



UNION OF ENGINEERS AND TEXTILE
TECHNICIANS OF SERBIA

SNEŽANA UROŠEVIĆ

IN THE TEXTILE INDUSTRY

VII INTERNATIONAL SCIENTIFIC CONFERENCE
**CONTEMPORARY TRENDS
AND INNOVATIONS IN THE
TEXTILE INDUSTRY**

VII MEĐUNARODNA NAUČNA KONFERENCIJA
**SAVREMENI TRENDOVI I
INOVACIJE U TEKSTILNOJ
INDUSTRIJI**
PROCEEDINGS

EDITOR:
Prof. dr SNEŽANA UROŠEVIĆ

Belgrade, 19-20th September, 2024
Union of Engineers and Technicians of Serbia
Dom inženjera „Nikola Tesla“



**UNION OF ENGINEERS AND TEXTILE TECHNICIANS
OF SERBIA**

AND

UNION OF ENGINEERS AND TECHNICIANS OF SERBIA
FACULTY OF TECHNOLOGY AND METALLURGY IN BELGRADE
FACULTY OF TECHNOLOGY, SHTIP, NORTH OF MACEDONIA
FACULTY OF MECHAICAL ENGINEERING, ALBANIA
SOCIETY FOR ROBOTICS OF BOSNIA I HERZEGOVINA
BASTE - BALKAN SOCIETY OF TEXTILE ENGINEERING, GREECE

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ZBORNİK RADOVA

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**Conference is financially supported by The Ministry of Science,
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**“CONTEMPORARY TRENDS AND INNOVATIONS IN THE TEXTILE
INDUSTRY” CT&ITI 2024
PROCEEDINGS**

Editor: Prof. dr Snežana Urošević,
University of Belgrade, Technical Faculty in Bor

Technical Editor: Doc. dr Violeta Stefanović

Cover design: MSc Igor Urošević

Photographs: Assoc. prof. dr Mirjana Devetaković

From the Ethnographic Collection of Hristifor Crnilović,

Ethnographic Museum - Manak's House, Belgrade

**Publisher: Union of Engineers and Textile Technicians of Serbia, Belgrade, Serbia,
September, 2024.**

For the publisher: Prof. dr Snežana Urošević

**Conference is financially supported by The Ministry of Science, Technological
Development and Innovation of the Republic of Serbia**

Printed: SatCip, Vrnjačka banja, Serbia

Printing: 100 copies

ISBN-978-86-900426-7-8

CIP - Каталогизacija u publikaciji
Narodna biblioteka Srbije, Beograd

677(082)
687.1(082)

**МЕЂУНАРОДНА научна конференција Савремени трендови и иновације у
текстилној индустрији (7 ; 2024 ; Београд)**

Zbornik radova = Proceedings / VII međunarodna naučna konferencija Savremeni trendovi i inovacije u tekstilnoj industriji = VII International Scientific Conference Contemporary Trends and Innovations in the Textile Industry, CT&ITI, Belgrade, 19-20 th September, 2024 ; [organized by] Union of Engineers and Textile Technicians of Serbia ... [et al.] ; editor Snežana Urošević. - Belgrade : Union of Engineers and Textile Technicians of Serbia, 2024 (Vrnjačka Banja : SatCip). - [15], 609 str. : ilustr. ; 25 cm

Radovi na srp. i engl. jeziku. - Tiraž 100. - Str. [7]: Preface / Snežana Urošević. - Napomene i bibliografske reference uz radove. - Bibliografija uz svaki rad. - Registar.

ISBN 978-86-900426-7-8

a) Текстилна индустрија -- Зборници б) Индустрија одеће -- Зборници

COBISS.SR-ID 150904585



PREFACE

The 7 th International conference "Contemporary Trends and Innovations in the Textile Industry" CT&ITI 2024, is co-organized by:

- Union of Engineers and Textile Technicians of Serbia,
- Union of Engineers and Technicians of Serbia,
- Faculty of Technology and Metallurgy in Belgrade, University of Belgrade, Serbia,
- Faculty of Technology, "Goce Delchev" University, Shtip, North Macedonia,
- Faculty of Mechanical Engineering, Polytechnic University of Tirana, Albania,
- Society for Robotics of Bosnia and Herzegovina and
- Balkan Society of Textile Engineering-BASTE of Greece.

The Ministry of Science, Technological Development and Innovation of the Republic of Serbia recognized the importance of this Conference, and thus, supported it.

The aim of this Conference is to consider current technical, technological, economic, ecological, R&D, legal and other issues related to the textile industry, then the application of contemporary achievements and the introduction of technical and technological innovations in the production process of fiber, textile, clothing and technical textile by applying scientific solutions in order to improve the business and increase the competitive advantages of the textile industry on the domestic and global market.

Leading scientists and experts from the Balkans and other countries, working at faculties, textile colleges and institutes, but also individuals who professionally deal with the issues at hand are taking part in this Conference.

The Conference program involves papers dedicated to the scientific and practical aspects of the following topics: Textile and Textile Technology, Textile Design, Management and Marketing in the Textile Industry and Ecology and Sustainable Development in the Textile Industry. The Conference program includes 66 papers, and a total of 158 participants from 17 countries: Albania, Australia, Bosnia and Herzegovina, Bulgaria, Croatia, Germany, Greece, India, North of Macedonia, Montenegro, Portugal, Romania, Serbia, Slovenia, Spain, Turkey and Ukraine.

Therefore, this Conference is an opportunity for establishing scientific, educational and economic cooperation of our country with other countries. Certain number of papers by domestic authors present the project results dealing with fundamental research and technological development, financed by the Ministry of Ministry of Science, Technological Development and Innovation of the Republic of Serbia.

I would like to thank all those who have made it possible to organize the conference Contemporary Trends and Innovations in the Textile Industry and make it a success. First, I would like to thank the Scientific and Organizing Committee for working hard, spending countless hours and finding the best solutions for numerous organizational aspects of our Conference. I also thank all the other institutions that supported the Conference in various ways, because without their support, the Conference could not have been organized. Last but not least, I would like to thank plenary lecturers, all authors and co-authors and guests for their participation in the Conference.

On behalf of the Organizing Committee

Prof. dr Snežana Urošević, president



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VII Međunarodna naučna konferencija
„Savremeni trendovi i inovacije u tekstilnoj industriji“
19-20. septembar 2024. Beograd, Srbija



PLENARY LECTURES



ANALYSIS OF SAFETY CLIMATE FACTORS IN TEXTILE INDUSTRY

Original scientific paper
DOI:10.5937/CT_ITI24006M

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ABSTRACT: *This paper presents the results of the analysis of the impact of the main safety climate elements on the overall occupational safety in textile companies in the Republic of Serbia. SEM (Structural Equation Modeling) methodology was applied to validate and test the proposed conceptual model of safety climate. A statistical analysis was performed using the software package SPSS 18.0 and Smart PLS 4. The previously developed model with seven hypotheses was tested on a sample of 267 respondents employed in 8 companies. The results of the empirical research confirm some of the hypotheses and point to the existence of a positive correlation between them. Within the conclusions of the research, special emphasis is placed on those safety climate factors where certain possibilities for improvement have been established and which represent the specificity of textile industry. Finally, the obtained results point to the significant fact that the formation of an adequate safety climate in textile companies can have a positive effect on the improvement of overall occupational safety in this sector.*

Keywords: *Safety climate, occupational safety, textile industry, employees, analysis.*

ANALIZA FAKTORA KLIME BEZBEDNOSTI U TEKSTILNOJ INDUSTRIJI

APSTRACT: *U ovom radu su prikazani rezultati analize uticaja glavnih elemenata klime bezbednosti na sveukupnu bezbednost na radu u tekstilnim kompanijama u Republici Srbiji. Za validaciju i testiranje predloženog konceptualnog modela klime bezbednosti primenjena je SEM (Structural Equation Modeling) metodologija. Statistička obrada podataka je izvršena korišćenjem softverskih paketa SPSS 18.0 i Smart PLS 4. Prethodno razvijeni model sa sedam hipoteza je testiran na uzorku od 267 ispitanika angažovanih u 8 kompanija. Rezultati empirijskog istraživanja potvrđuju neke od postavljenih hipoteza i ukazuju na postojanje pozitivne korelacije među njima. U okviru zaključaka istraživanja, poseban akcenat je na onim faktorima klime bezbednosti kod kojih su ustanovljene*



određene mogućnosti poboljšanja i koji predstavljaju specifičnost tekstilne industrije. Konačno, dobijeni rezultati ukazuju na značajnu činjenicu da formiranje adekvatne klime bezbednosti u tekstilnim kompanijama može pozitivno uticati na unapređenje sveukupne bezbednosti na radu u ovom sektoru.

Ključne reči: *Bezbednosna klima, zaštita na radu, tekstilna industrija, zaposleni, analiza.*

1. INTRODUCTION

The measurement, analysis, and assessment of occupational safety in many manufacturing companies rely on classic indicators, such as the occurrence of occupational injuries, providing significant feedback on the occupational safety system, its shortcomings, and the incidents themselves. This way of occupational safety assessment in companies represents a reactive approach to managing it considering events and results that have already occurred [1]. On the other hand, a proactive approach to occupational safety management is increasingly being used in practice, which involves assessing, describing, and improving the safety climate. Safety climate can be defined as the perception of employees, their attitudes and beliefs about the organization, rules, procedures, and practices of occupational safety [2,3]. Using a proactive approach to occupational safety management enables the identification of all potential deficiencies in the organization's safety system. The purpose of identifying these deficiencies is to analyze them and provide guidelines for positive changes, thus reducing the probability of the occurrence of workplace injuries [4]. Additionally, safety climate reflects the safety policy implemented by a company and thus has a direct impact on the safety behavior of employees and the improvement of the safety performance of the entire company [5]. Therefore, it can be said that the company's management has a significant role in creating and maintaining a positive safety climate, which represents the key to improving safety performance within the organization [6,7]. In this direction, in the first step, it is necessary to identify the key factors of the safety climate with shortcomings. In the second step, it is indispensable to identify individuals or groups in the organization that influence these factors in order to improve the safety climate and occupational safety performance [8]. Consequently, it is possible to create adequate strategies and undertake actual activities with the aim of improving occupational safety performance.

At the global level, along with agriculture, the textile industry is one of the largest industrial fields. An extremely large number of the world's population is employed in the textile industry because it is a labor-intensive activity. The labor-intensive nature of the textile industry causes the existence of a large number of workplaces with a relatively high risk of employee injury [9,10]. Research has shown that in the textile industry, the most complex sector of industrial production, the factors of the working environment: ergonomics, microclimate, lighting, noise, vibrations, radiation, factors arising from the operation of machines, and the effect of electric current, chemical, and biologically active reagents, directly affect the health and safety of employees [11]. Moreover, there are some



additional causes that negatively affect the safety of employees in the textile industry, the relatively low average salary of employees in the industry being one of them. Low salaries cause inadequate job satisfaction and create inadequate enthusiasm, which unfortunately reflects on non-compliance with the rules and procedures for safe performance of work activities [12]. In addition, the awareness of the importance of occupational safety is at a very low level, and the cause of this is the low level of education of workers. Finally, there are regions in the world, primarily in the Asian continent, where managers in companies in the textile industry do not show the necessary dedication to the safety of employees at the workplace. All this in synergy causes the textile industry globally to be among the industries with the highest rates of accidents and injuries at workplaces [13]. This branch of industry is often considered „female” [14], taking into account the fact that in some areas of production as much as 70% of the employees are women, leading to the appearance of numerous occupational diseases and injuries of women as a sensitive group of the population due to inadequate working conditions [11].

Having the aforementioned reasons in mind, a large number of researchers have studied safety and health in the textile industry, the costs of investments in safety and health, as well as risk analysis in companies and workplaces [9-13,15]. However, a very small or almost negligible number of researchers have studied safety climate in the textile industry. That was the main incentive for the research conducted and presented in the present paper. Therefore, the aim of the conducted research on textile companies on the territory of the Republic of Serbia was to analyze the factors of safety climate at work. The results of the research represent a model of safety climate at work, which enables the identification of weaknesses and deficiencies of certain factors of safety climate in the textile industry. In this way, the proposed and tested model becomes a useful tool in the direction of improving the safety climate, and consequently improving the occupational safety performance.

2. RESEARCH HYPOTHESES AND CONCEPTUAL MODEL

The results presented in this paper represent a continuation of previous research by the authors of this paper. Namely, the research hypotheses and conceptual model were defined in and borrowed from the paper by Milijić et al. [1]. In the previous research, the modeling of safety climate in manufacturing companies was conducted, and as the model is universal, in the continuation of the research it was used in the process of analyzing safety climate factors in the textile industry.

The conducted research is based on the following seven hypotheses:

Hypothesis H1: *Safety awareness and competencies positively affect occupational safety.*

Hypothesis H2: *Communication about safety has a positive impact on occupational safety.*

Hypothesis H3: *The organizational environment has a positive effect on occupational safety.*

Hypothesis H4: *Management support has a positive effect on occupational safety.*

Hypothesis H5: *Risk judgment has a positive effect on occupational safety.*



Hypothesis H6: Safety precautions have a positive impact on occupational safety.

Hypothesis H7: Safety training has a positive impact on occupational safety.

Each research hypothesis refers to one factor of safety climate, and based on them, a conceptual model of positive influences in the field of safety climate was formed (Fig. 1).

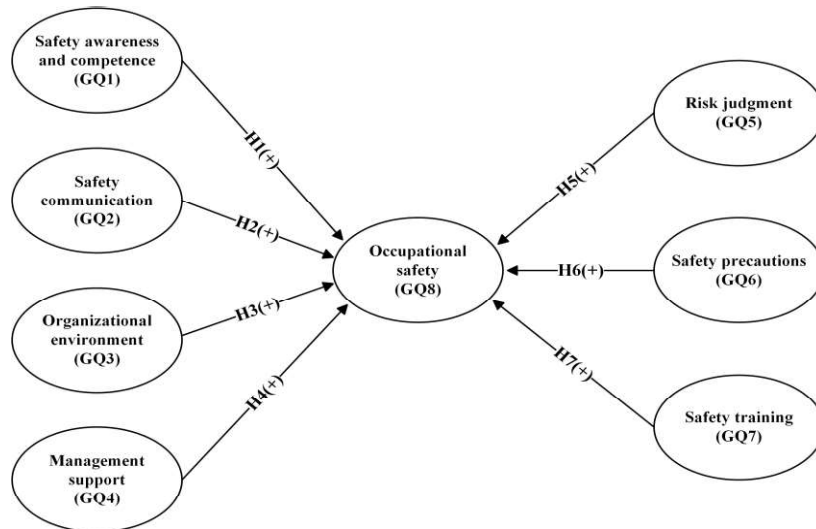


Figure 1: Conceptual model of safety climate

3. RESEARCH METHODOLOGY

The questionnaire methodology for data collection was applied in the conducted research. The questionnaire was developed by some of the authors of this paper during previous research on the issue of safety climate in manufacturing companies [1]. Its application is universal, regardless of the field of production engaged in by the companies in which the employee survey is conducted. The questionnaire consists of two parts. The first part contains 6 questions of a demographic character, as well as 2 questions related to describing the company. In this research, the question related to the company's activity was omitted, because all the companies in which the research was conducted belong to the textile industry. The second part of the questionnaire consists of 23 questions divided into 8 groups, which are related to the area of safety climate.

3.1. Sampling and Data Collection

An anonymous survey was conducted among employees of 8 textile companies operating in the territory of the Republic of Serbia. A total of 316 employees were surveyed, of which 267 correctly filled the collected questionnaires, representing 84.49%. A five-point Likert



scale was used to grade respondents' answers, with values from 1 to 5, where 1 represents the least importance (absolutely disagree with the given statement) and 5 represents the greatest importance (absolutely agree with the given statement), and with intermediate evaluation levels rated 2, 3 and 4. The ratio of the sample size (267 respondents) to the number of questions (23 questions from the questionnaire) is 11.61, which is significantly higher than the recommended minimum level of 5, according to Hair et al. [16]. Hence, an adequate sample size was provided for quality statistical data processing.

The demographic characteristics of the participants in the conducted survey are shown in Table 1.

Table 1: Demographic characteristics of the studied sample

Variables	Category	N	Percentage %
Size of company	Less than 50 employees	24	9.0
	51 – 100 employees	44	16.5
	101 – 300 employees	199	74.5
	Above 301 employees	0	0
Position in the company	Production workers	225	84.3
	Workers indirectly related to production	17	6.4
	Administrative workers	15	5.6
	Managers	10	3.7
Educational level	Elementary school	43	16.1
	High school	206	77.2
	Higher education	10	3.7
	University	8	3.0
Years of work experience	Less than 5 years	104	39.0
	6 – 15 years	79	29.6
	16 – 25 years	69	25.8
	Above 26 years	15	5.6
Gender	Male	42	15.7
	Female	225	84.3
Age	Less than 29 years	35	13.1
	30 – 44 years	131	49.1
	45 – 54 years	85	31.8
	Above 55 years	16	6.0
Accident involvements	Yes	32	12.0
	No accident	235	88.0



All respondents are employed in small and medium-sized companies. The largest number of respondents are production workers, 225 of them, or 84.3%. On the other hand, only 10 managers were surveyed, i.e. 3.7% of the total number of respondents. In observing the level of education of the respondents, it is completely in line with the workplaces in which they are employed. Namely, the largest number of respondents have graduated from high school, 206 of them, or 77.2%. On the other hand, only 8 respondents have a university degree, which is 3.0% of the total number of respondents. Observing the work experience of the respondents, it can be concluded that the employees do not have too much work experience, because 104 of them, or 39%, have work experience of less than 5 years. Considering the gender structure of the respondents, the specificity of the textile industry is observed, i.e. that the female workforce dominates. In the studied sample, 225 respondents are female, i.e. 84.3% of the total number. This is a far higher percentage of the female workforce compared to other industries, where the share of the female workforce is less, or far less than 50% [1,17,18]. As for the age structure of the respondents, the largest number of them are in the age group of 30-44 years, 131 of them, or 49.1%. There are 35, or 13.1%, under the age of 29, while there are 16 of the most experienced workers, workers over 55, or only 6.0% of the total number. These indicators suggest a relatively young workforce in the textile industry in the Republic of Serbia. Finally, observing the number of employees who experienced some kind of workplace injury, 32 of them, that is, only 12.0%, are in this category.

This result can be characterized as satisfactory in comparison with other industries in the territory of the Republic of Serbia [1,17,18].

4. RESEARCH RESULTS

The set of collected data was analyzed with statistical tools using the SPSS 18.0 software package. Structural modeling was performed using Smart PLS 4 software.

4.1. Descriptive Statistics

As the first step in data processing, descriptive statistics of the examined sample were performed (Table 2). Descriptive statistics summarize the sample and describe the collected data. Table 2 shows standard statistical parameters: sample size, range, mean, standard deviation and variance [19].

Table 2: Descriptive statistics of the studied sample

Mark (Variable)	N	Range	Mean		Std. Deviation	Variance
			Statistic	Std. Error		
Q 1.1.	267	3	4.52	.045	.727	.529
Q 1.2.	267	4	4.45	.051	.827	.684
Q 1.3.	267	4	4.33	.050	.821	.674
Q 1.4.	267	3	4.36	.051	.826	.682



Q 1.5.	267	3	4.34	.050	.809	.655
Q 2.1.	267	4	3.64	.067	1.092	1.192
Q 2.2.	267	4	3.88	.065	1.061	1.126
Q 2.3.	267	4	3.66	.061	1.004	1.007
Q 2.4.	267	4	3.98	.066	1.078	1.161
Q 3.1.	267	4	2.99	.092	1.502	2.256
Q 3.2.	267	4	3.12	.096	1.571	2.467
Q 3.3.	267	4	3.09	.101	1.644	2.702
Q 4.1.	267	4	4.34	.066	1.080	1.167
Q 4.2.	267	4	3.54	.098	1.604	2.573
Q 5.1.	267	4	2.58	.100	1.630	2.658
Q 5.2.	267	4	2.25	.085	1.391	1.935
Q 5.3.	267	4	2.61	.090	1.476	2.178
Q 6.1.	267	4	3.94	.068	1.104	1.219
Q 6.2.	267	4	4.05	.060	.987	.975
Q 7.1.	267	4	3.79	.090	1.469	2.159
Q 7.2.	267	4	3.82	.084	1.366	1.865
Q 8.1.	267	4	2.06	.066	1.083	1.174
Q 8.2.	267	4	1.87	.061	.998	.997

4.2. The Reliability Analysis of the Safety Indicators

The quality of the statistical data processing, that is, the obtained results, is guaranteed by determining the reliability and validity of the measurement scales. Reliability and validity of the measurement scales on the studied sample were performed by evaluating the internal consistency of the data collection instrument using the Cronbach alpha test [20]. Cronbach's formula is used to calculate the average values of the correlations between the items of the measuring instrument (alpha coefficient) when the answers to the questions are rated based on the levels of the given scales (e.g. a five-point Likert scale).

Based on the Cronbach alpha coefficients of the internal consistency of the question groups within the safety climate questionnaire used (GQ1 - GQ8), its validity and reliability were confirmed. The values of Cronbach alpha coefficients for all 8 groups of questions in the questionnaire are greater than 0.70 (Table 3) and suggest a good possibility of data modeling, as indicated by the reference literature [21].

In other words, the groups of questions are properly formed and the questionnaire reliably measures what it was designed and created for, so reliable results can be expected in the continuation of the analysis.



Table 3: Interconsistency coefficients of the safety climate questionnaire

Groups of questions	Number of Items	Cronbach alpha coefficient
GQ1 (Safety awareness and competence)	5	0.781
GQ2 (Safety communication)	4	0.724
GQ3 (Organizational environment)	3	0.920
GQ4 (Management support)	2	0.737
GQ5 (Risk judgment)	3	0.851
GQ6 (Safety precautions)	2	0.763
GQ7 (Safety training)	2	0.881
GQ8 (Occupational safety)	2	0.858

4.3. Structural Model

Partial least squares structural equation modeling (PLS-SEM) was utilized to statistically validate the final model of safety climate in the textile industry. Using the Smart PLS 4 software package, structural equations were created, i.e. the connections between safety climate factors and the achievement of satisfactory occupational safety performance were analyzed.

PLS-SEM analysis is very reliable in cases where smaller samples are used in data analysis, which is also the case in the conducted research where the sample size is 267 [22]. Additionally, PLS-SEM is widely used because of its ability to simultaneously show the relationships between all latent variables while dealing with measurement errors in the structural model. Also, it is characterized by exceptional prediction accuracy, especially in very complex situations and complex models. Furthermore, PLS-SEM is very flexible because it is based on fewer assumptions about the data distribution [23,24]. Finally, the PLS method focuses on maximizing the variance of the dependent variable explained by the independent variable instead of constructing a covariance matrix as in the case of standard SEM analysis [25]. For the aforementioned reasons, PLS-SEM was used to test the model and proposed hypotheses.

Figure 2 shows the results of the analysis of the structural model of safety climate in the textile industry. The values of the regression coefficients are shown on the arrows that represent the relationships between the latent variables. These coefficients explain the strength of the connections between dependent and independent variables and refer to the influence of Safety awareness and competence (GQ1), Safety communication (GQ2), Organizational environment (GQ3), Management support (GQ4), Risk judgment (GQ5), Safety precautions (GQ6), and Safety training (GQ7) on the dependent variable Occupational safety (GQ8).

The coefficient of determination (R^2) is shown on the graphic symbol of the dependent variable. It indicates the participation of the explained variability in total, i.e. how much variation of the dependent variable is explained by the predictor variable. In addition to the regression coefficients, the t-test values are shown in brackets.



The Structural model of safety climate is shown at the Figure 2.

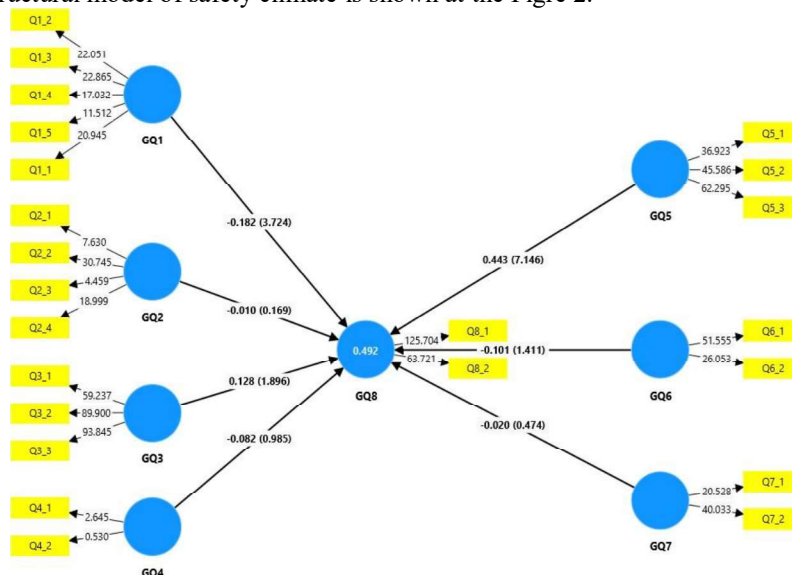


Figure 2: Structural model of safety climate: Path coefficients and T statistics

Table 4 shows the results of structural modeling of the safety climate in companies operating in the textile industry on the territory of the Republic of Serbia.

Table 4: Results of structural model of safety climate

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Safety awareness and competence -> Occup. safety	-0.182	-0.189	0.049	3.724	0.000
Safety communication -> Occupational safety	-0.010	-0.018	0.061	0.169	0.866
Organizational environment -> Occupational safety	0.128	0.132	0.068	1.896	0.058
Management support -> Occupational safety	-0.082	-0.075	0.083	0.985	0.325
Risk judgment -> Occupational safety	0.443	0.438	0.062	7.146	0.000
Safety precautions -> Occupational safety	-0.101	-0.103	0.071	1.411	0.158
Safety training -> Occupational safety	-0.020	-0.010	0.043	0.474	0.636



5. DISCUSSION OF RESULTS

Based on the results shown in Table 1 and described in Chapter 3, it can be seen that the largest number of production workers participated in the research, 225 of them, i.e. 84.3%. As for education, they mostly have adequate schooling (high school). Moreover, it is a relatively young population because the largest number of them are in the age group of 30-44, 131 of them, or 49.1% of the total number of respondents. The participants of this research do not have too much work experience, as 104 of them, or 39%, have less than 5 years of work experience. This may be a consequence of the large fluctuation of the labor force, as a reflection of the economic transition. Finally, the main specificity of the studied sample, i.e. the entire textile industry, is that it is dominated by the female labor force (225 respondents are female, i.e. 84.3% of the total number). In our previous research on the safety climate on the territory of the Republic of Serbia, the respondents were employed in other industrial sectors (construction industry, metallurgical industry, machine industry, furniture production, etc.), where the percentage share of the female workforce was far less than 50%. in some cases even less than 20% [1,17,18]. Since safety climate represents a set of employees' perceptions related to occupational safety, the gender structure of respondents in the textile industry is very significant in terms of the final results obtained. Hence, the specifics of the results obtained during the study of the safety climate in the textile industry can be interpreted, in relation to the results obtained during previous research in other industrial sectors.

Observing the results of the descriptive statistics of the studied sample (Table 2), it is evident that the mean value of the worst-rated question by the respondents is 1.87, while the mean value of the best-rated question is 4.52. This result suggests a rather different perception and attitude of the respondents in relation to the performance of certain claims. It is also observed that employees have a pronounced negative attitude towards a certain number of questions from particular groups: Risk judgment - GQ5 and Occupational safety - GQ8. On the other hand, employees in the textile industry positively evaluated questions from the following groups: Safety awareness and competence - GQ1, Management support - GQ4 and Safety precautions - GQ6. Such a result is encouraging, since employees have a developed awareness of the importance of occupational safety, as well as trust in management in terms of its support for occupational safety. With this attitude of the employees, the improvement of the safety climate can be expected, as well as the subsequent improvement of occupational safety performance. When observing the high values of the standard deviation in the respondents' answers (values range from 0.727 to 1.644), they indicate a different perception of occupational safety among production and non-production workers, i.e. managers, which is expected.

Based on the results shown in Table 3 (values of Cronbach alpha coefficients for all 8 groups of questions are above the recommended value of 0.7), it can be concluded that there is an internal consistency of the variables within all 8 groups of the control model. Thus it was confirmed that the measuring instrument was valid and reliable, i.e. that it adequately measured what it was created for (safety climate).



The structural model of the safety climate in the textile industry in the Republic of Serbia, with the results of hypothesis testing, is shown in Figure 2. The obtained results show that two of the seven hypotheses were confirmed (H3: *The organizational environment has a positive effect on occupational safety*, and H5: *Risk judgment has a positive effect on occupational safety*). The regression coefficients (path coefficients) have positive values, which means that the independent variables Organizational environment and Risk judgment have a positive influence on the dependent variable Occupational safety. Judging by the results of the t-test, only the H5 hypothesis (*Risk judgment has a positive effect on occupational safety*) is confirmed and acceptable with statistical significance because the value of the t-test is above the recommended value of 1.96 ($t=7.146$; $p<0.000$).

This result points to the conclusion that Risk judgment has a strong influence on Occupational safety (the regression coefficient is 0.443). This indicates that employees in the textile industry properly observe potential risks at their workplaces and treat them adequately (respecting work and safety procedures, using protective equipment, etc.). Such perceptions and attitudes, and consequently also behavior at the workplace, certainly have a great impact on the safety of employees. In other words, a positive impact is thus made on occupational safety performances. Moreover, an adequate Organizational environment has a positive influence on Occupational safety, albeit with a slightly lower statistical significance. This impact is expected because adherence to safety procedures during work operations, as well as an adequate work operations tact, greatly reduce the probability of risk occurrence, i.e., the occurrence of harmful events. This result is in contrast with our previous research (in other industrial sectors), where employees, regardless of the inadequate organizational environment, consciously performed their work activities in a very risky environment [1]. This points to the conclusion that employees in the textile industry, that is, the female workforce, are far more aware of the risks in the workplace, as well as the importance of an adequate working environment compared to the male workforce.

On the other hand, the remaining 5 hypotheses were not confirmed (H1, H2, H4, H6, and H7). This result can also be said to represent the specificity of the textile industry. Namely, based on the responses of employees in the textile industry, Safety awareness and competence, Safety communication, Management support, Safety precautions and Safety training do not have a positive impact on Occupational safety, but even so, the injury rate of employees in this industry is only 12%, which is less compared to other industrial sectors in the Republic of Serbia [1]. This result of the conducted research suggests the conclusion that the state of occupational safety in the textile industry is relatively satisfactory since the respondents actually express their opinion about the elements that could be improved and do not evaluate them as definitely unsatisfactory. Therefore, these elements actually represent a guideline for potential improvements in occupational safety performance.

6. CONCLUSION

The analysis of safety climate factors in the textile industry in the Republic of Serbia underlines revealing conclusions. Occupational safety in the textile industry, as well as in



other industrial sectors, can be reliably described by 23 questions (variables), classified into 8 groups (latent variables), which represent the proposed conceptual model.

By analyzing the structural model, i.e., by testing the proposed hypotheses, and based on the conceptual model, the final conclusion was made. Organizational environment and Risk judgment have a positive effect on the performance of Occupational safety. On the other hand, Safety awareness and competence, Safety communication, Management support, Safety precautions, and Safety training do not have a positive effect on Occupational safety. Therefore, these factors of safety climate represent the fundamental point of its improvement, i.e. enhancing the performance of the overall occupational safety in textile organizations.

Finally, it can be concluded that the scope of work, as the primary specificity of the textile industry and the accelerated growth and development of modern business conditions, have also placed new demands on the textile industry to take special care of strengthening safety climate through the organization of work, which could raise the awareness of employees to an even higher level, reduce the number of injuries at workplaces, and achieve a higher level of occupational safety performance.

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