



Development of supervisor's bullying questionnaire at workplace

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Abstract

Bullying is one of behaviors which occur in various forms at workplaces. These types of behaviors are associated with diverse range of behaviors and other variables. Considering the lack of instrument to assess supervisor's bullying in workplaces of Iran, this research was carried out to constructing and studying reliability and validity of supervisor's bullying questionnaire at workplace. Statistical population of this research was all of Isfahan oil refinery's staff that 402 participants was chosen as participant by simple random sampling method. The tools included perceived organizational justice questionnaire, organizational citizenship behaviors questionnaire and deviant behaviors questionnaire which used for studying convergent and divergent validity of researcher-made questionnaire of supervisor's bullying. Data were analyzed by using confirmatory and exploratory factor analysis, canonical correlation coefficient (for studying convergent and divergent validity) and reliability coefficient (Cronbach's alpha and test-retest reliability). Results showed that supervisor's bullying questionnaire has five factor structures which named: supervisors' threat, insult and scorn by supervisor, anger and revengefulness of supervisor, ignorance and unconventional work pressure of supervisor, supervisors' boring and cheap. Cronbach's alpha for the five factors was equal to 0.87, 0.84, 0.82, 0.81, 0.81, and test-retest reliability for those five factors was equal to 0.81, 0.59, 0.58, 0.83, and 0.77. The results of this study revealed that supervisor's bullying questionnaire has suitable validity and reliability for assessment the level of supervisor's bullying at workplaces.

Keywords: Aggressive Behaviors, Bullying, Supervisory, Workplace

Introduction

Aggressive behaviors, bullying and violence are one of today's workplace problems in many countries and societies. These behaviors impact on performance of organizations and individuals' performance [1,2]. Bullying is one of the most common among violent and aggressive behaviors [3,4]. In brief definition,

it can be said that bullying is behavior which in a dual relationship, person with verbal and nonverbal force with aggressive tried to create fear, obedience and the achievement of tangible and intangible benefits from the other side [5-7]. In other words, in this process person is harassed on ongoing basis

by individuals or groups that are stronger than person [8,9]. Bullying at workplace can take many forms including verbal bullying such as insults and muscle-flexing, physical bullying such as harm and psychological bullying such as arguing, threats and disturbance) [10-13]. Increasing the volume of theorists and researchers' interest outside of Iran to bullying phenomenon seriously lead the efforts of some researchers in the field of measuring of bullying [14,15]. Historically, there are two approaches to measure bullying at workplace. The first approach is known as mental approach (subjective). In this approach, centered measuring of bullying and violence is self reported experience of this type of behaviors. Objective approach is opposition of first approach. In this approach, the non-personal documentation, including witness reports, documentation and data archival film focuses on environment [16-18]. In an overview, it can be said that so far questionnaires and scales has been prepared and presented to measure and research of bullying in different languages, such as Spanish [19], Italian [20,21], English [22] and other languages [23,24]. Several of questionnaire or checklists have been more used. Inventory of Psychological Terror was questionnaire which can be said has been leading in this field. The questionnaire in terms of content, measures public bullying with aim of psychological bullying (such as humiliation, intimidation, etc.) [25]. Number of questions were 44 and its content and face validity has been reported [26]. More information about this questionnaire was not available. Negative Acts Questionnaire (NAQ) is another of these questionnaires [20]. This questionnaire has 22 questions and has been translated into many languages and is used [19,21]. In NAQ, respondent was asked to determine cases in which were victims of violence and misbehaviors. In terms of face validity, the nature of NAQ items in such a way that does not directly measure bullying and aggression. But focus on individual experiencing and feelings about violence in the workplace [20]. In terms of content validity, expert consensus

is that this questionnaire (indirectly) is able to measure bullying [26]. Several studies have been confirmed the construct validity of questionnaire [23,24]. Evidences of factor analysis suggest that this questionnaire has three-factor structure known as the personal bullying, bullying related to work and physical bullying. Reported Cronbach's alpha was ranged from 0.87 to 0.93 for this questionnaire [20]. In terms of the overall, scores of this questionnaire has correlated with job satisfaction (between -0.24 and -0.44), with mental health (between -0.31 to -0.52) and finally with psychosomatic complaint (0.32 for mean correlation) [14]. NAQ, reviewed and revised in 2009 that was available to researchers. Also the revised version has 22 questions (NAQ-R). Compared to NAQ, this revised version, to strengthen its validity in the face of bullying is more clearly puts the question. However, studies now continue to investigate the validity and reliability of the revised questionnaire in different countries but evidence from some studies suggested that this questionnaire is valid and reliable as its predecessor. Also it was shown that questionnaire has high correlation (0.2 and higher) both in subscales and in the overall level with psychological and physical indicators of health and well-being, psycho-social assessment in workplace (perception of justice is among these variables) and leadership along with positive and negative behaviors (such as organizational citizenship behaviors and deviant behaviors) [20]. In total, previous researches indicate that purpose of bullying has correlation with multiple perceptual and behavioral variables such as perceived organizational justice, organizational citizenship behaviors and deviant behaviors [27-33]. Based on what was said and given the increasing importance of the role of hidden bullying at the workplace, measurement of bullying and assessment relationship with multiple variables is considered as one of the requirements in Iran. Careful look at the presented questionnaire outside of Iran shows

that most of these questionnaires have been considered public bullying (means regardless of who do violent behavior and bullying) not supervisor's bullying. Translation and validation of these tools at workplace of Iran is one of the useful ways to promote research by Iranian scientists. But because of the difference in the Iran's workplace with other countries' workplace, instead of translation and validation of some tools outside of Iran, in this study construction and validation of supervisor's bullying questionnaire at workplace was considered. The reason to focus on supervisor's bullying, is that because supervisors are in position which potentially influences behavior and performance of employees [9,14,24]. If researchers access to tools for assessment of bullying in the workplace so research in this area will accelerate the process of vacuum in Iran as well as scientific knowledge in this field will be resolved faster. So according to what was said, this study aimed to construct and validate supervisor's bullying questionnaire at workplace.

Method

The research method based on primary purpose which is construction questionnaire was survey and correlation and its statistical population included male and female employees of Isfahan Refinery Company between March 2011 and May 2012. The company's senior management didn't participate in this study because these senior managers actually were not intended higher supervisor for them to be able to report bullying questionnaire (exclusion criteria). Against, supervisors who are in direct contact with the administrative and operational staff have been included in the samples because senior administrators in the intermediate and higher levels for which there are examples could respond supervisor's questionnaire bullying (inclusion criteria). Target population in this study (National Isfahan Oil Refinery) was selected for this study because they tend to construct and validate supervisor's bullying questionnaire at workplace and also support for the implementation of research. Based on

information received from the refinery, the number of male and female employees in the period of this study was approximately 3,100 participants. 420 participants were selected as sample based on standard sampling at least 200 participants in the exploratory and confirmatory factor analysis studies [34, 35] and enhancement of the validity of results.

It should be noted that, according to policies of National Isfahan Oil Refinery, entire section of company were present as final sample. To achieve the above sample, and to compliance with any section of employees to total employees (Stratified sampling in order to comply with the various staff of 3,100 employees), in one step, on the basis of simple random sampling, research sample were selected in various sectors (selection lottery style for each section). The sampling procedure was that, initially list of staff in each section was prepared. Then 420 subjects were selected by lotteries with proportionality of any part of the total sample (Five percent were selected more needed because final sample not less than 400 in case of loss due to defects in response to the questionnaire). After collecting the questionnaires, 18 questionnaires were excluded due to defects in response. Therefore sample group consisted of 402 participants that were fit with number of predicted sample.

Supervisor's Bullying Questionnaire: This will be done in the construction of bullying questionnaire as follow; initially available literature such as books and papers [7,9,10], in particular, constructed and introduced instruments in the field of public bullying in the workplace were investigated [18-24]. After reviewing mentioned books and articles, a thirty items pool were made and prepared for administration. Experts' ideas in the field of behavior at workplace (psychology) have been used to provide questions. These thirty questions, is prepared after choosing the most appropriate circumstances and cover with raised areas for bullying [7,10].

The content validity of the questionnaire at baseline was confirmed by three experts. The

content validity of the questionnaire and the factors extracted in addition to the three experts was reviewed and approved by experts of Isfahan Oil Refinery. The content of questions focused on respondent's supervisor bullying behaviors (a sample of the questions are as follows; How about anger and malice in last six months have been a deliberate supervisor). Twenty four final question remaining in this questionnaire, exploratory factor analysis, first, in a orthogonal manner (varimax) and then factor extraction method based on principal component with 45 rotation and Cronbach's alpha of questions and answers about the five-item scale were derived (1 = once a year to once a week = 5). The findings are the results of the exploratory factor analysis, 24 items were final question on the five factors as supervisor's threatening (7 questions), supervisor's contempt (5 questions), anger and malice of supervisor (5 questions), neglected and unconventional working pressure of supervisor (5 questions) and less time working and boring of supervisor (2 questions). Choosing of five factors according to the Scree plot and eigenvalues were higher than 1 [33]. Also, selection of items for each factor based on loading factor was higher than 4.0 have been done on just one factor not more. This amount (0.4 and in some cases suggested 0.3) suggested by experts in the field of exploratory factor analysis) [33]. Therefore, items that loading of less than 4.0 and more than same factor loadings on one factor were excluded from the analysis. According to the above mentioned criteria, six questions of the questionnaire were excluded. In naming factors are derived based on the questions that had been extracted factors. Thus, after determining factors which were questions on their content and factors was selected appropriate to content question. The method of scoring for each question (item) was as follows: 1= never, 2= sometimes, 3= once a month, once a week= 4 and once a day= 5. According to divide the total score of questions every component on the number of questions each of the five components of bullying questionnaire supervisor (who introduced

above) variation rates for threatening a supervisor, for contempt, anger and malice, negligence and unconventional work stress and work load and boring ranged from 1 to 5. Other questionnaires to determine convergent and divergent validity of supervisor's bullying questionnaire which used in this study are as follows;

Perceived Organizational Justice Questionnaire: Perceived organizational justice had been measured with the use of perceived organizational justice questionnaire with eight components by which included distributive justice (3 items), procedural justice (3 items), supervisor's oriented interactional justice (3 items), coworker's oriented interactional justice (3 items), supervisor's oriented interpersonal justice (3 items), coworker's oriented interpersonal justice (3 items), supervisor's oriented informational justice (3 items), and coworker's oriented informational justice (3 items) [36]. The scoring of all the justice items varied between 1 (very low) to 5 (very high) and in terms of content and face validity was approved. In order to evaluate the validity of the questionnaire in this study, placement of questions on the factors were investigated by using exploratory factor analysis and it was determined that this questionnaire can be considered a questionnaire of eight components.

Cronbach's alpha for components of perceived organizational justice varied from the lowest limit for procedural justice (equal to 0.6) and for supervisor's oriented informational justice (equal to 0.91) [36]. In the present study, Cronbach's alpha of distributive justice, procedural justice, supervisor's oriented interactional justice, coworker's oriented interactional justice, supervisor's oriented interpersonal justice, coworker's oriented interpersonal justice, supervisor's oriented informational justice, and coworker's oriented informational justice obtained 0.71, 0.6, 0.72, 0.89, 0.86, 0.76, 0.9 and 0.83 respectively. Also, the test-retest reliability of the components of perceived organizational

justice is also significant and varied from 0.51 ($p < 0.01$) for distributive justice to 0.8 ($p < 0.01$) for coworker's oriented interactional justice.

Organizational Citizenship Behaviors Questionnaire: In this study 13-item questionnaire of Ackfelt & Coote was used to assess organizational citizenship behaviors which have three subscales of helping (five items, sample of question are as follows: I can help to any of their colleagues who need help in any way), sportsmanship (Four items, sample of question are as follows: rarely occurs that I grumbled in the organization because of minor problems) and civic virtue (four items, sample of question are as follows: I participate in meetings and conferences that would be held in the company), that already its reliability and validity assessed in Iran [37]. The questionnaire in this study were answered in seven-point scale (never= 1 to always= 7) and has good reliability and validity in Iran [1] by using exploratory factor analysis have reported construct validity and reliability more than 0.7 for its components. The reliability of the questionnaire in this study through Cronbach's alpha and test-retest reliability was assessed. It should be noted that test-retest reliability using thirty person and within two weeks was measured. In the present study, Cronbach's alpha for helping, sportsmanship and civic virtue were 0.75, 0.6 and 0.71 and test-retest reliability of three components of the questionnaire were 0.83, 0.75 and 0.78 respectively.

Deviant Behavior Questionnaire: Fifteen items questionnaire of Robinson & Bennett was used to assess deviant behaviors [38] which were translated by Golparvar and Vaseghi in Iran [27]. The questionnaire in this study were answered in five-point scale (never = 1 to always = 5). (A sample item of the questionnaire is as follows: I insult to others at workplace) and eight items evaluate deviant behaviors toward organization and its seven questions measure deviant behaviors toward colleagues [27]. Evidence of construct validity of questionnaire in Iran obtained through factor analysis (with varimax rotation) which

questions were divided into 15 completely load factor up 0.55 in order on two factors with Cronbach's alpha of 0.80 and 0.83 for deviant behaviors toward organization and colleagues [27]. The reliability of the questionnaire in this study was assessed through Cronbach's alpha and test-retest reliability. It should be noted that test-retest reliability was measured by using thirty people and within two weeks. In the present study, Cronbach's alpha of deviant behaviors toward organization and colleagues were 0.76 and 0.81 respectively and test-retest reliability of the questionnaire was 0.87 and 0.87 for two components.

Method to respond questionnaire in this study was self-report. Then, data were analyzed by descriptive and inferential statistical methods. Descriptive statistics from the measure of central tendency and dispersion diagrams and tables of frequency and inferential statistics as well as the Pearson correlation coefficient and canonical correlation were used. On the psychological level of test-retest reliability study, Cronbach's alpha and exploratory factor analysis with varimax rotation and extracting the main component in view of the cut-off point 4.0 were used by SPSS-18 Software and confirmatory factor analysis was used by AMOS-16 software.

Results

In Table 1, demographic characteristics of study's sample are presented

As can be seen in Table 1, most of group people in sample are in up to diploma (54.9 percent) in age range 30 to 39 years old (41.5 percent) and has job tenure of 10 years (45.7 percent). The majority of the sample was male gender (92.5 percent). It should be noted that the gender ratio of women and men in Isfahan Oil Refinery is exactly the same proportion are employed in the company. Isfahan Oil Refinery insisted on the presence of women in the sample despite of their low numbers. In Table 2 mean, standard deviation and internal consistency with Cronbach's alpha stratified components of supervisor's bullying questionnaire are provided.

Table 1 Frequency of demographics of research sample group

		Educational groups	
		f	%
1	Up to diploma	221	54.9
	Upper diploma and above	172	42.8
	Undisclosed	9	2.2
	Total	402	100
		Age groups	
2	20 to 29 years	89	22.1
	30 to 39 years	167	41.5
	40 to 49 years	77	19.1
	50 years and above	59	14.7
	Undisclosed	10	2.5
	Total	402	100
		Tenure groups	
3	Up to 10 years	184	45.7
	11 to 20 years	129	32.1
	21 years and above	79	19.6
	Undisclosed	10	2.5
	Total	402	100
		Gender	
	Male	372	92.5
	Female	23	5.7
	Undisclosed	7	1.7
	Total	402	100

Table 2 Mean, standard deviation and internal consistency with Cronbach's alpha stratified components of supervisor's bullying questionnaire

	Components of supervisor bullying	Items	Mean	SD	Cronbach's alpha	Intra-class reliability test-retest		
						Reliability	Confidence interval of 95%	
							Lower bound	Upper bound
1	Supervisors' threat	7	1.33	0.47	0.87	0.81	0.61	0.91
2	Supervisors' insult and scorn	5	1.33	0.47	0.84	0.65	0.27	0.83
3	Supervisors' anger and revengefulness	5	1.45	0.51	0.82	0.91	0.82	0.96
4	Supervisors' ignorance and unconventional work pressure	5	1.63	0.67	0.81	0.9	0.79	0.95
5	Supervisors' boring and cheap	2	1.64	0.82	0.81	0.86	0.71	0.94

It should be noted that test-retest reliability using thirty and within two weeks was measured. As can be seen in Table 2, Cronbach's alpha component of supervisor's vary minimum limit for neglect and supervisor's unconventional working pressure and supervisor's work load and boring between 0.81 to 0.87 for supervisor's threat component.

Also test-retest reliability for components of supervisor's bullying questionnaire was significant (0.65 and $p < 0.01$ for supervisor's contempt to 0.91 and $p < 0.01$ for supervisor's anger and revengefulness). Table 3 shows the results of exploratory factor analysis of supervisor's bullying questionnaire. It should be

noted that in the final exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) amount equal to 0.93 and the Bartlett test of sphericity is obtained

6550.91 ($p < 0.01$). These two indicators show the possibility of implementing an exploratory factor analysis.

Table 3 Factor loading and eigenvalue in final exploratory factor analysis for supervisor bullying components

Row	Items How in the past six months	Extracted components				
		1	2	3	4	5
1	Your supervisor has to remember your mistakes and errors permanently?	0.5	-	-	-	-
2	Your supervisor has false accusations to you?	0.49	-	-	-	-
3	Do you have been threatened by your supervisor with finger?	0.67	-	-	-	-
4	Do you have been threatened by your supervisor with closing down your way?	0.73	-	-	-	-
5	Do you have been threatened by your supervisor with jog or pushing?	0.76	-	-	-	-
6	Do you have been threatened by your supervisor with interference in your personal space?	0.7	-	-	-	-
7	How much you've taken ridiculous by your supervisor?	0.54	-	-	-	-
8	Do you have been humiliated by your supervisor for your business?	-	0.65	-	-	-
9	Do you have been humiliated by your supervisor for your family issues?	-	0.73	-	-	-
10	Do you have been humiliated by your supervisor for your attitude?	-	0.66	-	-	-
11	Did your supervisor have made profane (slander and insult) with you?	-	0.7	-	-	-
12	Did you have faced to supervisor's aggressive reactions?	-	0.48	-	-	-
13	Did you have been faced with you supervisor's anger and malice deliberately?	-	-	0.64	-	-
14	Did your supervisor have vindictive criticized your efforts permanently?	-	-	0.57	-	-
15	Did your views and opinions have been neglect deliberately by your supervisor?	-	-	0.63	-	-
16	Did your supervisor have has teased to you?	-	-	0.66	-	-
17	Did your supervisor have rebuke to you?	-	-	0.61	-	-
18	Did your supervisor have withheld information that you need?	-	-	-	0.57	-
19	Did your supervisor have monitored the intensity of your work?	-	-	-	0.63	-
20	Did your supervisor have monitored the intensity of your work?	-	-	-	0.6	-
21	Did you have assigned by your supervisor to unreasonable and impossible tasks with little time?	-	-	-	0.82	-
22	Did your supervisor have pressured not to explain what you deserve?	-	-	-	0.7	-
23	Did your supervisor have prompted you to commit boring tasks?	-	-	-	-	0.76
24	Did your supervisor have ordered you to work lower your level the mighty?	-	-	-	-	0.77
25	Eigenvalue	12.003	2.03	1.35	1.14	1.06
26	Variance explained %	40.01	7.67	4.49	3.79	3.54
27	Cumulative variance %	40.01	47.68	52.17	55.96	59.51

As can be seen in Table 3 respectively extracted six factors with eigenvalues final (rows 25 to 27 Table 4) 12.003, 2.03, 1.35, 1.14 and 1.06, and 59.51% explained total variance of the supervisor's bullying questionnaire. But the factor loadings presented in Table 3

it is to arrange the seven questions on the first factor, called supervisor's threat, five questions on second factor as supervisor's contempt, five questions on the third factor as supervisor's anger and revengefulness, five questions on the fourth factor as supervisor's

unconventional working pressure and two questions on the fifth factor as supervisor's work load and boring. The factor structure of supervisor's bullying questionnaire as evidence of factorial construct validity, after removal of six questions due to the common factor

loadings on more than one factor, have a five-factor structure. The five-factor structure through confirmatory factor analysis after exploratory factor analysis was determined. The results of confirmatory factor analysis are presented in Figure 1.

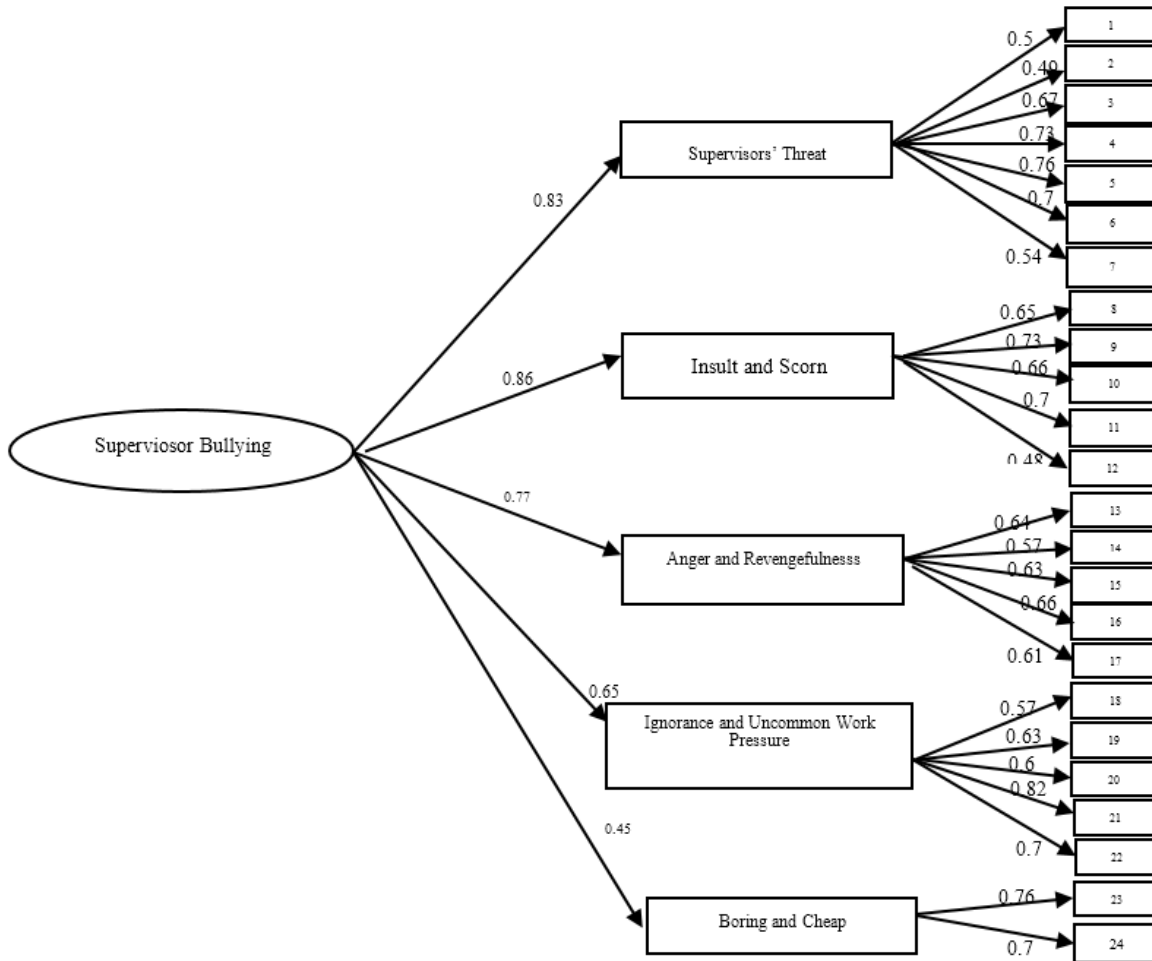


Figure 1 Structural factor of supervisor bullying questionnaire in confirmatory factor analysis

Five-factor structure of the supervisor's bullying questionnaire was compared with single-factor structure. The result of this comparison is presented in Table 4. It is necessary to mention that because the supervisor's bullying questionnaire is a new questionnaire, only five-factor structure has been compared by single-factor structure.

Goodness of fit indicators presented in Table 5 should be compared with specific cut-off points. In a favorable factor structure is required chi-square value (third column) insignificantly, the ratio chi-square to degrees of freedom (sixth column) is smaller than 3, GFI (Goodness of

Fit Index), CFI, (Comparative Fit Index) and NFI, (Normative Fit Index) higher of 0.9, and RMSR (Root Mean Square of Residuals) and RMSEA (Root Mean Square Error Approximation) less than 0.05 to 0.08. It is also PNFI (Parsimonious Normed Fit Index) is smaller than 5.0 [39]. According to what was said, as can be seen in Table 4, almost all indicators fitted to single factor structure of the proposed cut-off points are significant. The cut-off points for the five-factor model parameters are all desirable. For this reason, it is clear that the five-factor structure of the supervisor's bullying questionnaire are

presented in this study is acceptable. It should be noted that following confirmatory factor analysis of two randomized groups of 200 sample group also examined and similar results were obtained with the whole sample. The relationships

between supervisor's bullying with perceived organizational justices, organizational citizenship behaviors and deviant behaviors based on canonical correlation coefficient (Canonical) are presented in Table 5.

Table 4 Goodness of fit indicies for five and one factor models of supervisor bullying questionnaire

Row	Model	χ^2	p	df	χ^2/df	GFI	RMSR	CFI	NFI	PNFI	AIC	RMSEA
1	One factor	1617.37	p<0.01	252	6.42	0.71	0.05	0.71	0.68	0.62	1713.37	0.12
2	Five factor	5.704	p>0.05	2	2.85	0.99	0.005	0.99	0.99	0.2	31.70	0.07

Table 5 Canonical correlation between supervisor bullying with organizational justice, deviant behaviors and organizational citizenship behaviors (OCBs)

Row	Relationship between variables	Canonical correlation	Squre of canionical correlation	p
1	Relationship between supervisor bullying and organizational justice	0.39	0.152	p<0.001
2	Relationship between supervisor bullying and OCBs	0.34	0.115	p<0.001
3	Relationship between supervisor bullying and deviant behaviors	0.72	0.52	p<0.001

As can be seen in Table 5, perceived organizational justice with supervisor's bullying has canonical correlation equal to 0.39 and common variance (squared canonical correlation) is 2.15 percent. Organizational citizenship behaviors have canonical correlation with supervisor's bullying equal to 0.34 and common variance (squared canonical correlation) was 11.5 percent. Finally deviant behaviors also correlated with supervisor's bullying at 0.72 and canonical common variance (squared canonical correlation) is 52 percent. In order to assess discriminant validity newly developed questionnaire, it is recommended that the using of Known Group Analysis. However, this analysis is necessary and sufficient track record based on strong theoretical foundations [40]. However, the difference between men and women in this study on supervisor's bullying components has been investigated and there was no significant difference.

Discussion

This study aimed to construct and validate supervisor's bullying questionnaire. The results firstly revealed that, validity and reliability

of supervisor's bullying questionnaire with twenty four items is acceptable. Validity and reliability of supervisor's bullying questionnaire in current research implicitly aligned with explanations and opinions in the field of bullying in the workplace [1-15]. Questionnaires and checklists which have frequently been used worldwide to measure bullying, were Inventory of Psychological Terror and NAQ. In this part, first we compare face validity, content, construct and then reliability of supervisor's bullying questionnaire in this study and NAQ (Because of NAQ is the worldwide used questionnaire and has been translated into more than 10 languages). As face validity, supervisor's bullying questionnaire measure bullying directly as Revised Negative Acts Questionnaire (NAQ-R). But in terms of content, supervisor's bullying questionnaire assesses supervisor's bullying in the form of aggressive and bullying behavior both verbal and nonverbal (body). While in the initial and Revised NAQ, bullying of supervisors, colleagues and others as context bullying (work-related) and the type of bullying (physical) are combined with each other.

The presence and combined of supervisors, colleagues and others bullying in NAQ, specifically covered different aspects of supervisor bullying such as threat, attempting to harm, or neglect. In this study, the construct validity of supervisor's bullying questionnaire in line with the above mentioned content validity, have a five factors structure (threats, insults and humiliation, anger and hatred malice, negligence and pressure to do something unconventional and low workload), but NAQ in the primary or revised versions have a three-factor structure (personal bullying, physical bullying and bullying on the job). Because validated supervisor's bullying questionnaire in this study focused on supervisor behaviors at workplace, in naming factors, detailed consistent approach between name of factor and their items was used [33].

This way of naming for supervisor's bullying questionnaire in current research, contrary to the general nature of NAQ questions, was chosen because to determine the exact type of supervisor bullying. In terms of reliability, Cronbach's alpha was acceptable for five factors of supervisor's bullying questionnaire. Moreover, reliability based on test-retest (intra class reliability) in this research indicates acceptable stability of the components of the supervisor bullying questionnaire. In Cronbach's alpha level which is measure of consistency or internal consistency, results related to component of supervisor's bullying questionnaire in this research in close to what has been reported for NAQ (Compare 0.87 to 0.93 for NAQ and 0.81 to 0.87 for supervisor's bullying questionnaire). This indicates that questions related to supervisor's bullying questionnaire had compatibility and high internal consistency.

However, supervisor's bullying as others bullying behaviors at workplace can be appear in various forms such as insults, bullying gesture, damaging and pushing, wrangling and threats [4,5,7,9]. Also, in many situations supervisor's bullying can be appear in the form of abuse of power, job or work position that causes anxiety in employees. These types of

bullying have intangible nature (abuse of power, job or work position), so we must seriously be considered to them. However, in some circumstances, employees may be logically or illogically shown resistance against their supervisors and thereby provide the condition for supervisor's bullying. At the same time, weak and ineffective supervisors often for trivial things or mistakes committed by employees are more likely to instead of constructive ways to reprimand their staff [13-15, 21].

In the relationship between perceived organizational justice components with supervisor's bullying in current research, we found that perceived organizational justice has significant relationship with supervisor's bullying. This part of the research findings is consistent with presented results by Newman and Baron [18], Leck [16] and Kennedy and colleagues [14]. To explain these findings, we can say that the perception of fairness in organizations requires the existence of peripheral significant signs and symptoms. At simple glance, it could be said that in most organizations, for employees, supervisor is agent of entire organization. This means that many staff attitudes and perceptions about the organization shaped through interaction with their supervisors. Accordingly, when supervisor has bullying behaviors to staff; its first manifestation is victimization of justice [13,15]. We consider the correlations perceived organizational justice components with components of supervisor's bullying and found that supervisor-oriented organizational justice relative to other dimensions of organizational justice have relatively higher correlation with the elements of supervisors bullying behaviors. So, this finding relatively confirms this explanation that bullying can undermine the perceived fairness.

The relationship between supervisor's bullying components with organizational citizenship behaviors (helping, civic virtue and sportsmanship) also demonstrated that organizational citizenship behaviors have divergent validity with supervisor's bullying

behaviors. To explain these findings, can also be said that whatever supervisors show more bullying behaviors so willingness of employees to organizational citizenship behaviors will further suppress. The obvious reason for this is that organizational citizenship behaviors are often based on the principle of reciprocity by staff comes into force [1]. So when supervisor misbehave to staffs, in violation of the rules of mutual respect, reciprocity principle would be violated and therefore, are tangible and intangible employees from organizational citizenship behaviors can be prevented.

Finally, relationship between supervisor's bullying components with deviant behaviors (toward organization and colleagues) determined that supervisor's bullying have convergent validity with deviant behaviors toward organization and coworkers. To explain these findings it can be said that when employees are bullied by supervisor, primarily it is possible to conclude that this type of behavior is allowed, so with this cognitive background to carry out their deviant behaviors. In fact, an act of aggression and bullying is traumatic if that is the intent to hurt others or they have taken place.

Accordingly, when staff assessed bullying as an allowed behavior in their cognitive level, facilitating beliefs about the deviant behavior would be formed, thus level of deviant behaviors increased. On the other hand, supervisor's bullying behaviors, firstly undermine the positive principle of reciprocity, and then activate the negative reciprocity principle in the field of active social exchange and thereby raise the level of deviant behaviors. In this regard, in the scope of the social exchange theory (reciprocity), it is logical which we speak about positive and negative reciprocity aligns with positive and negative behaviors. In addition when supervisor bully employees, actually humiliated and enraged them to have deviant behaviors toward organization officially. Also, because employees cannot transfer anger to the supervisor, so anger may transfer to colleagues and coworkers as deviant behaviors toward individuals.

Conclusion

The results of this study showed that supervisor's bullying at workplace is consistent with the proposed classification from types of bullying in the workplace [2,16,17,20] consists of factors such as threats, insults and humiliation, anger and revengefulness, ignorance and unconventional work pressure, and supervisors' boring and cheap. These factors are consistent with theories in the field of bullying [2,20]. On the other hand the results of this study showed that the components of supervisor's bullying have negative correlation with organizational citizenship behaviors, organizational justice and have positive correlation with deviant behaviors.

The main application of findings of this study focused on two main areas. The first area is that organizations can use supervisor's bullying questionnaire which was presented in this study to evaluate prevalence of bullying among their supervisors with their employees. Data from this survey will show to organizations which of the supervisor's bullying behaviors is more common in the workplace. On the other hand, prevalence studies will indicate to organizations which dimensions of supervisor's bullying behaviors are higher than others dimensions. The second application of supervisor's bullying questionnaire, is the design and implementation of research in future to find out what personality traits, psychological and situational characteristics in supervisors can be grounds for bullying their staff? This study will also help to make the appointment of the curator to organizational positions to select and put people through psychological characteristics and personality and other qualities.

In the end, it is necessary to interpret and extend the results of this research with consider to the limitations of the study. The first limitation is that the study was conducted in an industrial organization so its generalization to other organizations and workplaces (such as service organizations or

business) should be caution. Because of the low number of women, so women should be caution in generalizing results. This research was conducted in the spring of 2012 in terms of time, so caution is necessary to generalize its findings to before and after the study.

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Contribution

Study design: MG

Data collection and analysis: SS

Manuscript preparation: MRM

Conflict of Interest

"The authors declare that they have no competing interests."

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References

- 1- Golparvar M, Rafizadeh P. The model of promoting organizational citizenship behavior through job attitudes, professional growth, leadership support and empowerment. *Bassirat (In Management)*2009; 16(44): 27-45.
- 2- Griffin-Smith R, Gross AM. Bullying: prevalence and the effect of age and gender. *Child Fam Behav Ther*2006; 28(4): 13-37.
- 3- Djurkovic N, McCormack D, Casimir G. Neuroticism and the psychosomatic model of workplace bullying. *J Manag Psychol*2006; 21(1): 73-88.
- 4- Einarsen S, Hoel H, Notelaers G. Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work Stress*2009; 23(1): 24-44.
- 5- Matthiesen SB, Einarsen S. Perpetrators and targets of bullying at work: Role stress and individual differences. *Violence Vict*2007; 22(6): 735-53.
- 6- Meglich P. Gender effects of interpersonal workplace harassment. *J Appl Bus Econ*2008; 8(4): 9-24.
- 7- Kauppinen K, Tuomola T. Work-related violence, bullying, and sexual harassment. In Linos A & Kirch W, eds. *Promoting health for working women*. New York, U.S.A.: Springer publishing; 2008. p: 161.

- 8- Olafsson RF, Johannsdottir HL. Coping with bullying in the workplace: the effect of gender, age and type of bullying. *Br J Guid Coun*2004; 32(3): 319-33.
 - 9- Mehdad A. *Industrial and organizational psychology*. 6th edition. Tehran: Janghal press; 2008.
 - 10- Bowie V, Fisher B, Cooper CL. *Workplace violence: Issues, trends, strategies*. Devon, U.K: Willan publishing; 2005.
 - 11- Heames J, Harvey M. Workplace bullying: A cross-level assessment. *Manag Decis*2006; 44(9): 1214-30.
 - 12- Branch S, Ramsay S, Barker M. *Workplace bullying*. New York: Palgrave MacMillan; 2008.
 - 13- Altman B. Workplace bullying and the racially diverse urban context: Implications for adult education. *Multicultural Learn Teach*2009; 4(1): 36-44.
 - 14- Einarsen S, Mathisen SB, Hauge LJ. Bullying and harassment at work. In Cartwright S and Cooper CL, eds. *The oxford hand- book of personnel psychology*. Oxford: Oxford University press; 2009. pp: 464-95.
 - 15- Bandow D, Hunter D. Developing policies about uncivil workplace behavior. *Bus Commun Q*2008; 71(1): 103-6.
 - 16- Cowie H, Naylor P, Rivers I. Measuring workplace bullying. *Aggress Violent Behav*2002; 7: 33-51.
 - 17- Rivers I. The psycho-social correlates and long-term implications of bullying at school for gay, lesbian and bi-sexual adults. Unpublished. [Thesis]. London, UK: University of Surrey Roehampton; 1999.
 - 18- Hutchinson M, Wilkes L, Vickers M, Jackson D. The development and validation of a bullying inventory for the nursing workplace. *Nurse Res*2008; 15(2): 19-29.
 - 19- Moreno Jiménez B, Rodríguez Muñoz A, Martínez Gamarra M, Gálvez Herrer M. Assessing workplace bullying: Spanish validation of a reduced version of the negative acts questionnaire. *Span J Psychol*2007; 10(2): 449-57.
 - 20- Einarsen S, Hoel, H. The negative acts questionnaire: development, validation and revision of a measure of bullying at work. 10th European Congress on work and organizational psychology, 16-19 May 2001, Prague, Czech Republic.
 - 21- Giorgi G, Matthiesen SB, Einarsen S. Italian validation of the Negative Acts Questionnaire. Work presented at the 5th International Conference on Bullying and Harassment in the Workplace. Dublin, Ireland, June; 2006.
 - 22- Privitera C, Campbell MA. Cyber-bullying: the new face of workplace bullying? *Cyberpsychol Behav*2009; 12(4): 395-400.
 - 23- Araujo S, McIntyre S, McIntyre T. Portuguese adaptation of the negative acts questionnaire: preliminary results. Work presented in the 4th International Conference on bullying and harassment in the workplace Bergen, Norway; 2004, June.
-

- 24- Giorgi G, Arenas A, Leon-Perez JM. An operative measure of workplace bullying: the Negative Acts Questionnaire across Italian companies. *Ind Health*2011; 49(6): 686–95.
- 25- Leymann H. The content and development of mobbing at work. *Eur J Work Organiza Psychol*1996; 5: 165–84.
- 26- Tsuno K, Kawakami N, Inoui A, Abe K. Measuring workplace bullying: Reliability and validity of the Japanese version of the negative acts questionnaire. *J Occup Health*2010; 52(4): 216-26.
- 27- Golparvar M, Vaseghi Z. The role of perceptual-affective strain on determining the interaction of organizational injustice dimensions for positive and negative behaviors: Introducing the perceptual and affective strain theory (PAST). *Knowledge and Research in Applied Psychology*2011; 12(43): 4-16.
- 28- Kennedy DB, Homant RJ, Homant MR. Perceptions of injustice as a predictor of support for workplace aggression. *J Busi Psychol*2006; 18(3): 323-36.
- 29- Bos KV. Fundamental research by means of laboratory experiments is essential for a better understanding of organizational justice. *J Vocat Behav*2010; 58: 254-9.
- 30- Leck JD. Violence in the Canadian workplace. *J Am Acad Bus*2005; 7: 308-15.
- 31- Hinduja S. Workplace violence and negative affective responses: a test of Agnew's general strain theory. *J Crim Justice*2007; 35(6): 657-66.
- 32- Neuman PG, Baron RA. Aggression in the work place. In: Giacalone R, Greenberg J, eds. *Antisocial behavior in Organization*. Thousand Oaks, CA: Sage; 1998. pp: 37-67.
- 33- Steensma H. Violence in the workplace: the explanatory strength of social (In) justice theories . In: Miller MT, eds, *the justice motive in every day* New York: Cambridge University press; 2002. pp: 149-67.
- 34- Bryant FB, Yarnold PR. Principal components analysis and exploratory and confirmatory factor analysis. In: Grimm LG, Yarnold RR, eds. *Reading and understanding multivariate statistics*. Washington, DC: American psychological association; 1995. pp: 99–136.
- 35- Williams B, Brown T, Onsmann A. Exploratory factor analysis: A five-step guide for novices. *J Emerg Prim Health Care*2010; 8(3): 1-13.
- 36- Golparvar M. Construction and validation of eight components form of perceived organizational justice questionnaire. Unpublished Research, Isfahan: Islamic Azad University; 2012.
- 37- Ackfeldt AL, Coote LV. A study of organizational citizenship behaviors in retail setting. *J Bus Res*2005; 58: 151-9.
- 38- Robinson SL, Bennett RJ. A typology of deviant workplace behaviors: A multi-dimensional scaling study. *Acad Manage J*1995; 38: 555-72.
- 39- Hooper D, Coughlan, J, Mullen MR. Structural equation modeling: Guidelines for determining model fit. *Electronic J Bus Res Methods*2008; 6(1): 53-60.
- 40- Hattie J, Cooksey RW. Procedures for assessing the validities of tests using the "Known-Groups" method. *Appl Psychol Meas*1984; 8(3): 295-305.