

Ceramic Employees' Occupational Health and Safety Training Expectations in Turkey

Erol Karaca

Abstract—This study aims to analyze ceramic employees' occupational health and safety training expectations. To that general objective, the study tries to examine whether occupational health and safety training expectations of ceramic employees meaningfully differentiate depending on demographic features and professional, social and economic conditions. For this purpose, a questionnaire was developed by the researcher. The research data were collected through this questionnaire called "Questionnaire of Occupational Health and Safety Training Expectation" (QSOHSTE). QSOHSTE was applied to 125 ceramic employees working in Kütahya, Turkey. Data obtained from questionnaire were analyzed via SPSS 21.

The findings, obtained from the study, revealed that employees' agreement level to occupational health and safety training expectation statements is generally high-level. The findings reveal that employees expect professional interest such as increased development and investment, preventive measures for accidents, interventions to evaluate the working conditions, establishment of safe working environments and sustainment of adequate equipment for occupational health and safety training process.

Besides these findings, employees' agreement level to occupational health and safety training expectation statements also varies in terms of educational level, professional seniority, income level and perception of economic condition.

Keywords—Occupational Health and Safety, Occupational Training, Occupational Expectation.

I. INTRODUCTION

UNDOUBTEDLY, occupational health and safety training is virtually important in terms of prevention of occupational accidents and diseases. So, Employees' occupational health and safety training expectations and requirements should be determined in terms of the efficiency of occupational health and safety training. This study aims to analyze ceramic employees' occupational health and safety training expectations. It is believed to be important for reduction and prevention of occupational accidents and diseases in the ceramic industry of this study.

II. AIM

The main objective of this research is to determine and evaluate the role in prevention of occupational accidents and diseases of occupational health and safety education in Turkey. To that general objective, this study investigated the scope of occupational health and safety training, the causes of occupational health and safety training requirement in Turkey, and the attitude levels towards occupational health and safety training of the ceramic employees in Turkey and whether their

attitude levels towards occupational health and safety training varied meaningfully depending on demographic features and professional, social and economic conditions.

III. METHOD

The research data were collected through 'Questionnaire of Occupational Health and Safety Training Expectation' (QSOHSTE), consisting of 25 open and close-ended questions, developed by the researcher on the base of the literature review. QSOHSTE consists of two sections. The first part is the form relating to demographic and personal information of ceramic employee. The second part includes 13 expressions related to occupational health and safety training expectations of ceramic employee on a 5-point Likert-type scale consisting of 5 choices, from 1=Strongly Disagree to 5=Strongly Agree [1].

In this study, QSOHSTE, developed to determine ceramic employees' expectations about OHS by making use of method that finding inferences from the reactions given to a series of sentences or adjectives and interferences made in the subject of opinion measuring, was used [2].

In this study, carried out through comparative relational scanning model, the sample group was established ceramic employees working in Kütahya, Turkey and selected by simple random sample.

QSOHSTE was applied to 125 ceramic employees of the focus group within four weeks in 2014. The purpose of the study was explained to ceramic employees and they were asked to read the instructions. The ceramic employees completed questionnaires independently in approximately 40 minutes. All the participants in the sample are participated in the study voluntarily.

125 ceramic employees who are working in Kütahya, Turkey have participated in the study. They were selected via simple random sample. But 18 questionnaires were omitted, as they were not filled out according to the instructions. 14 of participants (13.10%) were female and the remaining 93 of participants (86.90%) were male. Economic conditions perception level of none of the participant was not extremely good. Economic conditions perception level of 3 participants (4.6%) was neither good nor bad. Economic conditions perception level of 35 participants (32.7%) was bad. Economic conditions perception level of 35 participants (32.7%) was bad. Economic conditions perception level of 16 participants (15%) was extremely bad. only 1 participant was undecided about economic conditions perception. Education level of 12 participants was elementary school, 14 participants have graduated from secondary school. Education level of 73

participants was high school, 8 participants have graduated from university.

TABLE I
PERCENTAGE DISTRIBUTION OF PARTICIPANTS ACCORDING TO GENDER

Variables Gender	Ceramic Employees	
	N	%
1) Female	14	13.1
2) Male	93	86.9
Total	107	100

TABLE II
PERCENTAGE DISTRIBUTION OF PARTICIPANTS ACCORDING TO PERCEPTION
OF ECONOMIC CONDITIONS

Variables Perception of Economic Conditions	Ceramic Employees	
	N	%
1) Extremely good	-	-
2) Good	3	2.8
3) Neither	52	48.6
4) Bad	35	32.7
5) Extremely bad	16	15.0
6) Undecided	1	0.9
Total	107	100

TABLE III
PERCENTAGE DISTRIBUTION OF PARTICIPANTS ACCORDING TO EDUCATION
LEVEL

Variables Education Level	Ceramic Employees	
	N	%
1) Elementary school	10	11.2
2) Secondary school	14	13.1
3) High school	73	68.2
4) College/High school	8	7.5
Total	107	100

Factor analysis was conducted in order to check the construct validity of the scale. A scale having 13 items consisting of two factors was developed as result of the factor analysis. Factor analysis is a statistical data reduction technique used to find latent variables or factors among observed variables. In other words, if research data contain many variables, factor analysis can be used to reduce the number of variables. With factor analysis a small number of factors can be produced which are capable of explaining the observed variance in a larger number of variables. The reduced factors can also be used for further analysis [3], [4].

13 items to which Principal Components Analysis was applied were collected under 6 factors whose eigenvalues are higher than 1.00. According to the Principal Components Analysis, eigenvalue of the first factor is 3.02 and the variance it explains is 23.19%, for the second factor results are 2.60 and 19.98%; for the third factor 1.17 and 8.96; for the fourth factor 1.05 and 8.06% and the fifth factor 1.02 and 7.80%, respectively. This finding show that five factors determined as important factors explain the majority of cumulative variance in the items and the variance related to the scale.

Having higher variance rates after factor analysis results in a stronger factor structure of the scale [5], [6]. The variance rate changing in the range changing in the range of 40% and 60% are accepted as sufficient [7]. In the factor analysis, the items with a factor load value higher than .45 are taken [8]. According to this criterion, 7 items were extracted from the scale and 6 items remained. It is observed that the remaining 6

items come under two factors. Eigenvalue of the first factor is 2.64 and the variance it explains is 43.92%, for the second factor results are 1.12 and 18.60%. First factor load values vary between .45 and .80. The variance of items in the scale is between .40 and .81.

In Principal Components Analysis, the Kaiser-Meyer Olkin (KMO) value was found as .71. A KMO test is carried out to inspect the sufficiency of distribution for factor analysis and tests whether partial correlations are small or not. A value of KMO higher than .80 is evaluated as "excellent". In this research KMO value was very good. Also Barlett test result of 149.96 ($p < .01$) indicates that factor analysis is suitable for variables.

As the ceramic employees' expectations about occupational health and safety training are determined with two factors, a rotation process was performed using the varimax technique to find the items having high relations with the factors and to interpret the items easily [9]. In the first factor there are 4 items and the second factor consists of 2 items.

After application, distribution of scale total scores was investigated. Because there are 6 items in the QSOHSTE, the lowest possible score is 6.00 and the highest possible score is 30.00 and the range is 24.00. The lowest score obtained from the scale scores was 14.00; the highest score was 30.00 and the range, 16.00. It was found that the scale contains a significant part of the range expected and calculated that the scale average was 24.84, the median was 25.00 and the standard deviation was 3.46, the Skewness coefficient was -.329 and the Kurtosis coefficient was -.076. The total average score related with the ceramic employees' expectations about occupational health and safety training -consisting of 6 items- was 4.14. These values show that the distribution of the scale scores is very similar to the normal distribution.

The arithmetical mean was between 3.79 and 4.52 and the standard deviation was between .62-1.24. When the findings of the item analysis, performed in order to evaluate the discerning efficiency of the items in the scale, were examined, it was seen that the item-total correlation was at a high level, varying between 0.32-0.58. This finding shows that each of 6 items has discerning efficiency. The overall reliability coefficient was .71. These values prove that the scale is reliable.

Data obtained from questionnaires were analyzed via SPSS 21.

IV. RESULTS

The findings obtained from the study, revealed that employees' agreement level to occupational health and safety training expectation statements is generally high-level.

Although the findings indicate that the level of agreement differentiate in terms of items, agreement level of ceramic employees in expectation statements about occupational health and safety training is generally at high level. Hence, ceramic employees have higher level of agreement items of 4., 1., 5. and 3. than items of 6. and 2. respectively. Besides these findings, employees' agreement level to occupational health and safety training expectation statements also varies in terms

of educational level.

TABLE IV
CERAMIC EMPLOYEES' LEVEL OF AGREEMENT WITH EXPECTATION
STATEMENTS FOR OCCUPATIONAL HEALTH AND SAFETY TRAINING

Employment Expectations Statements	Median	Mod
1) I think that occupational health and safety training is necessity for employees to prevent of occupational accidents and diseases.	5.00	5.00
2) I think that occupational health and safety training is not using effectively on prevention of occupational accidents and diseases.	4.00	4.00
3) I think that occupational health and safety training is necessity for employees before starting work and in case of changing working equipment, new technological applications.	4.00	4.00
4) I think that occupational health and safety training should be organized in a way that can be easily understood by employees.	5.00	5.00
5) I think that is necessary o measurement and evaluation after occupational health and safety training.	4.00	4.00
6) I think that occupational health and safety training is only a legal obligation application in our country.	4.00	5.00

One aspect of our analysis was whether or not the ceramic employees' expectations about occupational health and safety varied according to gender. Independent-samples t test revealed no significant difference between the male and female ceramic employees' expectations about occupational health and safety.

According to statistical analysis, gender is not an important factor affecting occupational health and safety training expectations of ceramic employees.

It was also examined whether or not the ceramic employees' expectations about occupational health and safety varied according to their perception of economic conditions. One-Way ANOVA revealed no significant difference among the groups.

TABLE V
RESULTS OF INDEPENDENT SAMPLE TEST ACCORDING TO GENDER

	Levene's Test For Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Equal Variances assumed	1.299	.257	-1.512	105	.134	-4.80031	3.17531	Lower	Upper
Equal variances not assumed			-1.764	19.478	.093	-4.80031	2.72105	-10.48609	.88548

TABLE VI
RESULTS OF ONE-WAY ANOVA IN TERMS OF PERCEPTION OF ECONOMIC CONDITIONS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	138.683	4	34.671	.272	.896
Within Groups	13023.878	102	127.685		
Total	13162.561	106			

According the data, perception of economic condition is not an important factor affecting occupational health and safety training expectations of ceramic employees.

Finally, it was also identified that the ceramic employees' expectations about occupational health and safety varied according to their educational level. The results of One-Way ANOVA showed that there was no significant difference among groups.

TABLE VII
RESULTS OF ONE-WAY ANOVA IN TERMS OF PERCEPTION OF EDUCATION LEVEL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	91.967	3	0.656	.242	.867
Within Groups	13070.594	103	126.899		
Total	13162.561	106			

According the data, level of education is not an important factor affecting occupational health and safety training expectations of ceramic employees.

V. CONCLUSION

Occupational health and safety is very important to employees' life. Knowing the ceramic employees' expectations about occupational health and safety is essentially important in terms of occupational health and safety politics and applications.

The findings obtained from this study show that the scale is valid and reliable for the data obtained from the study group. When repeating the reliability and validity studies and comparing the analysis, it was realized that having similar features in a form including all employees in different sectors is also important determining the structural validity.

These findings also reveal that employees have various expectations about occupational health and safety training. These expectations are;

- Increasing sensitivity towards occupational health and safety training about the prevention of occupational accidents and diseases,
- Contributing occupational health and safety training in establishing healthy and safe working environment,
- Requiring occupational health and safety training before starting work, in case of any changes in working equipment and new technological applications,
- Necessity of measurement and evaluation after occupational health and safety training.

REFERENCES

- [1] M. F. Turgut (1977). "Attitudes Measurement: Measurement Techniques in Education". Hacettepe University Publications No. 7, Ankara, Turkey.
- [2] A. Tezbaşaran (1996). "Likert Type Scale Developing Guide". TPD Publications, Ankara, Turkey.
- [3] Y. Baykul (2000). "Measurement in Education and Physiology: Classic Test Theory and Its Application". ÖSYM Publications, Ankara, Turkey.
- [4] Ş. Büyüköztürk (2002). "Data Analysis Handbook for Social Sciences". Pegem A Publishing, Ankara, Turkey.
- [5] R.L., Gorsuch (1974). "Factor Analysis". Saunders, Philadelphia, PA.
- [6] H. B., Lee and A.L. Comrey, (1979). "Distortions in a Commonly Used Factor Analytic Procedure". Multivariate Behavioral Res., 14: 301-321.
- [7] R. F. Scherer, F. A. Wiebe, D. C. Luther and J. S. Adams (1988). "Dimensionality of Coping: Factor Stability Using the Ways of Coping Questionnaire", Psychological Reports, 62: 763-770.
- [8] A. Balcı (1995). "The Research in Social Sciences". Ankara University Education Sciences Faculty, Ankara, Turkey.
- [9] Büyüköztürk, 2002.