and motivated to perform their best (Meyer and Allen 1997). This would lead to decreased turnover, absenteeism, and increased productivity (Mowday et al. 1982, Meyer and Allen 1997, Klein et al. 2009). Normative commitment refers to the group of employees who feel like they should stay with the organization out of a sense of obligation. Continuance commitment, on the other hand, describes the employees who are committed because they believe the costs associated with leaving the organization are too high and hence, they remain (Meyer and Allen 1997; Gutierrez et al., 2012).

The job motivating factors were examined by some researchers (Mottaz, 1985; Wong et al., 1999; Mahaney and Lederer, 2006; Bakay and Huang, 2010), in two variables are, respectively intrinsic and extrinsic variables. According to Wong et al. (1999), the intrinsic variables includes feeling of involvement, supervisor's help with personal problems, interesting work, promotion or career development, supervisor's help with personal problems, and appreciation of a job well done. As for the extrinsic variables, they are job security, good salary, tactful discipline, and good working conditions, respectively (Curtis et al., 2009). Deci (1975) defines intrinsic motivation as behaviors that "a person engages in to feel competent and self-determining". The other intrinsic motivation tools contain status, recognition, praise from superiors and co-workers, personal satisfaction and feelings of self-esteem (Mahaney and Lederer, 2006). Thakor and Joshi (2005) indicate that the feeling of accomplishment that arises from successful activity performance is regarded as an intrinsic motivator because it is rewarding psychological state that is directly attained through successful activity performance. Compensation taken in exchange for the activity performance provides people to acquire to be of value and so is regarded as an extrinsic motivator (Thakor and Joshi, 2005). On the other hand extrinsic motivation tools are comprise such factors as pay, fringe benefits, job security, promotions, private office space and the social climate. Moreover they involve competitive salaries, pay raises, merit bonuses and such indirect forms of payment as vacation and compensatory time off and external to the job itself (Mahaney and Lederer, 2006; Altindis, 2011).

2. Literature Review

Organizational commitment is the subject of a great number of investigations up until today. As a matter of fact organizational commitment is tried to associated to in a multitude of phenomenon such as training (Bartlett, 2001), job satisfaction (Corrigan, 2001), ethical climates (Cullen et al., 2003), transformational leadership (Avolio et al., 2004), corporate citizenship (Peterson, 2004), job involvement (Hallberg and Schaufeli, 2006), organizational identification (Knippenberg and Sleebos, 2006), leadership style (Dale and Fox, 2008), role stressor (Addae et al., 2008), quality of work life (Normala, 2010), emotional intelligence (Aghdasi et al., 2011), occupational strain (Moon and Jonson, 2012), job effectiveness (Wills, 2013), workplace empowerment (Ibrahim et al., 2013), social bonding (Shih and Wang, 2014), human abilities (Richardson, 2014).

3. Material, Method and Data Collection

The aim of this study is to examine the effects of organizational commitment on extrinsic motivation and the effects extrinsic motivation on intrinsic motivation via Structural Equation Modelling. The Hypotheses of the study are;

- **H₁**: As the academicians' Affective Commitment increases, their Extrinsic Motivation increases.
- **H₂**: As the academicians' Continuance Commitment increases, their Extrinsic Motivation increases.
- **H₃**: As the academicians' Normative Commitment increases, their Extrinsic Motivation increases.
- **H₄**: As the academicians' Extrinsic Motivation increases, their Intrinsic Motivation increases.

The data set is obtained by using "Organizational Commitment Questionnaire" which is modified form of Meyer and Allen's (1997) organizational commitment scale (OCS) and the "Motivation Questionnaire" which is developed based on Mottaz (1985), Brislin et al. (2005), and Mahaney and Lederer's (2006) motivation works. Some questions are adapted and we add some more questions. The five-point Likert type scale (1 = "Strongly Disagree" and 5 = "Strongly Agree") questionnaire is applied to the academicians working at Afyon Kocatepe University-Turkey between the dates 15 April-15 May 2013. Total number of the participants was 200 but because of some missing questionnaires (19 questionnaires), the analysis is conducted on 181 usable questionnaires. In the questionnaire, there were 24 questions for organizational commitments and 14 questions for motivation and the demographic questions. However, after applying the Explanatory Factor Analysis (EFA), because some items did not take place in the correct dimension (factor) we had to delete some questions to obtain the perfect structure. As a result Affective Commitment (AC) was measured by 7 items, Continuance Commitment (CC) was measured by 6 items, Normative Commitment (NC) was measured by 4

items, Extrinsic motivation (EM) was measured by 6 items. Intrinsic Motivation (IM) was measured by 5 items. The data is analyzed by using SPSS and LISREL software.

Structural Equation Modelling (SEM)

SEM is a comprehensive statistical method used in testing hypotheses about causal relationships among observed and unobserved (latent) variables and has proved useful in solving the problems in formulating theoretical constructions (Reisinger and Turner, 1999). Its function has found to be better than other multivariate statistics techniques which include multiple regression, path analysis and factor analysis. Other statistics techniques could not take them into consideration due to the interaction effects among dependent and independent variables. Therefore, a method that can examine a series of dependence relationships simultaneously helps to address complicated managerial and behavioral issues. SEM also can expand the explanatory ability and statistical efficiency for model testing with a single comprehensive method (Pang, 1996; Yilmaz, 2004).

SEM is a method for representing, estimating and testing a theoretical network of linear relations between variables (Rigdon, 1998). The structural model is that component of general model that prescribes relations between latent variables and observed variables that are not indicators of latent variables.

The multiple regression model is a structural model without structural variables and limited to a single outcome (Hoyle, 1995). Bollen (1989) describes three main components in the historical course of structural equation modelling: (1) path analysis, (2) the conceptual synthesis of structural model and measurement model and (3) overall forecasting processes. Causal models were developed in a historical order; these models are; Regression Analysis, Path Analysis, Confirmatory Factor Analysis (CFA), Structural Equation Modelling (Schumacker and Lomax, 2004; Yilmaz and Celik, 2009). Modern SEM originally is known as JKM model (Jöreskog -Keesling - Wiley) (Bentler, 1980). But later in 1973, it is referred as "Linear Structural Relations Modelling (LISREL)" with the development of first ready LISREL software (Yilmaz and Celik, 2009). There are many kinds of goodness of fit indexes and the statistical functions to put a good use of the model fit. The most common of them are (χ^2), RMSEA (Root-mean-square error approximation) and GFI (Goodness-of-fit index) (Joreskog and Sorbom, 2001). As Hayduk (1987) stated if the RMSA is equal or smaller than 0.05, it shows a perfect fit. If it is between 0.08 and 0.10 then it means that there is an acceptable fit, but if it is greater than 0.10 then it corresponds to a bad fit.

4. Findings and Results

When we examine the demographic features of the participants, it can also be seen from Table 1, that %68.4 of the academicians are male, 34.8 are between the ages 29-35, 24.3 are experienced between the years 6-10, 37.6 are working at their second job, 64.1 are married, 44.8 are research assistant and are the highest percent in the related categories.

Table 1. Descriptive statistics for demographic variables of the participants.

Variable	Level	n	%	IM		EM	
				Mean	Std.Dev	Mean	Std.Dev.
Gender	Male	124	68.5	4.230	0.569	3.048	0.809
	Female	57	31.5	4.153	0.514	2.769	0.962
Age	20-28	42	23.2	3.971	0.797	3.007	0.944
	29-35	63	34.8	4.251	0.404	2.841	0.845
	36-42	48	26.5	4.245	0.433	2.951	0.954
	43-49	22	12.2	4.518	0.407	3.166	0.625
	50+	6	3.3	3.933	0.484	3.194	0.520
Experience (year)	<1	28	15.5	3.964	0.950	3.083	0.911
	1-5	43	23.8	4.190	0.440	2.945	0.917
	6-10	44	24.3	4.204	0.354	3.075	0.651
	11-15	40	22.1	4.235	0.458	2.695	1.001
	16-20	21	11.6	4.400	0.451	2.928	0.829
Number of Previous / Current Job	21+	5	2.8	4.680	0.501	3.633	0.380
	1	70	38.7	4.107	0.676	2.895	0.900
	2	68	37.6	4.264	0.425	2.879	0.859
	3	18	9.9	4.288	0.545	3.074	0.830
Marital status	4	25	13.8	4.264	0.468	3.280	0.782
	Single	65	35.9	4.046	0.689	2.964	0.916
	Married	116	64.1	4.297	0.434	2.958	0.843
Position	Research Assist.	81	44.8	4.051	0.647	2.987	0.901
	Assistant Prof.	31	17.1	4.490	0.399	2.956	0.893
	Associate Prof.	43	23.8	4.271	0.371	2.782	0.904
	Full Prof.	26	14.4	4.246	0.487	3.173	0.620
Overall		181	100	4.206	0.552	2.960	0.867

When we examine the overall motivation mean scores of the participants, it can be seen that while the mean score from the intrinsic motivation is 4.206 with a standard deviation 0.552, the mean score from the extrinsic motivation is 2.96 with a standard deviation 0.867. This result shows that the academicians' intrinsic motivation is higher than their extrinsic motivation. On the other hand specifically it can be said that while much experienced academicians have the highest intrinsic and extrinsic motivation mean scores (4.68 and 3.63 mean scores respectively), the academicians at the age category 50 and more, has the lowest intrinsic motivation with 3.933 mean score and the academicians who are experienced between 11-15 years has the lowest extrinsic motivation with 2.695 mean score. If we examine the motivation scores according to the categories of each demographic variable the results can be listed as:

Male are more motivated than females both for intrinsic and extrinsic motivation. While academicians, between the ages 43-49 have higher intrinsic motivation, age category for the higher extrinsic motivation is 50 and more. Academicians, having experienced 21 years or more are more motivated than less experienced ones for both intrinsic and extrinsic motivation. Among the academicians, while working at this university as their third job has the higher intrinsic motivation, the academicians, working at this university as their fourth previous / current job, has the higher extrinsic motivation. According to marital status, while the intrinsic motivation mean scores of married academicians are higher than single, the extrinsic motivation mean scores of single academicians are higher than married ones. As the positions of the academicians, it can be seen that while the assistant professors are more motivated according to intrinsic motivation than the others, full professors are more motivated according to extrinsic motivation. The results of the EFA are given in Table 2 and Table 3.

Table 2. EFA results and Cronbach's α values for the Commitment variables.

<i>Factors/items</i>	Factor Loading	Eigen Value	Exp. Variance (%)	α
AC Affective Commitment				
AC1. I feel a strong sense of belonging to my organization	.867			
AC2. I feel "emotionally attached" to this organization	.848			
AC3. I think that it is proud to be employees of this university	.813			
AC4. I feel like "part of the family" at my organization	.803	6.732	27.442	0,912
AC5. I feel my job in this university like my own specific job	.734			
AC6. This organization has a great deal of personal meaning for me	.730			
AC7. I really feel as if this organization's problems are my own	.671			
CC Continuance Commitment				
CC1. One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice - another organization may not match the overall benefits I have here.	.777			
CC2. Too much of my life would be disrupted if I decided I wanted to leave my organization right now	.736	2,733	20,234	0,841
CC3. It would be very hard for me to leave my organization right now, even if I wanted to	.695			
CC4. It would be hard for me to get used a new workplace	.688			
CC5. I worry about the loss of investments I have made in this organization	.665			
CC6. I feel that it is more difficult leaving this university over time	.652			
NC Normative Commitment				
NC1. It would not be right to break my personal relationships, leaving from this university	.796			
NC2. I would not leave my organization right now because I have a sense of obligation to the people in it	.713	1.120	14,591	0.772
NC3. I feel that I owe this organization quite a bit because of what it has done for me	.625			
NC4. I would feel guilty if I left my organization now	.467			

Cronbach's α values for overall Commitment variables and overall motivation variables are calculated as 0.901 and 0.772 respectively which show that the reliability of the scales are well enough. Explained variances for overall variables are calculated as %62.267 and %53.837 respectively.

According to EFA results for commitment variables, given in Table 2, the item "I feel a strong sense of belonging to my organization" has the highest factor loading within Affective Commitment. The items "One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice - another organization may not match the overall benefits I have here" and "It would not be right to break my personal relationships, leaving from this university" are the other items with the highest factor loadings within Continuance Commitment and Normative Commitment respectively.

Table 3.EFA results and Cronbach's α values for the Motivation variables.

<i>Factors/items</i>	Factor Loading	Eigen Value	Exp. Variance (%)	α
IM Intrinsic Motivation				
IM1. I have responsibilities related to work	.841			
IM2. I am successful at my work	.819			
IM3. I believe that work which I've done worth to do it	.775	3.395	25.846	0.748
IM4. I believe that work which I've done is a respectable job	.676			
IM5. I see myself as an important employee of the University	.438			
EM Extrinsic Motivation				
EM1. University equipment and supplies are sufficient	.798			
EM2. It is suitable physical conditions in the environment of work	.787			
EM3. My managers help me to solve disagreement with my colleagues and students	.736	2.527	27.991	0.790
EM4. I think that a fee that I get from my work is enough.	.689			
EM5. There is not an opportunity to promote in my work.	.574			
EM6. My colleagues are always with me in solving personal and familial problems	.520			

The EFA results for Motivation variables, given in Table 3 shows that, while the item "I have responsibilities related to work" has the highest factor loading within the Intrinsic Motivation, the item which has the highest factor loading within the Extrinsic Motivation is "University equipment and supplies are sufficient". Other results of EFA analysis for commitment and motivation variables are also given in Table 2 and Table 3.

The results of Structural Equation Modelling are given in Figure 1. and Table 4.

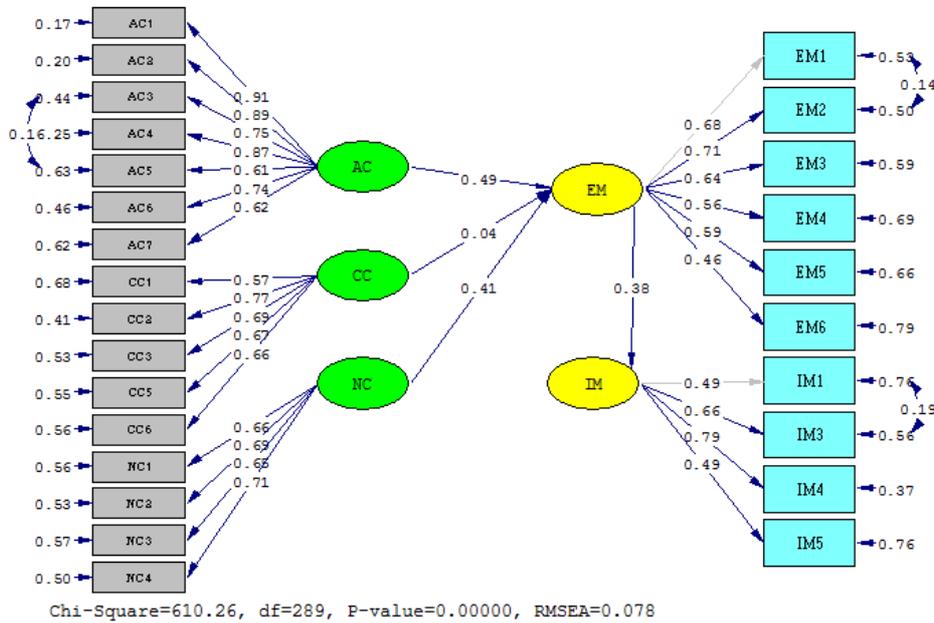


Figure 1. Structural model for organizational commitment and motivation.

The model's goodness of-fit indices are calculated as: $\chi^2 (289)=610.26$; $\chi^2/df =2.11$, RMSEA=0.078 which shows that this is an acceptable model.

Table 4. Standardized parameter estimate values, t values and hypotheses.

Hypotheses	Paths	Standardized Parameter Estimates	t values	Results
H ₁	(AC)→(EM)	0.49	4.83	Confirmed
H ₂	(CC)→(EM)	0.04	0.32	Not Confirmed
H ₃	(NC)→(EM)	0.41	2.43	Confirmed
H ₄	(EM)→(IM)	0.38	3.31	Confirmed

For the structural model, because of the goodness of fit statistics were not in the acceptable intervals at the beginning of the analysis, to obtain a fitted model we set the error covariances free between AC3-AC5, IM1-IM3 and EM1-EM2 according to suggestions of the LISREL software. The error covariances between these items can also be seen on Figure 1. To obtain an acceptable model we also had to delete the variable IM2.

Results given in Table 4 shows that all of the hypotheses except H₂ are accepted. Figure 1 shows that while Affective Commitment has the most important effect on Extrinsic Motivation with a coefficient of 0.49; the coefficient of Normative Commitment's effect on Extrinsic Motivation is 0.41. The effect of Continuance Commitment is not statistically significant but the path coefficient is 0.04 which indicates that there is almost no effect. As expected, Extrinsic Motivation has a positive effect on Intrinsic Motivation with a coefficient of 0.38.

The item "I feel a strong sense of belonging to my organization" found the most effective on Affective Commitment with the coefficient of 0.91. For Continuance commitment the item "Too much of my life would be disrupted if I decided I wanted to leave my organization right now" is the most effective with the coefficient of 0.77. The item "I would feel guilty if I left my organization now" found the most effective on normative commitment with the coefficient of 0.71. There were no statistically significant effects of organizational commitments on intrinsic motivation; hence structural equation modelling for this analysis is not given here.

5. Discussion and Conclusion

There may be several factors effecting the motivations of the workers. In this study we separate motivation into two groups as intrinsic and extrinsic motivation and analyzed the effects of organizational commitments of the academicians on these motivation factors.

Results show that, according to demographic variables intrinsic motivations of the academicians are more than their extrinsic motivations and experienced academicians' intrinsic and extrinsic motivations are higher than the others.

Within these two motivation factors results of the structural equation modelling indicate that while the item "It is suitable physical conditions in the environment of work" is the most effective factor on extrinsic motivation, the item "I believe that work which I've done is a respectable job" is the most effective factor on intrinsic motivation. The effect of extrinsic motivation on intrinsic motivation is also statistically significant and it has a positive effect.

Besides these motivation factors, we would like to mention that specifically in Turkey, it can be said that salaries of the academicians are really low, corresponding to their working hours when you compare with other jobs. Motivation of the academicians is important for universities. By an increasing numbers of well-motivated academicians, the quality of the education, quality of scientific projects, and quality of the scientific publications may all increase. At that point both the academicians and the universities have some responsibilities to care. As the findings of this study indicate while the academicians must believe that they are doing a work which worth to do it, universities must provide a suitable environment for them to work more motivated.

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