



EXAMINATION OF ARCHITECTS' LEVELS OF BURNOUT

MİMARLARIN MESLEKİ TÜKENMİŞLİK DÜZEYLERİNİN İNCELENMESİ

Dilek MURAT¹, Filiz ŞENKAL SEZER², Yasemin ERBİL³

Abstract

The objective of the present study is to determine the burnout levels of architects working in architectural firms and to identify whether their burnout levels differentiated based on certain demographic variables. The population of the study included 1250 architects registered with Chamber of Architects in Bursa province. Sample of the study included 150 volunteer architects that work at architectural firms in Bursa and accessed with e-mail. Personal Information Form and Maslach Burnout Inventory (MBI) Form were used as data collection tools in the study. Data analysis was conducted with log linear analysis, which is commonly used for multivariate categorical data analysis. It was determined that the architects had intermediate level of burnout. Correlation between the burnout levels of the architects and factors such as gender, age, education level, marital status, willingness in choice of profession, hours spent at the office, number of architects working at the same office, total weekly work hours, average annual income was analyzed. Statistical data analysis demonstrated that females and architects who stated that their choice of profession was not voluntary had higher levels of burnout.

Keywords: *Job Burnout, Maslach Burnout Inventory, Architecture, Categorical Data Analysis, Log Linear Analysis.*

Öz

Bu araştırmada mimarlık ofislerinde çalışmakta olan mimarların tükenmişlik düzeylerini belirleyerek bazı demografik değişkenler açısından tükenmişlik düzeylerinin farklılaşıp farklılaşmadığını ortaya koymak amaçlanmıştır. Araştırmanın evrenini Bursa Mimarlar Odasına kayıtlı olan 1250 mimar oluşturmaktadır. Araştırmanın örneklem grubunu ise, Bursa'da mimarlık ofislerinde çalışmakta olan ve e-posta ile ulaşılan toplam 150 adet gönüllü mimar oluşturmaktadır. Araştırmada veri toplamak amacıyla Kişisel Bilgi Formu ve Maslach Tükenmişlik Envanteri Formu (MBI) kullanılmıştır. Verilerin analizinde çok değişkenli kategorik veri analizinde kullanılan log linear analizden yararlanılmıştır. Mimarların orta düzeyde tükenmişlik hissine sahip oldukları tespit edilmiştir. Mimarların

¹ Yrd. Doç. Dr., Uludağ Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, dilekm@uludag.edu.tr

² Doç. Dr., Uludağ Üniversitesi, Mimarlık Fakültesi, filizss@gmail.com

³ Doç. Dr., erbil.yasemin@gmail.com

tükenmişliklerinin cinsiyet, yaş, eğitim düzeyi, medeni durum, meslek seçimindeki isteklilik, ofisteki çalışma süresi, ofiste çalışan mimar sayısı, haftalık toplam çalışma saati, yıllık ortalama gelir faktörlerine ne kadar bağlı olduğu analiz edilmiştir. Verilerin istatistiksel analizi sonucunda kadınların ve mesleğini istemeyerek seçtiğini ifade eden mimarların kendilerini daha çok tükenmiş hissettikleri tespit edilmiştir.

Anahtar Kelimeler: *Mesleki Tükenmişlik, Maslach Tükenmişlik Envanteri, Mimarlık, Kategorik Veri Analizi, Log Linear Analiz.*

1. INTRODUCTION

Today, increasing competition in business life turns work conditions into a more difficult environment. Business practices conducted to increase competitiveness and to win over the competition could cause stress and tensions among employees. Individuals that start their careers with ideals in several different industries find themselves emotionally worn out after a short while and this occurrence is becoming increasingly prominent. This condition, named as burnout by Herbert Freudenberger in 1974, is defined as “a condition of exhaustion that occurs as a result of failure, wear out, loss of energy and strength, or unsatisfied desires in personal internal resources” (Freudenberger, 1974: 160). Later on, burnout became one of the focuses of interest for researchers. Cherniss (1988) defined burnout as “a response of individual to excessive stress or dissatisfaction in the form of alienation from her or his profession” (Cherniss, 1988: 445). The most common definition of burnout was given by Maslach and Jackson (1981). According to them, burnout is a syndrome characterized by individuals becoming insensible towards other individuals due to their work, feeling exhausted emotionally, and a decrease in their emotions of personal achievement and competency.

In addition to their careers, burnout affects the relationships of employees with their friends and families. In a study they conducted, Maslach and Jackson (1982) stated that individuals who experience burnout tend to distance themselves from their friends and social milieu and employees could not get over their work even when they are out of workplace. Similarly, Cordes and Dougherty (1997) reported that individuals who experience burnout behave more impatient, pessimistic and less tolerant in their relations with colleagues and managers. This condition could be associated with a decrease in employees’ job performances, absenteeism and an increase in the intent to quit the job (Keser, 2009: 471-472).

Certain burnout studies reported that occupational stress is the primary factor that results in burnout (Lee and Ashforth, 1996; Leiter, 1991; Peeters and Le Blank, 2001; Schaufeli and Bakker, 2004; Taris, Schreurs, and Schaufeli, 1999). Maslach and Leiter (1997) on the other hand stated that excessive workload, lack of control, low rewards, unfair treatment and value conflicts were among the factors that cause burnout. In addition, Yalçın (1995) stressed that any disagreement between employees could cause burnout and role conflicts and role ambiguities were a significant determinants of burnout. Heaney, Israel and House (1994) reported that job insecurity is perceived as a threat to the consistency of the employee’s

job and thus, is a determinant of burnout. Maslach and Leiter (1997) determined six main factors that cause burnout: (1) workload and resulting intensity, time demands and complexity; (2) lack of control on monitoring that provides daily priorities; (3) insufficient rewards and emotions that accompany continuously doing more for less rewards; (4) a feeling of a community where relationships are impersonal/insensitive and teamwork is disregarded; (5) lack of trust, openness, respect and justice and (6) conflicting values where management choices frequently conflict with corporate mission and attributes and nor being able to do what we preach.

Different models that scrutinized burnout reasons and processes in different ways were developed. Among these, Cherniss burnout model (Cherniss, C., 1980), Edelwich and Brodsky model (Edelwich and Brodsky, 1980), Pines model (Pines and Aronson 1988), Pearlman and Hartman model (Paerlman and Hartman, 1982), Meier model (Meier 1983), and Maslach's burnout model (Maslach and Jackson, 1981) could be mentioned. There are several academic research conducted with professionals with different occupations, teachers, academicians and students using Maslach's burnout model, which was also used in the present study (Breso, 2008; Bresó et al., 2011; Gan, Shang and Zhang, 2007; Hu and Schaufeli, 2009; Jia et al., 2009; Lee et al. 2010; Lingard, 2007; Morgan, B., 2008; Zhang et al. 2007; Salanova et al., 2009). Chang and Hancock (2003) stated that the sense of burnout would decrease the productivity and creativity of the employees. Numerous study findings conducted on burnout showed that stress factors in job environment due to occupational, organizational and social factors were major predictors of burnout (Leiter and Maslach, 2001; Brewer and Clippard 2002; Nyssen et al., 2003).

In previous studies several factors that lead to burnout such as long work-hours, role overload, inadequate resources, job insecurity and high-risk and inconsistent work conditions were determined (Dainty, Neale and Bagilhole, 1999; Lingard, 2003; Haynes and Love, 2004; Yip, et al., 2005b; Yip and Rowlinson, 2006b). As a result, individuals employed in the construction industry are more prone to job burnout. Because, chaotic work practices, long working hours, excessive workload and stressful job environment are prevalent in the construction industry, where there are high risks due to time and cost factors and customer relations are excessively important (Loosemore et al., 2003), as Tang (2001) mentioned 'manpower is the most valuable asset in the construction industry'.

In a study by Leung et al. (2011), it was stated that the objective of their study was to research the effect of stress on construction project manager (C-PM) performance. They collected data via 108 questionnaires and developed a C-PM stress and performance integrated structural equation model. This was a comprehensive research on the effect of stress on C-PMs performances. Three types of stress, which were associated with others, were identified in this study, where job stress was the precursor of burnout and burnout further predicted pysical stress of C-PMs. In their study, Bowen et al. (2013) collected the views of architects, civil engineers and project and construction managers in South Africa using an online survey. This study was significant in examining the work-related stress among construction professionals in a developing country, where financial difficulties such as inequality and

crime are the main determinants. Majority of the participants stated that they experienced high stress levels at work in this study. Architects experienced more stress when compared to engineers, quantity surveyors and project and construction managers and female individuals experienced more stress when compared to males.

In a study by Ibem et al. (2011), key stress factors in Nigerian building construction industry were scrutinized. In that study, a questionnaire was administered to 107 professionals randomly selected from 60 current projects in Nigeria including architects, builders, civil/structural engineers and quantity surveyors. Data analysis demonstrated that high work volume, uncomfortable offices in building sites, lack of feedback about previous and current building projects and variations in the scope of tasks in current projects were among the primary sources of stress. Çivici (2016) conducted a study with 148 architects to empirically test the demotivation factors that have an impact on architects' occupational burnout levels. In the study, a theoretical model was developed using the demotivation factors developed by MBI and Oyedele. As a result, it was observed that the levels of emotional burnout of architects were higher than their levels of depersonalization and decrease in personal achievements.

Architectural firms are the key actors in the construction industry. The critical role architectural firms play in the construction industry could be a determinant in affecting the employees' levels of burnout. Although architectural firms play a determinant role in the sector as the organizer of the design and construction process, negative consequences of burnout on architecture firms were rarely studied. Thus, this study was considered to contribute to the literature by filling the related gap.

2. METHODOLOGY

The present study attempts to identify the relationship between the burnout of architects and certain socio-demographic variables. Population of the study included 1250 architects registered with Bursa Chamber of Architects. The sample group scrutinized in the study included a total of 150 architects that were employed by architecture firms in Bursa and accessed via e-mail. Personal Information Form and Maslach Burnout Inventory Form (MBI), developed by Maslach and Jackson (1986) and adapted to Turkish by Ergin (1993), were used as data collection tools in the study.

MBI includes 22 items and three dimensions and the expressions are evaluated by a five-point Likert scale. The scale includes three dimensions of emotional exhaustion (EE), depersonalization/cynicism (DE) and personal accomplishment (PE). Expressions in PE dimension, contrary to other dimensions, are positive statements and reflect negative self-assessment and lack of accomplishments. Thus, they were reverse scored and evaluated (Ergin, 1993: 152). Thus, higher scores obtained in sub-scales demonstrate high-level burnout. Related sub-dimensions and items included in those are given in Table 1.

Table 1. Dimensions in MBI and items related to each dimension

SCALES	ITEM NUMBER
EMOTIONAL EXHAUSTION (EE)	1, 2, 3, 6, 8, 13, 14, 16, 20
DEPERSONALIZATION (DE)	5, 10, 11, 15, 22
PERSONEL ACCOMPLISHMENT (PE)	4, 7, 9, 12, 17, 18, 19, 21

3. RESULTS and DISCUSSION

Initially, the reliability of the Maslach burnout inventory that would be used in the study, was assessed with Cronbach alpha coefficient. Cronbach alpha coefficient for the whole scale was determined as 0.894. Calculated coefficient for the EE dimension was 0.876, for the DE dimension it was 0.758, and finally for the PE dimension it was 0.718. Thus, it could be deduced that the scale was quite reliable as a whole and based on each sub-scale. Socio-demographic findings related to the participating architects are presented in Table 2 below.

Table 2. Demographic information

		Frequency	Percent			Frequency	Percent
Gender	Female	89.00	59.30	Seniority	<10	133.00	88.70
	Male	61.00	40.70		10+	17.00	11.30
Marital status	Single	63.00	42.30	# of employed architects	<10	116.00	77.30
	Married	86.00	57.70		10+	34.00	22.70
Voluntary job selection	Yes	140.00	94.00	Mean work-hours	<40	12.00	8.00
	No	9.00	6.00		40+	138.00	92.00
Education	BSc	117.00	78.00	Mean annual income	<40000	93.00	62.00
	MSc	30.00	20.00		40000+	57.00	38.00
	PhD	2.00	1.30				

Table 2 demonstrates that 59.3% of the architects that responded to the survey form were females, 40.7% were males and 88.7% were employed in the same firm for less than 10 years and 11.3% were employed in that firm for 10 or more years. The firms that the survey was conducted, 77.3% employed less than 10 architects with a salary, and 22.7% employed more than 10. Eight percent of the participants worked less than 40 hours per week in the office, whereas 92% worked more than 40 hours per week. As is observed in Table 2, 94% of the participating architects stated that they selected their profession willingly, while 6% stated that other factors played a part in their choice. Descriptive statistics data calculated for MBI, EE, DE and PE scale scores for participating architects are presented in Table 3.

Table 3. Scale descriptive statistics data

	Mean	Std. Dev.	Minimum	Maximum	Range
MBI	3.00	0.38	2.23	4.05	1.82
EE	2.76	0.74	1.11	5.00	3.89
DE	2.31	0.79	1.00	4.20	3.20
PE	3.70	0.53	2.25	5.00	2.75

Findings displayed in Table 3 demonstrate that architects included in the sample had a medium level of burnout with a mean 3.00 MBI score. MBI sub-dimension scores exhibit that EE and DE scores were at a medium level and PR score was high. Thus, it was determined that the architects, which participated in the present study, had medium sense of burnout levels in emotional exhaustion and depersonalization dimensions, but had a high level of burnout perception in personal accomplishment dimension.

In the next phase of the study, job burnout levels of architects in the sample group were scrutinized based on certain socio-economic variables such as gender, marital status, education level, length of employment in the current firm, number of architects employed by the firm, mean weekly work-hours, and mean annual income. For this purpose, an MBI item that was considered to reflect burnout in the scale was correlated with the above mentioned variables. In this context, responses given to the scale items were transformed into a two-point Likert scale to prevent confusion and for easy interpretation. Only significant correlations and interpretations are mentioned in the following sections, not to expand the manuscript out of bounds and to prevent possible complications.

For this purpose, the item “when I wake up in the morning, I feel like I cannot endure this job any more” (Item 1) was used and the levels of agreement were redefined as “rarely” and “frequently.” Categories of the gender (G) variable were defined as “female” and “male” and the categories of the job variable (J), which represents the question “did you select your profession voluntarily,” were determined as “yes” and “no.” Definitions of these variables that would be analyzed with log linear analysis could be observed in Table 4.

Table 4. Description of variables

Variable name	Abbreviations	Value	Codes
Item-1	I-1	rarely	1
		frequently	2
Gender	G	female	1
		male	2
Job	J	yes	1
		no	2

Conducted log linear analysis on the item produced significant findings based on gender and job variables. Findings on K-way effects found as a result of the analysis are given in Table 5.

Table 5. Tests where K-way and higher order effects were zero

K	df	Likelihood ratio (Chi-sq)	Prob	Pearson (Chi-sq)	Prob
3	1	.357	.550	.204	.651
2	4	17.369	.001	21.069	.000
1	7	239.238	.000	261.362	.000

Findings displayed in Table 5 indicated that main effects and all 2-way effects should be included in the model. When related values are examined, it was concluded that a model that includes the main effects and all 2-way effects would be sufficient to represent the data. Goodness of fit findings for the model obtained as a result of the analysis are presented in Table 6.

Table 6. Goodness-of-fit tests

	Value	df	Sig.
Likelihood Ratio	.357	1	.550
Pearson Chi-Square	.205	1	.651

Chi-square goodness of fit test is used for the research on the goodness of fit of the selected log-linear model. Based on the G^2 and χ^2 tests shown in Table 6, it could be observed that the null hypothesis that expresses the goodness of fit of the model could not be rejected. In other words, it was concluded that the log-linear model was good for fit. Findings on the estimates obtained for gender and job variables are presented in Table 7.

Table 7. Parameter Estimates

Parameter	Estimate	Standard error	Z	Sig.
Constant	-1.870	1.266	-1.477	.140
I-1= rarely	1.703	.918	1.854	.064
I-1=frequently	0	.	.	.
G=female	3.217	1.210	2.659	.008
G=male	0	.	.	.
J=yes	2.916	1.188	2.455	.014
J=no	0	.	.	.
I-1= rarely *G=female	-1.626	.651	-2.498	.012
I-1= rarely *G=male	0	.	.	.
I-1= frequently *G=female	0	.	.	.
I-1= frequently *G=male	0	.	.	.
I-1= rarely *J=yes	1.297	.735	1.766	.077
I-1= rarely * J=no	0	.	.	.
I-1= frequently * J=yes	0	.	.	.
I-1= frequently * J=no	0	.	.	.
G=female* J=yes	-1.481	1.100	-1.346	.178
G=female* J=no	0	.	.	.
G=male* J=yes	0	.	.	.
G=male* J=no	0	.	.	.

Based on the findings displayed in Table 7, it was determined that Item-1, gender and job were statistically significant factors at the 0.10 significance level. It could be observed in the above mentioned table that there was a dependency between Item-1*Gender and Item-1*Job variables. It was also determined that the dependency was mostly between the 2-way effects of Item1(rarely)*Gender(female) and Item-1(rarely)*Job(yes). As a result of these findings, it could be argued that answering the statement of “when I wake up in the morning, I feel like I cannot endure this job any more” (Item-1) as “rarely” was dependent on gender and the dependency was related to females. Similarly, it was observed that answering the same statement as “rarely” was dependent on job selection variable and the dependency was related to choosing the profession voluntarily.

Based on the algorithms of the values in the parameter estimates column in Table 7, the probability of females feeling that they could not endure the job any longer rarely when they wake up in the morning was 0.17 times more than males having the same feeling rarely. In other words, the probability of females feeling that they could not endure the job any longer frequently when they wake up in the morning was five times more than males having the same feeling frequently. Similarly, the probability of the architects who selected their profession voluntarily to feel that they could not endure the job any longer rarely when they wake up in the morning was approximately five times more than the probability of those who selected their profession involuntarily feeling the same rarely. In other words, the probability of those who selected their profession voluntarily to feel that they could not endure the job any longer frequently when they wake up in the morning was 0.19 times more than the probability of those who selected their profession involuntarily feeling the same frequently.

4. CONCLUSIONS

In the present study, job burnout levels of the architects in the sample were determined initially. Based on the findings obtained using MBI scale and its sub-dimensions, and since it was observed that the MBI score calculations was generally 3.00, it was deduced that participating architects had a medium level of burnout perception. MBI item Item-1, which was determined to reflect job burnout effectively, was scrutinized based on variables such as gender, marital status, education level, length of employment in the current firm, number of architects employed by the firm, mean weekly work-hours, and mean annual income. Log linear analysis results, conducted for the above mentioned purpose, it was determined that Item-1, Gender and Job were significant factors. Thus, it was found that being a female and selecting the profession voluntarily was a significant factor for “rarely feeling like not being able to endure the job any longer when waking up in the morning (Item-1).” When it is considered that the related Item-1 reflects burnout, those who express rarely that they are exhausted due to their work were mostly females and those who selected their profession voluntarily. In other words, females and architects who stated that they selected their profession involuntarily feel burnout more frequently.

Results of the present study demonstrated that voluntary selection of the profession directly affects the burnout level. This result shows that architect candidates should select the profession consciously and willingly and the significance of pre-college level guidance services. In addition to the circumstances described above, special attention should be placed on the necessity of keeping working

hours in architectural firms within reasonable limits, on resolving income-related problems and providing holiday and social activity opportunities. When it is considered that cities and urban structures usually define the lives and ideas of the people, in short, shape the society, it is of utmost importance for architects to have suitable working conditions both physically and mentally.

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