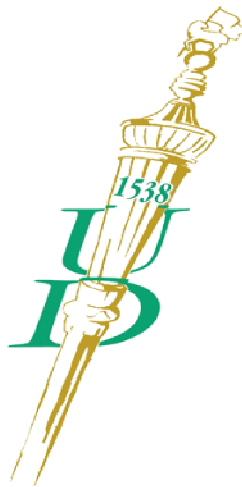


University doctoral (PhD) dissertation abstract

**THE OCCUPATIONAL SAFETY AND HEALTH
RELATED SAFETY CULTURE RESEARCH IN
AGRICULTURAL ORGANIZATIONS IN HAJDU-BIHAR
COUNTY**

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1. RESEARCH OBJECTIVES

In today's changing world there are many factors which affect the efficiency, competitiveness and security of the work. A number of historical facts verify that the work outcomes priority depending on conditions of time and space are constantly changing. General axiom is the aim of the enterprise is the income and benefit. In this relationship the entrepreneur has interested in reach the total income (PFAU 2002). In order to business achieve the process and results objectives it has to be mobilized resources, to invest. Nowadays from the resources very upgraded a classical resource the human. That is characteristic of resource distribution in agricultural sector every farm worker get increasingly higher-value resource partage (instruments and machines) to operate that for to reach the aim of the production. This phenomenon raises the magnitude of the responsibility and the value of human work.

In Hungary recognized and eminent representatives of research workshops – BERDE (1999), GYÖKÉR (1999), KÖVÁRI (1995), BAKACSI et al. (2000), TÓTHNÉ (2000) – all of them proclaim that in connection with maintenance of business success the human resources as skills, abilities, behaviors are crucial importance conditions of the long-term competitiveness. The same eminent representatives have agreed in that the human factors in related to resources exist in frame of organizational culture.

To view this problem from employer's side that is an increased risk if an employee in connection with work safety is poorly motivated meanwhile operate an extremely valuable instrument. Therefore it is very timely and it became important to research the Occupational Health and Safety (OSH) across the economy (DIENESNÉ et al. 2007). Hungary, as the European Union Member States, in the period of preparation for accession, has undergone a significant transformation. Hungary in the different producing spheres complied with quality requirements. In these changes the OSH regulatory system has very big steps forward. By now, we can say that we have one of the most modern OSH regulatory systems in Europe. The problems do not occur in this area.

My PhD research theme is the scientific investigation of OSH related safety culture, in a narrower field of Hajdu-Bihar county agricultural organizations. I deemed it necessary, as main objective inside the safety culture investigation, to examine those factors, which have significant influence on OSH experts and board of managers work

performance as well. Therefore, it is necessary the research results must be focus on the improvement of agricultural safety management work by means of safety culture.

Objectives:

- To develop a complex research-method, which is suitable to measure the status of OSH and safety culture (and/or climate) dimensions in agricultural organizations,
- Reveal the main correlations in the Hungarian agriculture in connection with OSH situation, by the statistical analysis of secondary investigational database,
- To measure the OSH situations of sampling units by the collected primary objective investigational database,
- To measure the organizational material factors conditions, what can influence the OSH related safety culture,
- In relation to human factors, belonging to safety culture and safety climate, to analyze the OSH related official and non-official organizational commitments and orientations (order of values, attitudes, estimations, perceptions, preferences, contentment) both sides of farm workers and farm leaders,
- To reveal the safety culture related relevant problems of agricultural organizations,
- To reveal the general characteristics of OSH related safety culture,
- To draw such conclusions that contribute to accurate description of OSH related safety culture situation, and it is contribute to the good operation and more effective OSH management.

2. ANTECEDENTS OF THE RESEARCH AND APPLIED METHODS

I made my research in frame of Debrecen University Faculty of Applied Economic and Rural Development Institute of Management and Organization investigational program that constructed by legal predecessor Department of Management and Work Sciences in 1994. The investigational program has called “Functional scientific investigation of undertaking management”. This investigational program is modular structured. The safety management fit in this modular system as a unit. This unit contains those dimensions what belongs to human resource scientific investigations. These dimensions directly or indirectly connected with OSH, or other aspects of work related safety and safety culture (Table 1.)

Table 1; Construction of “Functional scientific investigation of undertaking management” investigation program

Program leader: Dr. Csaba Berde,

1. <i>Corporate Management Investigations</i> <i>Consultant:</i> Dr. Berde Csaba	2. <i>Human Resource Researches</i> <i>Consultant:</i> Dr. Dienesné Dr. Kovács Erzsébet	3. <i>Process-Management</i> <i>Consultant:</i> Dr. Pakurár Miklós
1.1. Organizational forms and management tasks Dr. (Bilanicz Ágnes)	2.1. Motivations (Dr. Juhász Csilla)	3.1. Planning, as a managing function
1.2. Organization development (Szabados Krisztián)	2.2. Conflict Management	3.2. Decisions (Dr. Felföldi János)
1.3. Organization communication (Dr. Dajnoki Krisztina)	2.3. Human resource planning, organization (Dr. Tóth Anikó)	3.3. Decision execution, Döntés direction
Information management	2.4. Workforce selection (Dr. Balla Gyula)	3.4. Organization (Dr. Vántus András)
1.5. Organizational culture (Dr. Szilágyi Barnabás)	2.5. Competence Investigations (Dr. Barta Ágnes)	3.5. Logistics management (Villányi Réka)
1.6. Team management Dr. (Szabados György)	2.6. Performance management (Gergely Éva)	3.6. Controlling (Dr. Szima Mária)
1.7. Management structure and hierarchic investigation	2.7. Human resource development (Dr. Piros Márta)	3.7. Quality Management (Dr. Gályász József)
1.8. Change management (Dr. Keréjártó Gábor)	2.8. Career management	3.8. Time management (Dr. Bácsné Bába Éva)
	2.9. Safety management (Terjék László)	

Source: BERDE, 2006

The model of my research has shown by Figure 1. In this research model, I gave a main feature of general direction of investigation and its connections with the research program. The model shows the necessary condition-system for the achieving the aims of the investigation theme.

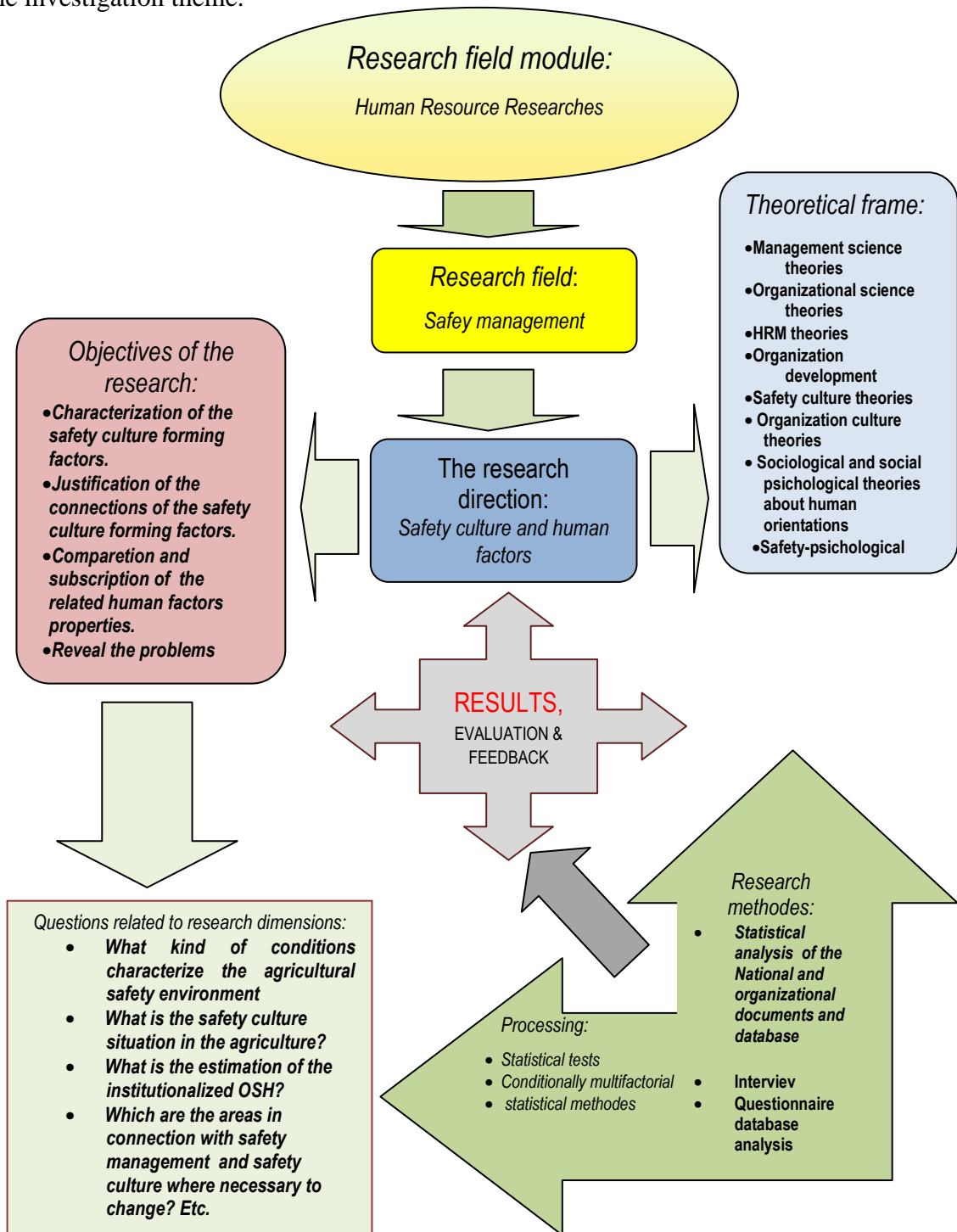


Figure 1: **Research model**

Source: own construction 2006-2009

Conform to my research subject matter as a first step I analyzed the OSH related national secondary statistical database and undertaking documents, for examples injury certificates. Thereafter on the base of questionnaire data, I revealed and characterized the safety culture related and forming dimensions.

The connected point of views and dimensions in relation to research I represented on three questionnaires. These was one general, the organization identifier and the work environment objectively characterize, questionnaire, one “farm leader” questionnaire and one “farm worker” questionnaire. The questionnaires was compiled by own constructing on the basis of recommendations by CSEH - SZOMBATI – FERGE (1971), BABBIE (1998), HEWSTONE ET AL. (1999), TRIANDIS (1999), SEGALL ET AL. (1999), SHWARTZ (1999) MALHOTRA, (2005). In the compilation of general questionnaire I took SZENDRŐ and SZÍJJÁRTÓ (1979) objective workplace organization examining method into consideration. The main elements of this method suitable for measure the state of technical supply and workforce conditions of the organization.

The safety culture dimensions on general questionnaire were represented with 72 items. On the farm leader questionnaire there were 22 issues with 178 items and on the farm worker questionnaire 26 issues with 171 items. The questions were formulated in closed form. The items contain those indicator concepts and statements, which represents the dimensions of the safety culture. A Liker-type scale carried out the characterization and evaluation of the qualitative factors and/or items (-3...0...+3).

Sample and respondents:

The total sample consists of answers from 552 respondents from 18 agricultural juristic personality organizations in Hajdú-Bihar County in Hungary. In the examined 18 organizations there were 1384 employees of which were 1220 physical workers and 164 managers. From this primary sample unit were interviewed 460 physical workers (37,70%) and 92 managers (56,09%). This interviewed sample was the secondary sample unit.

Used statistical methods for the data processing and evaluation:

Different types of statistical data analysis method were used. The data processing was supported by SPSS statistical software. For the analysis of objective examination data which came from general questionnaires descriptive statistical methods such as distribution, frequency, and averaging calculations were performed. For the relationship detection among the obtained data variance analysis including Pearson's correlation test

and significance tests were performed. I demonstrated the results in figures and tables. In the questionnaire studies from the obtained Likert-scale values for the characterization of items and dimensions I have made aggregate indexes. From the interviewee identifying data were created basic variables, which suitable for grouping and thus for the comparative and descriptive analysis. Thus grouping variable were the gender, age, educational level, position, work experience and work accidents implication. Additions to descriptive statistics hypothesis testing, one-tailed independent samples variance analysis and related tests of significance, as well as statistical (t-and F-) tests were used. From the non parametric tests the Mann-Whitney and Kruskal-Wallis tests were used. My aim was with the tests to reveal the significant differences among the basic variables.

I examined and made comparisons the physical workers and managers responses by the point of views as gender, age, educational level, position, job experience to detect the significant differences. I made comparisons among the physical workers and managers in relation to safety related orientations (attitudes, order of values, optimism-pessimism and contentment).

3. MAIN RESULTS OF THE THESIS

By the statistical analysis of the national agricultural workforce and OSH statistical databases I was point to the agricultural sector OSH related situation, what is rooted in the past.

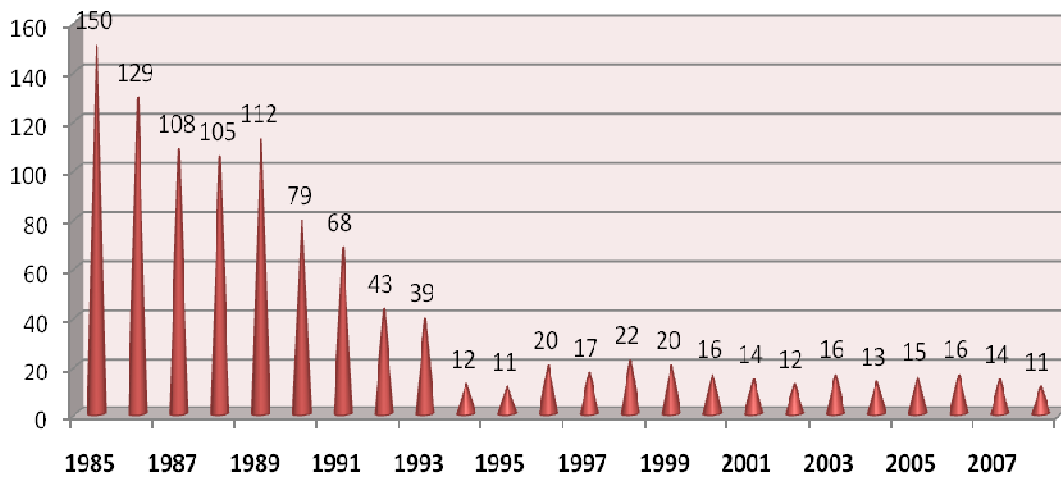


Figure 2: **The tendency of number of agricultural fatal accidents from 1985 to 2008 in Hungary (number of cases/year)**

Source: on the basis of KSH (1985- 1991) & OMMF (1992 - 2008) data, own construction

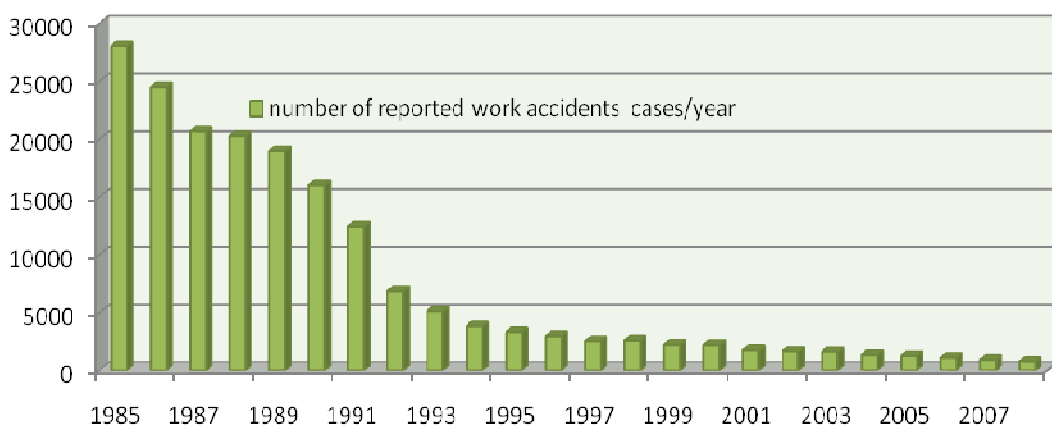


Figure 3: **The tendency of number of reported work accidents in the agricultural sector from 1985 to 2008 in Hungary**

Source: on the basis of KSH (1985- 1991) & OMMF (1992 - 2008) data, own

construction

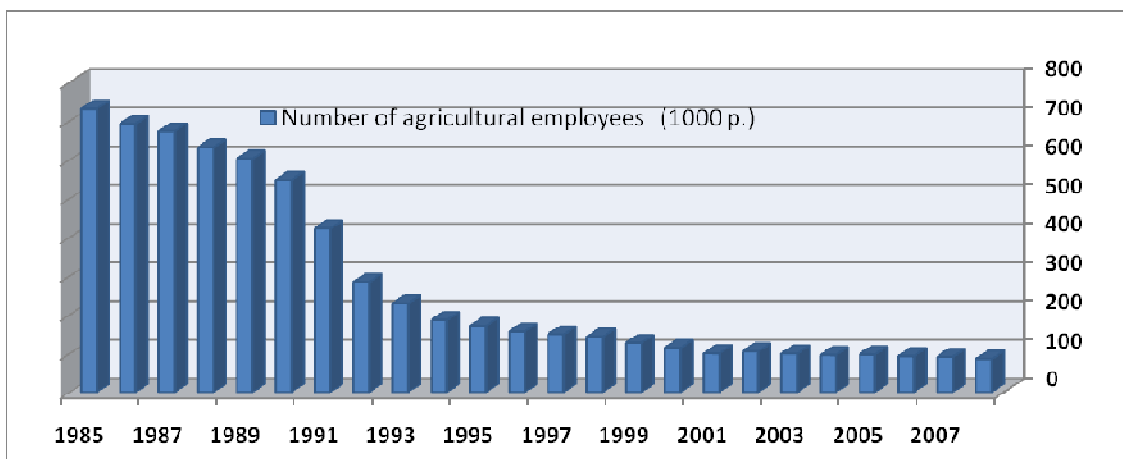


Figure 4: **The tendency of number of agricultural employees from 1985 to 2008 in Hungary**

Source: on the basis of KSH (1985- 1991) & OMMF (1992 - 2008) data, own construction

Executing the Pearson's correlation test, on the 99,9% reliability level significant correlation was found among the three data series (Figure 1, 2, 3).

Table 2: **The Pearson's correlation test results among the tendencies of number of agricultural fatal accidents, number of reported work accidents and number of agricultural employees**

Variables		The tendency of number of agricultural employees 1985-2008	The tendency of number of agricultural fatal accidents 1985-2008	The tendency of number of reported work accidents 1985--2008
The tendency of number of agricultural employees 1985-2008	Pearson Correlation	1	0,983(**)	0,993(**)
	Sig. (2-tailed)		0,000	0,000
	N	24	24	24
The tendency of number of agricultural fatal accidents 1985-2008	Pearson Correlation	0,983(**)	1	0,993(**)
	Sig. (2-tailed)	0,000		0,000
	N	24	24	24
The tendency of number of reported work accidents 1985-2008	Pearson Correlation	0,993(**)	0,993(**)	1
	Sig. (2-tailed)	0,000	0,000	
	N	24	24	24

Source: on the basis of KSH (1985- 1991) & OMMF (1992 - 2008) data, own processing, (**): the correlation is significant at 0,01 level (2-taild)

Between the tendency of number of agricultural fatal accidents (Figure 1) and the tendency of number of agricultural employees correlation value was 0,983. Similarly to this indicator between the tendency of number of agricultural employees and the tendency of number of reported work accidents (Figure 2) as well as between the tendency of number of agricultural fatal accidents and the tendency of number of reported work accidents the correlation was equally 0,993 (Table 2). In this context on the basis of Pearson's correlation tests I proved that the number of reported work accidents as well as number of agricultural fatal accidents statistics apparent improvement clearly caused by decreasing tendency of number of agricultural employees. In other words the decreasing tendency of the number of agricultural employees is a clearly effective factor and the agriculture is still the same high-risk sector, just as it was 24 years ago.

In relation to operationalization of safety culture I determined a dimension collection, which suitable for describing and to characterizing the organizational agricultural OSH related safety culture. In order to illustrate this I created an OSH related organizational safety culture dimension model (SCDM) (Figure 5). This SCDM model represents the correlations among acting factors, which have direct or indirect influences on agricultural organizational OSH related safety culture.

There are a number of factors which have influence on the workplace safety culture. Therefore connected with the influential material factors, I examined the infrastructural conditions of the organizations and the machine tool system status as well.

In the course of examination I got the following results:

In the plant growing sections of the examined organization the average age of the machines is between 5-12 years, but there are 17, even 35 years old machines as well. Therefore in connection with machinery operation of plant growing sectors as a characteristic is stable there is together the new and old machine technology. This situation as a result brings in a powerful risk challenge for machine operators and machine maintainers. The responsible technicians of the examined organizations about their own maintenance efficiency the evaluation is that, the main difficulty are the tool supplying and instrument equipping. Investigating the corporate OSH documents it can be stable at the participant organizations the OSH related tasks are managed by outsider experts 61%.

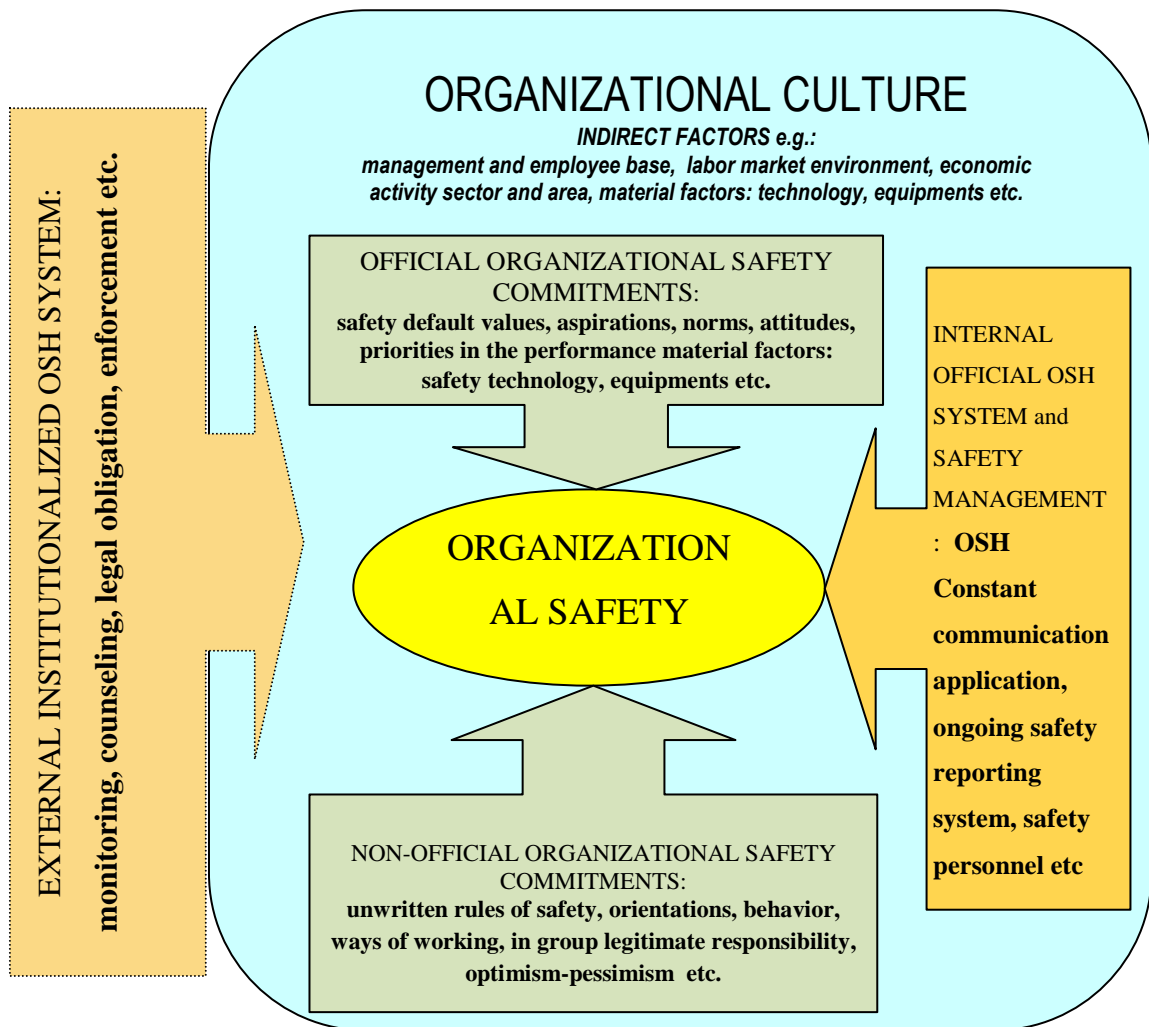


Figure 5. The OSH related organizational safety culture dimension-model

Source: own creation 2009

The OSH related educational and training tasks managing numerical distribution between experts on the basis of organizational status are shown in the *Figure 6*.

Since this document was prepared in two cases of internal experts. Consequently, in the general questionnaire I felt it necessary the senior managers evaluate the vast majority of the external expert risk assessment cost-benefit relationships. As a result, the senior managers evaluations were shown in the 7th Figure. 18.8% of the senior managers declared that the benefit provided by document and any procedure was not worth its costs. Fully contented percent was only 12.5% of the senior managers with the document, declared that it is very worth and useful for risk assessment. However, by the overall assessment, the judgment was the average usefulness, as a senior manager considered opinion about the benefits of the organizational risk assessment documents.

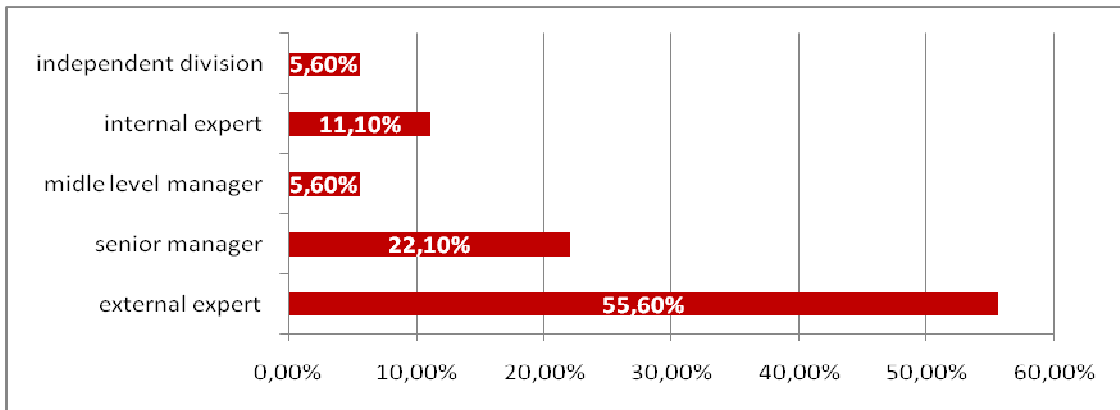


Figure 6: The OSH related educational and training tasks managing percent distribution among experts depending on organizational status

Source: own processing 2009

In connection with risk-assessment was statable every examined organization was in possession of this document.

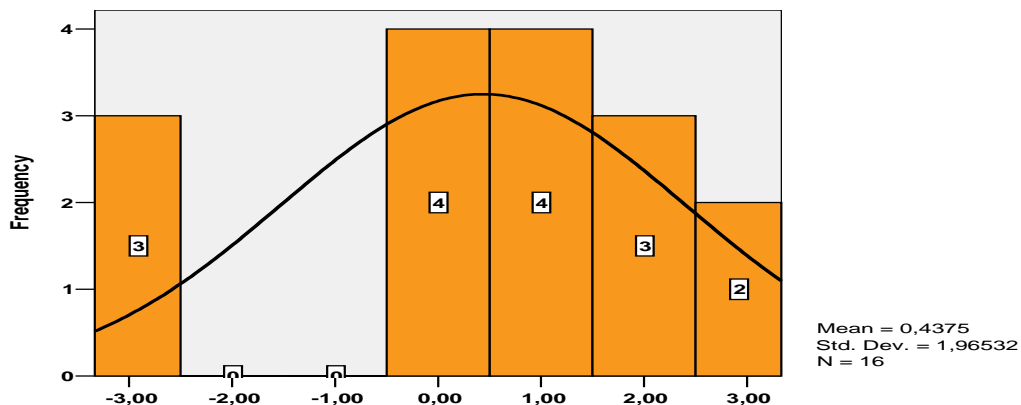


Figure 7: Is the worth the risk-assessment preparation costs, compared with its benefits? Senior mangers evaluations (-3 not at all ... +3 very worth it)

Source: own processing 2009

Assessing the qualification levels of OSH professionals, it was found that the rate of the top-level qualification was 44.5%, the medium-level qualification was 44.4% and 11.1% was the first grade qualification rate. On the basis of examination of the injury certificates what was find at the primary sample unit I established and revealed that the overwhelming majority of work accidents caused by human factors. From the groups of

source of risks as the handling of tools, the work and the work environment, have vast proportion as work accidents causes.

Moreover on the basis of data of the injury certificates I established that the injured workers mainly not interrupt their own work indeed in the cases of not more than 3 days incapacity causing accidents, the workers don't considered their own injury as a workplace accident.

In the cases of workplace accidents and injuries appearing that kind of worker attitude and behavior expressly characterise the safety culture – within this the non-official organizational safety commitments - related behavioral habits. Thus, better understandable the comparatively fewer number of not more than 3 days incapacity causing accidents.

The main comparative examination results of the researched safety culture dimensions

According to the examinations, in the case of leaders' estimation of managing-mistakes impact on safety at work (Table 3), by the leaders the mainly acting factors are the decision-making mistakes, the inspectional mistakes and false instructions.

Table 3: Leaders' estimation of managing-mistakes impact on safety at work by managing levels

Managing mistake variables	Work place status			Kruskal-Wallis Test Significances
	operative leaders (average)	Middle level managers (average)	senior managers (average)	
1. The unclear situation of powers and responsibilities among leaders	+1,56	+1,07	+1,00	0,236
2. Bad decision making	+1,78	+1,48	+1,60	0,376
3. False instructions	+1,89	+1,33	+1,10	0,017
4. Wrong forming of plan of work	+1,44	+1,00	+1,00	0,068
5. Bad command: too difficult or too complicated, not suitable for professional	+2,11	+1,11	+1,10	0,001
6. Wrong determination of daily norm	+1,78	+1,11	+1,00	0,011
7. Bad leadership style	+1,89	+0,93	+1,20	0,007
8. Insufficiency of leader-worker relations	+1,78	+1,07	+1,20	0,088
9. Communication disturbs	+1,44	+1,33	+1,10	0,318
10. Inspectional mistakes and imperfections	+1,78	+1,56	+1,20	0,138
Average index number (from -3 to +3-ig)	+1,74	+1,15	+1,15	-

Source: own processing 2009

Still regarded as a significant factor the communication disturbs and bad commands.

It is statable, the interviewed representatives of the different managing levels - relating to OSH – were attach importance those managing-mistakes factors, which were expressly connected with tasks, competences and roles of the managing-levels.

In the questionnaire, the safety- management tasks has distributed into seven parts. Thus, I have divided the management tasks OSH related planning, organization, decision-making, execution and supervision parts as well as the management tasks supporter OSH related information sources, and regarding to organization outside and inside information sources as well.

The figure 8 shows the estimations general and managing levels about the management tasks importance. From the figure 8 ascertainable that leaders' point of view the management tasks have positive domain preference.

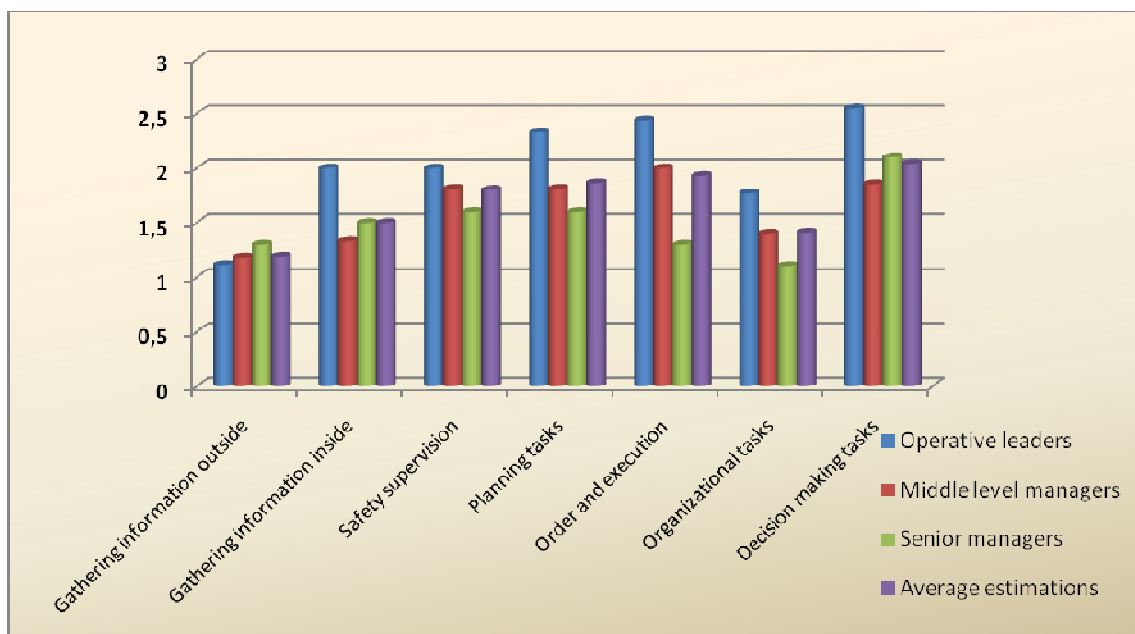


Figure 8: **The estimations of the safety management tasks by the mangers**

Source: own processing 2009

By the leaders, general estimation in order of rank of preference the decision-making tasks are on the first place, this follows the order and execution task group.

The OSH related information gathering from outside and the organizational tasks groups have the least preference values. From the Figure 8 ascertainable that on the operative leading level estimated relatively higher the OSH related tasks as well. From

these results, it has inferred that the operative safety-management tasks mostly delegated on the lower managing levels.

Among the safety-management tasks formed order relevance with 95, 9% likelihood mostly observable at executions of OSH related orders and OSH related decision-making tasks as well. Hereby the operative leading level has a shear in doing execution and decision-making as well. Then descending rate is following the middle and senior managers. These results characterize the real situation in relation to safety-management tasks distribution. With these tasks in empiric relation, mostly the operative leaders have met.

Hereby interpreted that the operative leaders in their own work why evaluated the safety-management tasks higher level outweighed from the average evaluation included the decision-making tasks as well.

Taking the safety culture acting factors estimations of farm leaders and workers into consideration statable that the participant estimated the technological modernity as the greatest influential factor end after this was estimated descending rate the organizational commitments and organizational order of values.

These results, conformity with previous results, in connection with safety culture have reflected a fundamental technical way of thinking extended to the study population. At the examination of age-groups was statable that tendency, that the evaluation of educational level forming influence on the safety culture, parallel with the age growing got higher scale values. Similar significant tendency was statable among the age-groups in the case of organizational traditions evaluation.

On the basis of the attitude examinations results statable and justifiable that both the leaders and workers have a strong positive attitude in connection with tested attitude factors.

The farm leaders ordered relatively higher scale values to the examined 25 - the safety positively influential – attitude factors than farm workers. Between the farm leaders and farm workers significantly different attitudes was mostly provable in the cases of work-group dynamics and activities regulatory factors as well as relation to technical safety status. These attitude differences have been arising from the organizational social position as well as from the characters and connections with the work environment. I measured the farm workers risk assumption separately the *Table 4* shows the results of the analysis.

Table 4: The farm workers risk assumption attitude strength in descending order by the values of the variables

Risk assumption attitudes variables	Average values	Standard deviation
1. I can undertake more difficult complex work compared with my qualification if it is paid more.	+ 0,74	1,746
2. I can undertake more dangerous work if it is paid more.	+ 0,41	1,857
3. I do not reject the boss, if it would be needed, I do not do it then.	- 0,66	1,857
4. If the boss says “I give you a dangerous work for the same money” I undertake it.	- 0,71	1,634
5. I would work even with obsolete not securely working machines or tools as well.	- 0,77	1,799
6. The danger does not matter if the stake is the daily norm.	- 0,78	1,805
7. The primary point of view is not the safe execution of the work.	- 1,82	1,450

Source: own processing 2009

The risk assumption attitudes variables are visible in the table 4 that was placed into the decreasing order of the attitude values. It is clear from the table that the 1. and 2. “Bigger risk for bigger payment” attitude variables are the strongest ones. Therefore in the sense of the preference of these two attitude variables the undertaking of the risk mostly depend on of the expected profit, or rather the undertaking of the risk depends on the money quantity of prize what was offered for the work.

The farm workers in exchange for the suitable payment what they think, they would undertake more complicated and other professional knowledge demanding work, compared it with their own skill abilities. That situation automatically brings about a considerable work safety risk factor from the beginning.

From the results of analysis is statable that the attitude of the assumption of risk of young age-group rather focus on to avoid it. However in this age group they can resist the organizational and managerial expectations less and the cash award motivates them to the assumption of risk largely (Figure 9). The prevailing effect of the managerial authority, opposite the expectations smaller resistance capacity (Figure 10) and, arising from the young persons' life situation , onto assumption of risk too easy motivating possibility, reduces the degree of freedom of the choice offered for them.

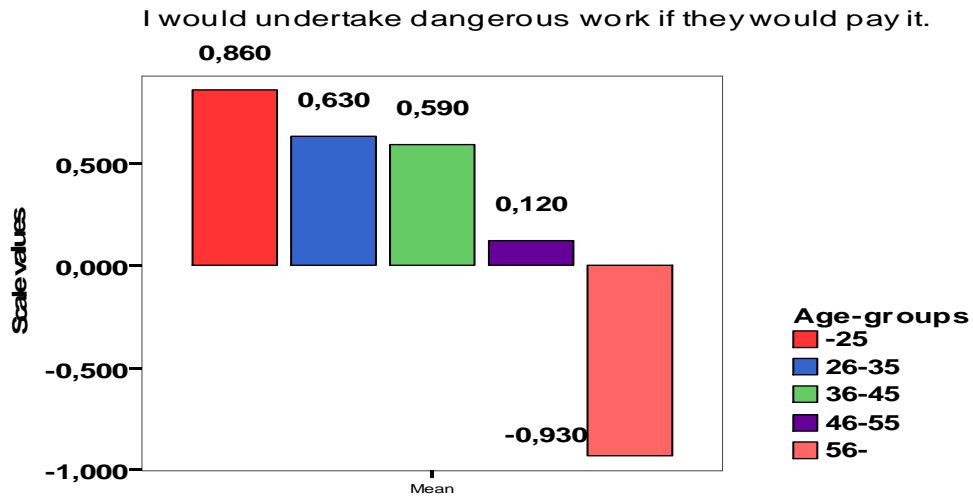


Figure 9: Analysis results about the employees' attitude of assumption of risk in relation to the material motivation. The figure shows it according to distribution of age-groups.

Source: own processing 2009

Hereby that is statable the most exposed age-group opposite the risk challenges of the workplaces is the younger than 25 years age-group.

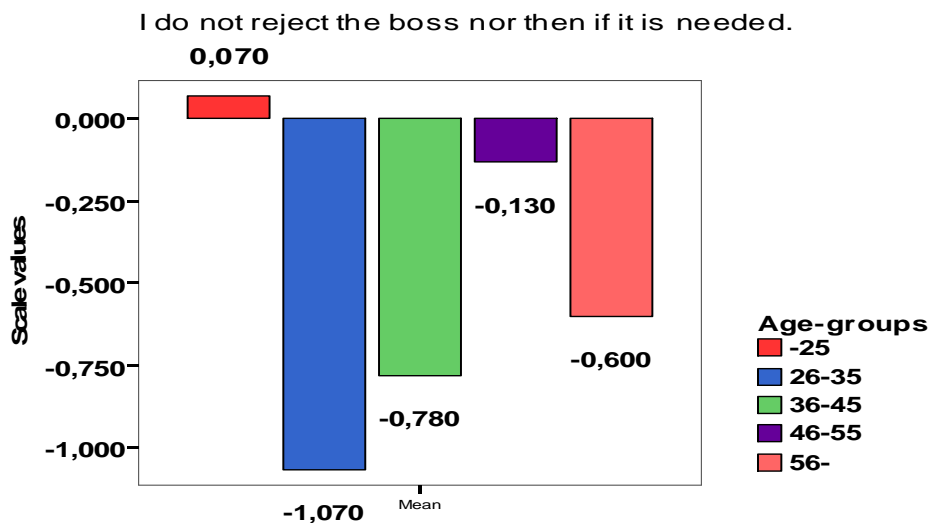


Figure 10: By the managerial authority onto the assumption of risk predisposing attitude effect distribution among the age groups

Source: own processing 2009

This established defencelessness based on the examination of attitude variables shows a gradually decreasing tendency with the progress of the age. In connection with the assumption of risk the aged employees have the most consolidated attitude.

The aged employees do not undertake dangerous work in their own attitude nor if more are paid for it, nor if the leader expects it and nor if the day's work will not be finished.

I established that the examined attitude variables which connected with work safety are stronger in the secondary sampling unit. These attitude variables unambiguously relate to the appearing components of the functional-connected organizational orders of values and order of norms. These components have been also appearing in the non-official organizational safety commitment of safety culture.

I established that in the examined organizations the efficiency of the OSH regulations was mostly generated by the un-ambiguity the concreteness and the consistency. The order of these values in this list is relevant in the examined organizations. The efficiency of the regulation greatly increasing if with the leader's supervision and the agreement of executive partner are combined.

In relationship with evaluations about direction manners it was established that the judgments creates an idealized order of the instruction and/or direction manners in the both circle of farm leaders and farm workers. I established that from the elements of the directing manners those receive the bigger scale value, which higher increases the degree of freedom of the instructed person, in the given special interaction.

From the examination of participants' evaluation ascertainable that - concerning the judgment of the manner variants of the labour protection instructions and/or directions - it was growing in the direction of the elevation strength of the degree of freedom (figure 11).

Direction manners variables

- 8. After the introductions of OSH destinations are exemplary leader behavior.
- 5. After the introductions of OSH destinations are opportune or regular education.
- 7. After the introductions of OSH destinations are continuous feedback (praise, rebuke).
- 4. When the leaders ensured the safety conditions the responsibilities are given to workers, confirmed verbally.
- 6. After the introductions of OSH destinations are continuous reasoning.
- 3. Constant control are and punishment for deficiency.
- 1. There is Severe, imperious instructions.
- 2. After the OSH introductions there is punishment for mistakes or threaten the workers with that.

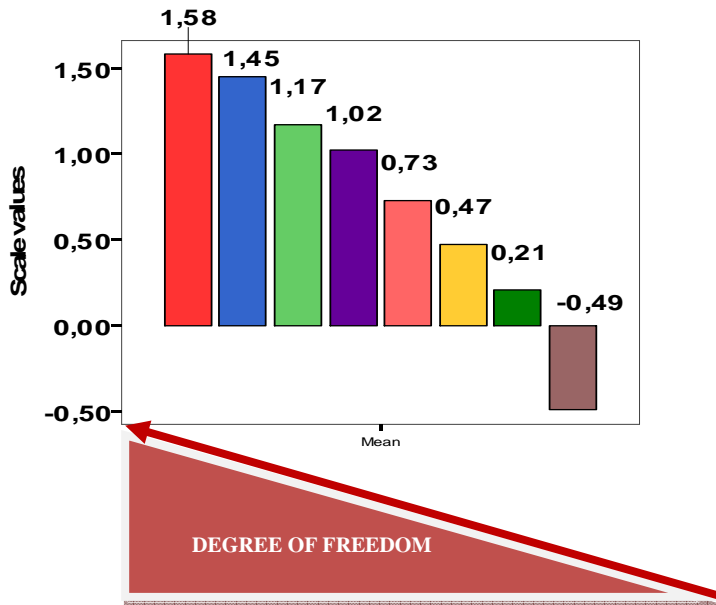


Figure 11: **The judgment of the efficiency of the instructions and/or directions, in decreasing hierarchy**

Source: own processing 2009

I established it in connection with the comparative analysis of the examination dimension of related contentment with the OSH, onto the secondary sampling unit the OSH contentment exceeding the average level hardly the feature (table 5). Differences between the groups were at the certain variables.

I established that the farm leaders are significantly more discontented with the general state of the OSH situation so, than the farm workers.

Significant difference arose with the contentment of supply situation of work clothes official organizational safety commitments, the leaders were more contented, accordance with the representation of the official organizational safety commitments, than the employees. On the other hand, the evaluation of the effort for the reduction of the monotonous work the farm workers' high-level contentment was opposed to the leaders' medium contentment.

Table 5: The results of the analysis of contentment examinations regarding to general and local OSH situations by farm leaders and farm workers

Contentment with (the);	Leaders 16,7 %		Workers 83,3%		Total	ANOVA Sign.
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	
1. ... general situation of agricultural workplace safety	-0,15	1,264	+0,39	1,473	+0,30	0,020
2. ... your fellow-workers readiness for to help each other	+0,76	1,479	+1,25	1,369	+1,17	0,029
3. ... your own work-safety situation in which you are working now.	+0,89	1,120	+0,99	1,428	+0,97	0,669
4. ...severity of OSH requirements.	+0,63	1,372	+0,93	1,458	+0,88	0,200
5. ...relations between leaders and workers	+1,17	1,253	+0,95	1,665	+0,99	0,393
6. ...work environment of this place compared with another workplaces	+0,87	1,310	+0,77	1,520	+0,78	0,664
7. ...your own work environment effects on health	+0,26	1,373	+0,04	1,808	+0,08	0,432
8. ...cleanness of your work environment	+0,37	1,388	+0,62	1,616	+0,58	0,324
9. ...efforts to prevent the work related injuries and disorders	+0,76	1,303	+0,22	1,783	+0,31	0,052
10. ...supply level of OSH equipment	+0,67	1,415	+0,42	1,802	+0,46	0,363
11. ... supply level of work-clothes	+1,02	1,757	+0,30	2,125	+0,42	0,032
12. ...safety culture of your organization	+0,67	1,367	+0,52	1,735	+0,55	0,575
13. ...efforts for reduction of the monotonous work	+0,07	1,289	+0,65	1,793	+0,55	0,036
Scale index (from -3 to +3)	+0,614	-	+0,619	-	+0,618	-
Scale intervals: from -3 to -2,6 extremely discontented; from -2,5 to -0,6 discontented; from -0,5 to +0,5 medium-level contented; from +0,6 to +2,5 high-level contented; from +2,6 to +3 extreme-level contented.						

Source: own processing 2009

Based on the used scale values that is generally statable that, in connection with the contentment variables a middle attitude characterized the asked participants.

4. NOVEL RESULTS OF THE THESIS

- ✓ In connection with the operationalization of agricultural OSH safety culture and atmosphere, I defined dimension groups, which are suitable for characterization of the safety culture. On the demonstration of this I created an own, independent organizational OSH safety culture dimension model, which depicts the factors affecting the safety culture and depicts of those organizational correlation structure as well.
- ✓ I elaborated an own independent research model and an included research method on which is suitable for complex manner to measure and to characterize the organizational status of the OSH safety culture.
- ✓ Based on the examinations of the national secondary data, such as data of the agricultural work accidents, the deathly work accidents data and the agricultural employees' data number changes, I proved that, the improvement of the agricultural accident statistics, unambiguously the employees' number decrease caused it. For this, that is storable, the agriculture in our days is similar risky sector than it was 24 years ago.
- ✓ I verified that, the interviewed representatives of the different managing levels - relating to OSH – were attach importance those managing-mistakes factors, which were expressly connected with tasks, competences and roles of the managing-levels.
- ✓ I revealed the correlations among the attitudes which linked to the assumption of risk of the young age-group. At the young working layer The prevailing effect of the managerial authority, opposite the expectations smaller resistance capacity (Figure 10) and, arising from the young persons' life situation , onto assumption of risk too easy motivating possibility, reduces the degree of freedom of the choice offered for them. Hereby that is storable the most exposed age-group opposite the risk challenges of the workplaces is the younger than 25 years age-group.

5. APPLICABILITY OF THE RESULTS IN THE PRACTICE

- ✓ The OSH related organizational safety culture dimension model, created by me, well applicable for occupational safety and health related safety culture researches regarding to agricultural organizations.
- ✓ The research established and analyzed the problems of agricultural occupational safety and health situation. These results call the attention those essential points to which it is necessary to pay particularly attention for specialists dealing with safety management especially.
- ✓ On the basis of the research results additional discovery analyses turn into justified in connection with agricultural work accident reporting system, the OSH related organizational vertical communication, and in connection with the methodical efficiency of OSH related regulation.
- ✓ In the business practice for the professionals dealing with human resources management the results revealed by the examinations give help in the strategic and/or tactical decision making in connection with the development of safety culture, and also in the definition of the development areas.
- ✓ On the area of the agricultural occupational safety and health, the established results clarify several factors (OSH related cost separation in accounting, efficiency of OSH related regulations) which can solve those problems with suitable orders or with suitable organizational communication.

The aim of my doctoral dissertation was the agricultural OSH related safety culture examination among the agricultural organizations in Hajdú-Bihar County. My examinations justified and characterized the organizational features of OSH and features of safety culture in a wide circle, which appears in the organizational characters' safety value elements, in their attitudes, in their opinions, and in their judgments. All these above mentioned factors are exerting considerable influence on the organization's general safety culture. The safety culture is a very important, less investigated area. The safety culture has several general characteristics but there are many specific characteristics which characterize the economic sectors. Therefore I think that, it is especially and definitely needed to continue the research in this theme, build that onto this started fundament. To do that on account of that the organizational processes of the work place safety be detectable; hereby, the influences on the safety processes, be planned, in other words the safety processes be manageable.

6. PUBLICATIONS RELATED TO THE THESIS

- | Articles in a Hungarian scientific journal with a foreign language summary | CPEN |
|---|-------------|
| 1. Terjék L. (2009): Az emberi tényezők munkavédelmi szempontú vizsgálata Hajdú-Bihar megye néhány mezőgazdasági vállalkozásában. Debreceni Egyetem Agrártudományi Közlemények, Acta Agraria Debreceniensis, University of Debrecen Journal of Agricultural Science o. 109-116. ISSN: 1587-1282 | 0,2 |
| 2. Terjék L. (2009): A biztonsági kultúra és biztonsági légkör konceptualizálásának és operacionalizálásának lehetőségei a nemzetközi biztonságmenedzsment kutatásokban. Debreceni Egyetem Agrártudományi Közlemények, Acta Agraria Debreceniensis, University of Debrecen Journal of Agricultural Science o. 117-126. ISSN: 1587-1282 | 0,2 |
| 3. Terjék L. (2009): Contentment-analysis of work environment in ways of safety at agricultural companies' leaders and workers in Hajdú-Bihar county Jelenkori Társadalmi és Gazdasági Folyamatok, Az SZTE Mérnöki Kar Ökonómiai és Vidékfejlesztési Intézetének Tudományos Folyóirata, V. évfolyam 1-2. szám 2010/1-2. Juhász nyomda, Szeged, o. 164-169. ISSN: 1788-7593 | 0,2 |
| 4. Terjék L. (2010): Munkabalesetek és munkavédelem a magyarországi mezőgazdaságban, GAZDÁLKODÁS, Agrárökonómiai Tudományos Folyóirat (Scientific Journal on Agricultural Economics) Budapest, (megjelenés alatt, befogadó nyilatkozat csatolva) | 0,2 |

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|---|------------|

Articles in a Hungarian scientific journal with a foreign language summary

CPEN

1. **Terjék L.** (2009): Az emberi tényezők munkavédelmi szempontú vizsgálata Hajdú-Bihar megye néhány mezőgazdasági vállalkozásában. Debreceni Egyetem Agrártudományi Közlemények, Acta Agraria Debreceniensis, University of Debrecen Journal of Agricultural Science o. 109-116. HU-ISSN 1587-1282 **0,2**
2. **Terjék L.** (2009): A biztonsági kultúra és biztonsági légkör konceptualizálásának és operacionalizálásának lehetőségei a nemzetközi biztonságmenedzsment kutatásokban. Debreceni Egyetem Agrártudományi Közlemények, Acta Agraria Debreceniensis, University of Debrecen Journal of Agricultural Science o. 117-126. HU-ISSN 1587-1282 **0,2**
3. **Terjék L.** (2009): Contentment-analysis of work environment in ways of safety at agricultural companies' leaders and workers in Hajdú-Bihar county Jelenkori Társadalmi és Gazdasági Folyamatok, Az SZTE Mérnöki Kar Ökonómiai és Vidékfejlesztési Intézetének Tudományos Folyóirata, V. évfolyam 1-2. szám 2010/1-2. Juhász nyomda, Szeged, o. 164-169. ISSN: 1788-7593 **0,2**
4. **Terjék L.** (2010): Munkabalesetek és munkavédelem a magyarországi mezőgazdaságban, GAZDÁLKODÁS, Agrárökonómiai Tudományos Folyóirat (Scientific Journal on Agricultural Economics) Budapest, (megjelenés alatt, befogadó nyilatkozat csatolva) HU-ISSN 0046-5518 **0,2**

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CPEN

1. **Terjék L.- Ertsey I.** (2003): Munkavédelmi oktatás a Debreceni Egyetemen. XI. Országos Munkavédelmi - Munkabiztonsági Oktatási Ankét. Gyöngyös, 2003. 01. 23-24. o. 39-42. **0,05**
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3. **Terjék L.** (2004): A munkabiztonság munkaszervezési vonatkozásai Hajdú-Bihar megye néhány tehenészeti telepén. IX. Nemzetközi Agrárökonómiai Tudományos Napok Gyöngyös, március 25-26. CD **0,1**
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8. **Terjék L.-** Vántus A. (2007): A munkakörnyezet munkavédelmi szempontú elégedettségvizsgálata Hajdú-Bihar Megye néhány mezőgazdasági vállalatának dolgozóinál. (AVA) Nemzetközi Konferencia Debrecen, CD. ISBN: 978-963-87118-7-8 **0,05**
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14. **Terjék L.** (2008): A munkavédelemmel és munkabiztonsággal kapcsolatos ellenőrzések megítélése a mezőgazdasági vezetők körében. „Hagyományok és Új Kihívások a Menedzsmentben” nemzetközi konferencia. október 2-3. Debrecen, o. 538-544. **0,1**

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