The Relationships among Perceived Job Stressors, Workplace Bullying and Job Stress in the Health Care Services in Turkey: A Structural Equation Modeling (SEM) Approach[1]

Nuray Akar

Research Assistant

Akdeniz University

Faculty of Economics and Administrative Sciences

Department of Business Administration

07058, Antalya, Turkey.

Abstract

The aim of this study is to investigate the relationships among perceived job stressors, workplace bullying and job stress using structural equation modeling. The data is obtained from 300 health service staff (junior doctors and nurses) in Turkey. Considering the findings, it is concluded that nurses experience more workplace bullying and job stress than junior doctors. It is also noted that the averages of work-overload, work-related bullying and burnout sub-factors are higher than the others. Results obtained from the structural equation modeling indicate that perceived job stressors affect workplace bullying positively and that perceived job stressors have a positive influence on job stress. Furthermore, there is a positive relationship between workplace bullying and job stress. In other words, job stress of health employees who experience workplace bullying is high.

Keywords: Workplace bullying, Perceived job stressors, Job stress, Structural equation modeling, Health care services, Turkey

1. Introduction

Workplace bullying is one of the most significant issues in today's organizational life. Within the last two decades, there has been a growing interest in studies of this issue in the area of work and organizational psychology. Researchers have made great efforts to understand and prevent this workplace phenomenon, and many studies have reported alarming consequences of workplace bullying on both individuals and organizations (Duffy & Sperry, 2012; Salin & Hoel, 2011; Agervold, 2007; Khalib & Ngan, 2006; Leymann, 1996; Zapf et al., 1996). Workplace bullying is characterized by systematic and negative behaviors, such as intimidation, humiliation, innuendo or isolation. The purpose of these behaviors is to push target individuals into a helpless and defenseless position (Jacobshagen, 2004; Salin, 2003; Einarsen, 1999; Quine, 1999; Leymann, 1996). Therefore, workplace bullying is considered to be one of the major challenges for occupational health (Merecz et al., 2009:243), and defined as an extreme form of social stressors at work (Zapf et al., 1996:215). According to this approach, workplace bullying is a phenomenon that is triggered by job stressors and also causing the job stress (Leymann, 1996:169).

One of the most important antecedents of workplace bullying is poor organizational conditions, such as role ambiguity, role conflict, work-overload, long working hours, lack of control or gaps in communication networks (Branch et al., 2007; Duffy & Sperry, 2007; Vandekerckhove & Commers, 2003; Vartia, 1996). Many of these factors are also considered to be job stressors which lead to job stress (Firth et al., 2004; French et al., 1982). The relational links among these phenomena can affect target individuals physically, emotionally, socially, mentally and/or spiritually. As a result of these interactions; anxiety, burnout, depression, obsession or psychosomatic disorders may occur (McCormack et al., 2006; Jacobshagen, 2004; Einarsen, 2000; Leymann & Gustafsson, 1996).

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As is clear from the above explanations, organizational dynamics play an important role in the process of interaction among job stressors, workplace bullying and job stress. This circumstance makes some organizational structures more prone to the occurrence of these phenomena. Many studies have noted that health and education areas within service sector and public organizations are particularly at risk (Bentley et al., 2009a; Çobanoğlu, 2005; Davenport et al., 2003; Hubert & Veldhoven, 2001; Leymann, 1996). Kingma (2001:129) reported that the risk of health care employees experiencing workplace bullying is 16 times greater than the risk for other service employees. In this context, most researchers (e.g., Needham et al., 2010; Stelmaschuk, 2010; Kivimäki et al., 2000; Leymann, 1996) have drawn attention to challenging work environments of hospitals. Hospitals have complex organizational structures and at least two parallel hierarchies (Notelaers et al., 2010; İşçi & Sur, 2006; Björkqvist et al., 1994). Particularly nurses and junior doctors are relatively more affected by this matrix structure (Dikmetaş et al., 2011; Karacaoğlu & Reyhanoğlu, 2006; Leymann, 1996). In addition, some factors such as long working hours, irregular work schedules and heavy workloads create pressure on health care employees (Katrinli et al., 2010; Yamada, 2009; Khalib & Ngan, 2006; DiMartino, 2003; Quine, 1999).

Generally in literature there are many studies which examine the relationship between workplace bullying and stress (e.g., Balducci et al., 2011; Notelaers et al., 2010; Bentley et al., 2009b; Hauge et al., 2007; Işık, 2007; Yildirim & Yildirim, 2007; Hansen et al., 2006; Pranjić, et al., 2006; Agervold & Mikkelsen, 2004; Tehrani, 2004; DiMartino, 2003; Mikkelsen & Einarsen, 2002; Quine, 2001; Leymann & Gustafsson, 1996). However in this study, the researcher hopes to contribute to the knowledge about the workplace bullying phenomenon by shedding light on particularly triple interactions among job stressors, workplace bullying and job stress. The other contributions of this paper are also to investigate these relationships by focusing on health care services staff (junior doctors and nurses) in Turkey and using structural equation modeling.

On the basis of the above discussion, the aim of this study is to pursue the following research propositions in the context of public health sector.
1. To investigate the relationship between perceived job stressors and workplace bullying.
2. To investigate the relationship between perceived job stressors and job stress.
3. To investigate the relationship between workplace bullying and job stress.

1.1. Research Model and Hypotheses

The research model that includes the hypothesized relationships is shown in Figure 1. The model investigates the relationships among perceived job stressors, workplace bullying and job stress. The hypotheses of this study are formulated as:

H1: There is a positive relationship between perceived job stressors and workplace bullying.
H2: There is a positive relationship between perceived job stressors and job stress.
H3: There is a positive relationship between workplace bullying and job stress.
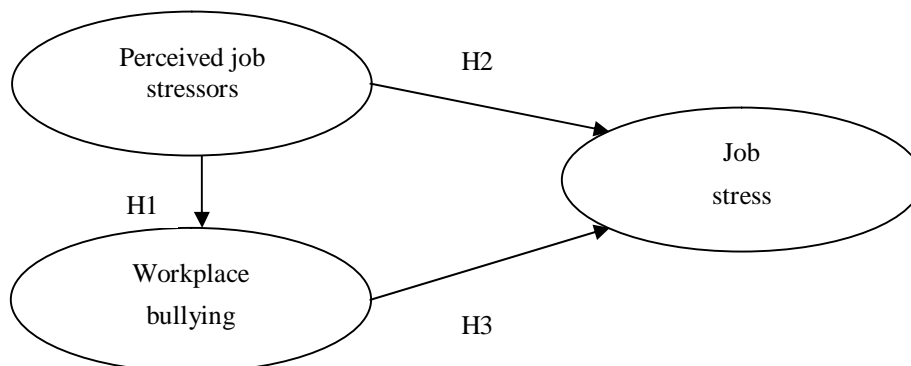
Figure 1. Hypothesized model of the direct effects of perceived job stressors, workplace bullying and job stress

2. Methodology
2.1. Sample

The sample in this study consist of health employees (junior doctors and nurses) working in the public university hospital in Antalya.

This city is one of the leading tourism centers with a high population density and there is only one public university hospital. The questionnaires were distributed by quality center of hospital to 925 health employees and 56.75% of the questionnaires turned back. But the number of usable questionnaire is 300.

2.2. Instruments

The data for this study was gathered through survey method. The questionnaire is made up of 4 parts. Perceived job stressors scale is used in the first part. It was adapted from Tate et al. (1997), and stressors measured 4 aspects of stress. 3 items measured each of the following stressors; *Role ambiguity* (e.g. my job responsibilities are not clear to me), *Role conflict* (e.g. at my job, I can not satisfy everybody at the same time), *Work-overload* (e.g. it seems to me that I have more work at my job than I can handle), and *Work-family conflict* (e.g. my job does not give me enough time for family activities). Items were scored on a five-point Likert scale (1=strongly disagree; 5=strongly agree).

The scale for workplace bullying is in the second part of the questionnaire. This scale was developed by Einarsen & Hoel (2001) and named as the Negative Acts Questionnaire-Revised (NAQ-R). The NAQ-R is a standardized tool consisting of 22 items that was originally created to measure perceived exposure to harassment and negative acts in any work setting. These items converged on a two-factor structure, with a dimension relative to hostile behavior directed at the person's work (*Work-related bullying;* e.g. someone withholding information which affects your performance), and a dimension regarding hostile actions towards the person (*Person-related bullying;* e.g. spreading of gossip and rumors about you). In the NAQ-R, the respondent is asked how often they have experienced 22 behaviorally defined negative acts within the last 6 months; within the NAQ-R, the terms "workplace bullying" or "harassment" are never used. Frequency of experiencing these negative acts is rated by the participant as never, occasionally, monthly, weekly, or daily.

Job stress scale is used in the third part. It was adapted from Tate et al. (1997), and job stress was measured with 3 *burnout* items (e.g. I feel emotionally-drained by my job) and 5 items related to *anxiety and somatic complaints* (e.g. job-related problems keep me awake at night; I feel tense at my job). Participants indicated on a six-point scale (never, once a month, a few times a month, once a week, a few times a week, or almost every day) the degree to which they experienced each of these symptoms. Demographic questions are found in the fourth part of the scale. These questions include gender, age, marital status, number of children, education, position, and tenure.

2.3. Data Analysis

Reliability of the scales has been measured with internal consistency coefficient Cronbach's alpha. Exploratory factor analysis has been used for the validity of the scales. SPSS 16.0 has been used for descriptive statistics. Structural equation modeling has been referred to test the hypotheses in the study and LISREL 8.54 (Jöreskog & Sörbom, 2001) has been used to test them.

2.4. Reliability and Validity

2.4.1. Reliability Analysis

Reliability analysis of all scales has been made for both a uni-dimensional and a multi-factor structure. The results of reliability analysis for scales are summarized as below:

Cronbach's alpha statistic of perceived job stressors scale is 0.86 for a uni-dimensional (all 12 items). Alpha value for a four-factor structure was computed as follows: role ambiguity, 3 items, alpha=0.81; role conflict, 3 items, alpha=0.82; work-overload, 3 items, alpha=0.85; and work-family conflict, 3 items, alpha=0.78.

Cronbach alpha of workplace bullying scale was determined as 0.93 for the whole scale (a uni-dimensional, all 22 items); 0.89 for the first sub-factor (work-related bullying, 11 items) and 0.87 for the second sub-factor (person-related bullying, 11 items).

Alpha value of job stress scale is 0.85 for a uni-dimensional (all 8 items); 0.86 for a 3-item burnout sub-factor and 0.84 for a 5-item anxiety and somatic complaints sub-factor.

Consequently, it can be said that all Cronbach's alpha values have indicated a high internal consistency (Hair et al., 1998).

2.4.2. Validity Analysis

Exploratory factor analysis was conducted through principal components analysis with varimax-rotation. The basic results of this analysis are given below and all details can be seen in Table 1.

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.88, and Bartlett's test of sphericity yielded an approximate chi-square ($\chi2$) of 3421.85 (p=0.00) for perceived job stressors scale.

Factor analysis has replicated the two-dimensional theoretical structure for workplace bullying scale and the percentage of total variance explained is 78.22.

The KMO value is 0.86 and the approximate $\chi2$ is 1680.01 for the two-dimensional job stress scale.

In light of all these findings, all measures for exploratory factor analysis can be considered good (Hair et al., 1998).

Table 1. Results of exploratory factor analysis

Scales	Kaiser-Meyer-Olkin measure of sampling adequacy (KMO)	Bartlett's test of sphericity/Approximate chi-square ($\chi2$)	Significance (p)	Number of factors	Percentage of total variance explained (%)
Perceived job stressors	0.88	3421.85	0.00	4	76.98
Workplace bullying	0.91	5374.29	0.00	2	78.22
Job stress	0.86	1680.01	0.00	2	74.63

3. Findings

3.1. Demographic Findings

74.33% of the respondents are females and 25.66% are males. Majority of the respondents (82.32%) are between the ages 20-40. 57.33% of them are married; 45.32% having children. 93.32% of them are university graduates. 43.66% are junior doctors and 56.33% are nurses. 63.99% have been working for more that 5 years (see Table 2).

Table 2. Sample characteristics

Demographic variables	Frequency	Percent	Demographic variables	Frequency	Percent
Gender			*Education*		
Women	223	74.33	High school	20	6.66
Men	77	25.66	Associate	89	29.66
Age			Bachelor	139	46.33
20-30	158	52.66	Master and/or Doctorate	52	17.33
31-40	89	29.66	*Position*		
41-50	53	17.66	Junior Doctor	131	43.66
Marital status			Nurse	169	56.33
Single	128	42.66	*Tenure*		
Married	172	57.33	Less than 1 year	8	2.66
Number of children			1-5	100	33.33
No children	164	54.66	6-10	82	27.33
1	70	23.33	11-15	68	22.66
2	61	20.33	16 and above	42	14.00
3	5	1.66			

3.2. Descriptive Analysis

Averages related to perceived job stressors, workplace bullying and job stress of the employees can be considered to be high. It is noted that the averages of nurses for these variables are higher than those of junior doctors (see Table 3). It is also determined that the averages of work-overload, work-related bullying and burnout sub-factors are higher than the others (see Table 4).

According to Table 3, there is a high and meaningful positive correlation between perceived job stressors and workplace bullying (r=0.758). The relationship between perceived job stressors and job stress is high (r=0.815). It is also noted that there is a high and meaningful positive correlation between workplace bullying and job stress (r=0.779).

Table 3. Descriptive statistics and intercorrelations among main research variables

Variables	Mean		t value	Perceived job stressors	Workplace bullying
	Junior Doctor	Nurse			
Perceived job stressors	3.38	4.32	6.13*		
Workplace bullying	3.11	4.01	5.01*	.758*	
Job stress	4.26	5.16	7.26*	.815*	.779*

* p<.01

Table 4. Averages for main variables and sub-factors

Main variables and sub-factors	Mean
Perceived job stressors	*3.85*
Role ambiguity	3.92
Role conflict	3.87
Work-overload	4.14
Work-family conflict	3.47
Workplace bullying	*3.56*
Work-related bullying	4.02
Person-related bullying	3.10
Job stress	*4.71*
Burnout	5.28
Anxiety and somatic complaints	4.14

3.3. Structural Model Results

Research model in Figure 1 has been studied using LISREL 8.54 and the obtained path analysis results are given in Figure 2. The hypothesized model was tested across the sample (n=300). The resulting $\chi2$ is 86.87 with 43 degree of freedom (p=.000); GFI=.93; AGFI=.91; RMSEA=.041; NFI=.096; CFI=.97, which suggests that the hypothesized model fits the data.
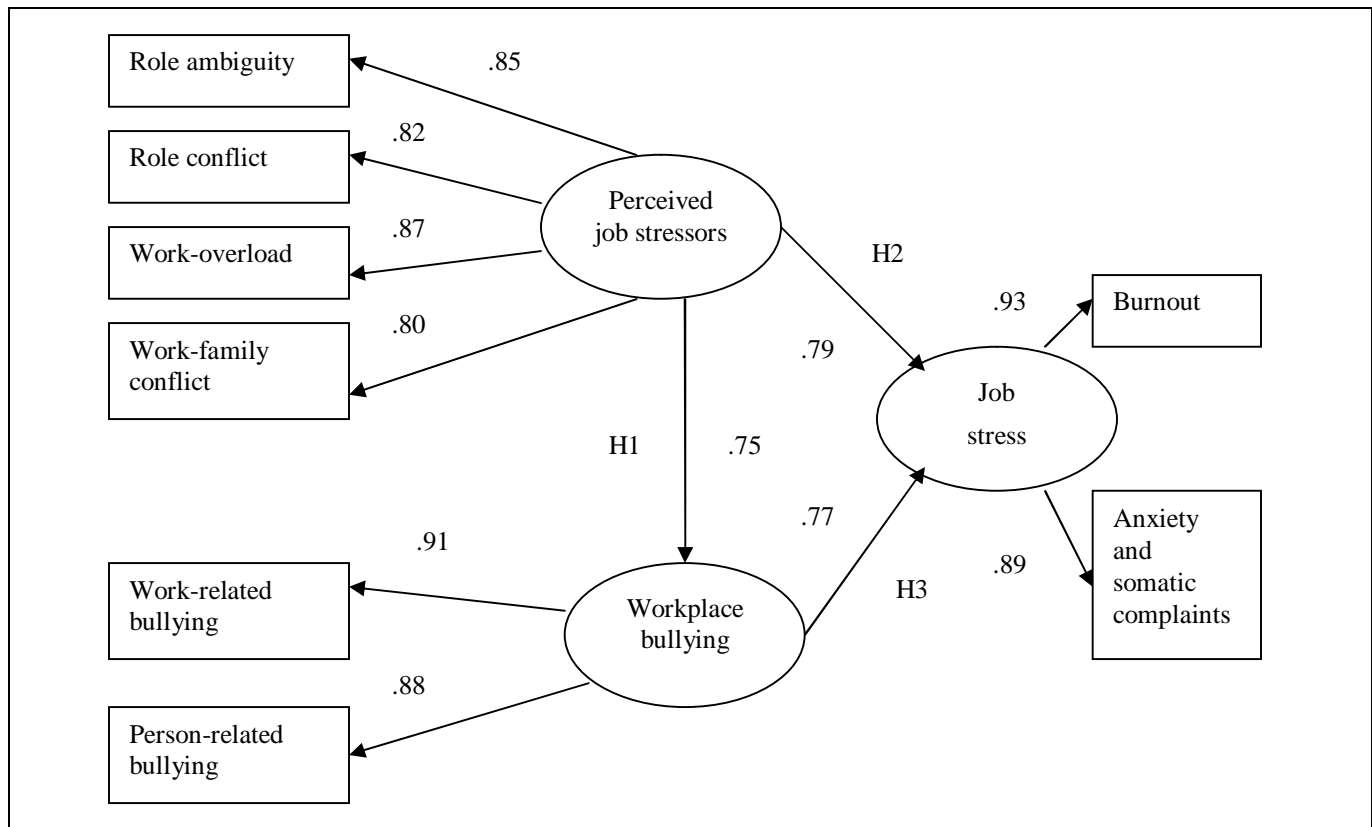
Figure 2. Path model

In this study, three hypotheses were examined with coefficient and t value. All t values coefficients are over 2; therefore, all of the hypotheses could be accepted (see Table 5).

Table 5. Estimates for the structural parameters in Figure 1

Model	Parameter	Estimate	t value	Hypothesis
H1	Perceived job stressors → Workplace bullying	.75	6.19*	Accepted
H2	Perceived job stressors → Job stress	.79	8.45*	Accepted
H3	Workplace bullying → Job stress	.77	7.32*	Accepted

Note: Standardized solutions are reported and * $p<.01$

It is noted that perceived job stressors affect workplace bullying positively and that perceived job stressors have a positive influence on job stress. Furthermore, there is a positive relationship between workplace bullying and job stress. In other words, job stress of those who experience workplace bullying is high.

4. Discussion

The research data obtained from junior doctors and nurses working in one of the public university hospitals in Turkey has proven that a meaningful correlation exists among perceived job stressors, workplace bullying and job stress. Considering the specific structural characteristics of health care services and organizational conditions of health care institutions, this finding is not surprising. Because health care employees are exposed to difficult work environment such as the pressure of vital responsibility and urgency, intensive mutual interactions, resource dependence, complexity of authority, role ambiguity, fast pace of work, heavy workloads, long working hours, irregular work schedules and inadequate personal rights (Katrinli et al., 2010; Needham et al., 2010; Notelaers et al., 2010; Stelmaschuk, 2010; İşçi & Sur, 2006; Quine, 1999; Leymann, 1996). Moreover, health care service is an area where comprehensive, rapid, intensive and radical transformations are experienced in global sense (DiMartino, 2003). In this context, a reform called "Health Transformation Program" is also realized in Turkey (Elbek & Adaş, 2009).

The mentioned restructuring works are deeply affecting work and employment conditions in health care services and further exacerbates the situation (Omaç-Sönmez & Sevindik, 2013). In such atmosphere, all these factors are perceived by health care employees as a job stressor and prepare the ground for workplace bullying (Soljan et al., 2009; DiMartino, 2003). This climate of aggression may trigger job stress and create negative psychological effects such as anxiety, depression and burnout on health care staff (Şahin & Dündar, 2011; Stelmaschuk, 2010; Johnson & Rea, 2009; Renzi et al., 2005). It has been determined that health employees participating in this study mostly perceive work-overload as a job stressor and are exposed to work-related bullying. In respect of the dimension of job stress, burnout levels have been observed high.

Another important consideration in this research is that the participants consist of junior doctors and nurses. Because of the mentioned professions are relatively mostly affected by dual lines of authority resulting from matrix structure of hospitals due to their organization positions (Dikmetaş et al., 2011; Karacaoğlu & Reyhanoğlu, 2006; Leymann, 1996). Particularly, nurses are primary contact points in terms of patients and patient relatives (Şahin & Dündar, 2011). Some researchers (e.g., Johnson, 2009; Hutchinson et al., 2008; Simons, 2008) have suggested that nurses represent the "oppressed group" of health employees. The research which Quine (2002) has conducted with junior doctors suggests that they may also be regarded as part of an oppressed group. This makes the mentioned professions open target in terms of phenomena such as workplace bullying and job stress and increases the risk of their exposure to such negativities (Hutchinson et al., 2008; Quine, 2003).

Another prominent finding of this study is the determination that nurses experience more workplace bullying and job stress than junior doctors. The mentioned finding is consistent with the results of other research which emphasizes that nurses are exposed to such negativities relatively more than the other health employees (Şahin & Dündar, 2011; Beech & Leather, 2006; Taş & Çevik, 2006; Rutherford & Rissel, 2004; Quine, 2001). Considering the abovementioned explanations about the unfavorable work and employment conditions in health care industry, the specific organizational positions of nurses, the nature of their work and the complexity of their roles, this finding is not surprising. Furthermore, the fact that employment of women in nursing profession is intensive can be suggested as another important factor which clarifies this situation (Yildirim & Yildirim, 2007; Mayhew & Chappell, 2001). In the relevant literature, considering the issue on the basis of gender, it is underlined that women are more exposed to the phenomena such as workplace bullying and job stress (DiMartino, 2003; Quine, 2003). The fact that majority of the participants in this study consists of female nurses is also consistent with this matter.

5. Conclusion

This research is shedding light on triple interactions among perceived job stressors, workplace bullying and job stress in health care services through structural equation modeling approach. Considering the devastating effects of the relational links among these phenomena on physical, emotional, social, mental and/or spiritual fettle of health employees, it is important to raise awareness on the issue. Moreover, it is thought that research findings provide important clues for actors, stakeholders and policy-makers of health care services. In this context, it is necessary to evaluate individual, organizational and social effects of these phenomena all together by all these interest groups. In this way, stronger structural and legal ground can be created on this issue in health care services.

6. Limitations and Further Researches

This research which provides the abovementioned contributions to the relevant literature has various limitations in terms of generalizability of the results. Research data has been obtained from the junior doctors and nurses working in one of the public university hospitals in Turkey. Therefore, other health care institutions and health care staff must also be included in the analysis for generalization.

Moreover, the fact that the study may be under "Hawthorne effect" arisen from distribution of questionnaires by quality management unit of hospital and that the participants are aware of the fact that a research is being conducted should be taken into consideration. In order to minimize these effects, it has been emphasized that the results will be evaluated in general, the data to be obtained from the questionnaires will be used only for this study, the results will never be shared with any person or institution except for scientific purposes and the questionnaires will be destroyed after the data collection stage; and the respondents have been requested not to specify their names and the departments where they work.

Furthermore, questionnaires have been distributed in private enclosed envelopes and these envelopes have been taken back in a special box after they have been closed by the respondents themselves.

In addition to all these, the phrase of workplace bullying is a concept which employees approach biased. Therefore, it is another limitation of the research that the individuals evade stating whether they are perpetrators, victims or bystanders of workplace bullying, making self-criticism and expressing negativities in the workplace. In order not to create such a negative perception, the phrase of workplace bullying particularly has not been used in the questionnaire. Furthermore, the respondents have been requested to evaluate the questionnaire and the criteria inside it with their free will and mark the most appropriate option for themselves, and take 'the current circumstances, but not the idealized conditions' into consideration while evaluating the items. On the other hand, since obtained data is based on subjective opinions of the participants, objectivity of the results should be evaluated within this framework.

As a result, it would be useful to examine the issue more profound and far-reaching. In this context, a design also containing qualitative methods may be formed in further researches. Additionally, structural, legal and cultural dynamics of the issue can also be investigated deeply. In this direction, cross-cultural studies can be carried out.

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