SAFETY CULTURE MEASUREMENTS RESULTS IN THE AGRICULTURAL SECTOR

László Terjék

Scientific Assistant
University of Debrecen, Centre for Agricultural and Applied Economic Sciences
Faculty of Applied Economics and Rural Development, Institute of Management and Organization Science,
Department of Logistics and Organization
H-4032, Böszörményi út 138. Debrecen, Hungary

Abstract:The author examined the safety culture and in relation to that the safety and health-related human factors. The examination was conducted primarily in the agricultural sector. Safety culture is also a key factor in business life especially in productive sectors. Basically, it determines the general work safety and occupational hazard situations, which may have an impact on business, competitiveness, and efficiency, and also employee satisfaction.The concept of safety culture is new in the applied sciences. Scientific investigations of safety culture are diverse, varying by country, science background and economic sphere. The author has created a dimension-model, which organically reflects the relations of safety culture within an organization, projected mainly on conditions in Hungary. Some safety culture dimensions have been also examined on the basis of international safety culture research methodology. The author investigated some safety culture dimensions on the basis of international safety culture research methodology. This method is suitable to investigate the status of the relevant safety culture dimensions at agricultural organizations. It has possibilities, in the course of safety culture operationalization, to mark out dimensions which as elements of organization culture are suitable for denotation of safety culture. In this paper the author publishes some of his results about the examined 18 agricultural enterprises. The author used a self-made questionnaire for the interviews. In the questionnaire he used Likert-type scale to measure the qualitative elements of the dimensions.

Keywords: occupational safety and health, operationalization, safety culture, dimension model
Running head: Safety culture measurement dimension model

1. Introduction

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 priority of the work outcomes depending on conditions of time and space is constantly changing. The general axiom is that the primary aim of an enterprise is the income and benefit. In this relationship the entrepreneur has interested in reaching the total income (Pfau 2002). In order to business achieve the process and results objectives it has to be mobilized resources, to invest. Nowadays – by the financial based economy and not by the human based economy – from all the resources the most upgraded is a classical resource, the human. That is the characteristic of resource distribution in the agricultural sector, every farm worker gets increasingly higher-value resource parts (instruments and machines) to operate to reach the aim of production. This phenomenon raises the magnitude of the responsibility and the value of human work.

In Hungary there are recognized and eminent representatives of research workshops – Berde (1999), Gyökér (1999), Kővári (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 agree in that the human factors in relation to resources manifest in frame of organizational culture.

To view this problem from the employer's side that is an increased risk if an employee in connection with work safety is poorly motivated meanwhile operating an extremely valuable instrument. Therefore it is very timely and became very important to research the Occupational Safety and Health (OSH) across the economy (Dienesné et al. 2007). Therefore the research of Occupational Safety and Health (OSH) across the economy has become very timely and extremely important.

Hungary just like the European Union Member States is in the period of preparation for accession, and has already undergone a significant transformation. Hungary in the different producing spheres complied with quality requirements. In these changes the OSH regulatory system has made a very big step 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 research theme was the scientific investigation of OSH related safety culture, in the 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 that the research results must be focused on the improvement of agricultural safety management work by means of safety culture development.

Objectives of the research:

- To develop a complex research and measurement-method, which is suitable for the measurement of 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,
- 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 in relation to human factors, belonging to safety culture and safety climate, 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 assist to the more accurate description of OSH related safety culture situation contributing to the good operation and more effective OSH management.

2. Antecedents of the research and materials and methods

I made my research in the 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 modularly structured. The safety management fits in this modular system as a unit. This unit contains those dimensions that belong to human resource scientific investigations. These dimensions are directly or indirectly connected to OSH, or other aspects of work related safety and safety culture. The model of research is on 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 achieving the aims of the investigation theme. Conform to my research subject matter as a first step I analyzed the OSH related national secondary statistical database and undertaking documents, for examples of injury certificates. Thereafter on the base of questionnaire data, I revealed and characterized the safety culture forming dimensions.

The connected point of views and dimensions in relation to the research are represented on three questionnaires. These were: one general questionnaire the organization identifier and the work environment objectively characterized in one "farm leader" questionnaire and one "farm worker" questionnaire. The questionnaires were 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 are suitable to measure the state of technical supply and workforce conditions of the organization. The safety culture dimensions on the general questionnaire were represented by 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 are represent the dimensions of the safety culture. I used a Liker-type scale (–3...0...+3) for the characterizations and evaluations of the qualitative items.

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 basic variables were created, 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. Addition to that 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 to 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. Results and Discussion

By the statistical analysis of the national agricultural workforce and OSH statistical databases I pointed out the agricultural sector's OSH related situation, what is rooted in the past. 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). 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 1).*

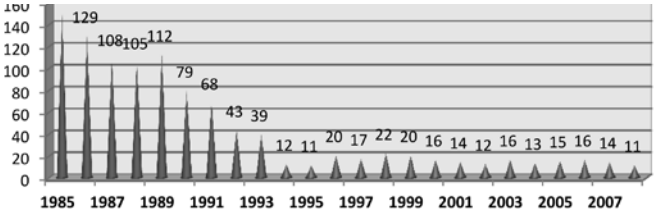

Figure 1: The tendency of number of agricultural fatal accidents from 1985 to 2008 in Hungary (number of cases/year)
Source: on the basis of KSH (1985–1991) & OMMF (1992–2008) data, own construction

Figure 2: 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

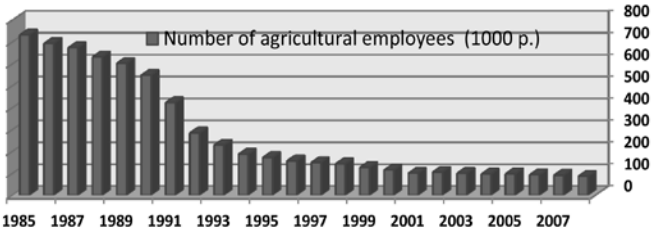

Figure 3: The tendency of number of agricultural employees from 1985 to 2008 in Hungary
Source: on the basis of KSH (1985–1991) & OMMF (1992–2008) data, own construction

Table 1: 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)

In this context on the basis of Pearson's correlation tests I proved that the number of reported work accidents as well as the number of agricultural fatal accidents statistical apparent improvement clearly caused by decreasing tendency of the 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 25 years ago.

In relation to operationalization of safety culture I determined a dimension collection, which suitable for describing and 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 4).* This SCDM model represents the correlations among acting factors, which have direct or indirect influences on agricultural organizational OSH related safety culture.

Figure 4: The OSH related organizational safety culture dimension-model
Source: own creation 2011

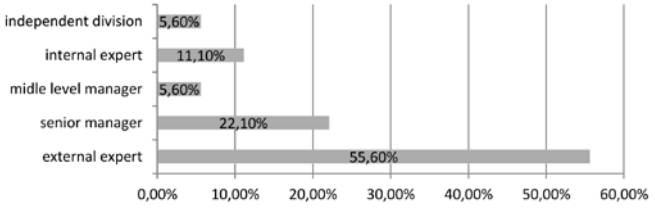

Figure 5: The OSH related educational and training tasks managing percent distribution among experts depending on organizational status
Source: own processing 2009

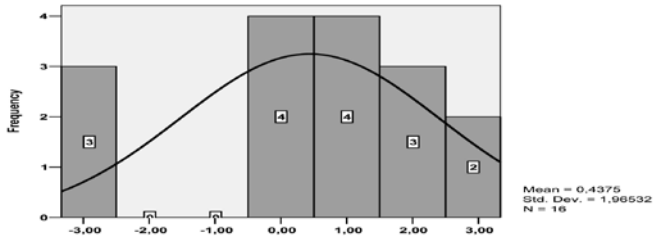

Figure 6: Is the worth the risk-assessment preparation costs, compared with its benefits? Senior managers evaluations (–3 not at all … +3 very worth it)
Source: own processing 2009

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 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 it can be stated that the new and old machine technology exists together. This situation as a result brings in a powerful risk challenge for machine operators and machine maintainers. The responsible technicians of the examined organizations stated about their own maintenance efficiency that, the main difficulties are the tool supplying and instrument equipping. Investigating the corporate OSH documents it can be stated that at the participant organizations the OSH related tasks are managed by outsider experts 61%.

The OSH related educational and training tasks managing numerical distribution between experts on the basis of organizational status are shown on *Figure 5.*

In connection with risk-assessment it was stated that every examined organization was in possession of this document. Since this kind of document only in two cases was made by internal experts, virtually without costing. For the other cases, where was cost account, consequently, I felt it necessary to evaluate the cost-benefit relationship of risk assessments by senior managers.

As a result, the senior managers' evaluations were shown in the 6th Figure. 18.8% of the senior managers declared that the document no provided benefits and the procedure were not worth its cost. The percent of the fully contented senior managers was only 12.5%. They declared that this document 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.

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 data base of the injury certificates it is established that the injured workers mainly not interrupt their own work, indeed in the cases when incapacity causing accidents of not more than 3 days, the workers don't considered their own injuries as than a workplace accident or even an accident, just a passing thing.

In the cases of workplace accidents and injures appearing that kind of worker attitude and behavior expressly characterize 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 mistake management- impacts on the safety at work *(Table 2),* main acting factors by the leaders are decision-making mistakes, inspectional mistakes and false instructions.

The organizational communication problem and bad command are still regarded as significant factors.

It can be stated that, the interviewed representatives of different managing-levels – in connection with OSH – have attached greater importance to those managing-mistake

factors, which were expressly connected with their own managing tasks and competences.

In the questionnaire, the safety- management tasks are separated 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.

Figure 7 shows the estimations in general and the managing levels about the management tasks importance. From figure 7 it is ascertainable that from the leaders' point of view the management tasks have positive domain preference.

Table 2: Leaders' estimation of managing-mistakes impact on safety at work by managing levels

Managing mistake variables	Work place status			Kruskal-Wallis Test Signifi-cances
	operative leaders (average)	Middle level man-agers (average)	senior managers (average)	
1. The unclear situation of powers and re-sponsibilities 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 com-plicated, 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 rela-tions	+1,78	+1,07	+1,20	0,088
9. Kommunication disturbs	+1,44	+1,33	+1,10	0,318
10. Inspectional mis-takes and imperfec-tions	+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

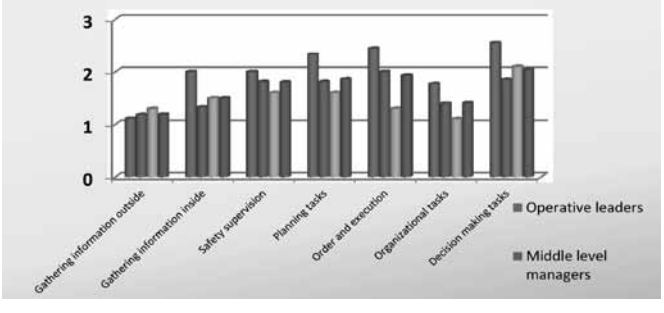

Figure 7: The estimations of the safety management tasks by the mangers
Source: own processing 2009

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

The OSH related information gathering from outside and the organizational tasks groups have the least preference values. From Figure 7 it is ascertainable that on the operative leading level the OSH related tasks are relatively high. From these results, it has inferred that operative safety-management tasks mostly delegated to lower managing levels.

Among the safety-management tasks there is an order of relevance with 95, 9% likelihood, mostly observable at executions – of OSH related orders – and OSH related decision-making tasks as well. Therefore the operative leading level has a shear in doing execution and decision-making as well. The descending rate follows the middle and senior managers. These results characterize the real situation in relation to safety-management tasks distribution. These tasks in empiric relation are met mostly by operative leaders. Hereby it is interpreted that why the operative leaders in their own work evaluated the safety-management tasks higher level outweighed from the average evaluation included the decision-making tasks as well.

From the evaluation of safety culture acting factors is statable that the highest evaluated influential factor is the technological modernity, and this is followed by the others evaluated factors descending rate, just like organizational commitments and organizational order of values.

These results, conformity confronted with previous results, in connection with safety culture have reflected a fundamental technical way of thinking extended to the studied population. At the examination of age-groups was statable that tendency, that the evaluation of educational level has an influence on the safety culture, parallel with the increase of age got higher scale values. Among the age-groups similar significant tendency was statable 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 with tested factors. The farm leaders gave relatively higher scale values to the examined 25 attitude factors than farm workers. Significantly different attitudes were between the farm leaders and farm workers.

These are mostly provable in the cases of work-group dynamics and activity 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 worker's risk assumption separately *Table 3* shows the results of the analysis.

The risk assumption attitude variables are visible on table 3, which was placed into the decreasing order of the attitude values. It is clear from the table that the first and second "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 the expected profit, or rather the undertaking of the risk depends on the money what was offered for the work.

Table 3: 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

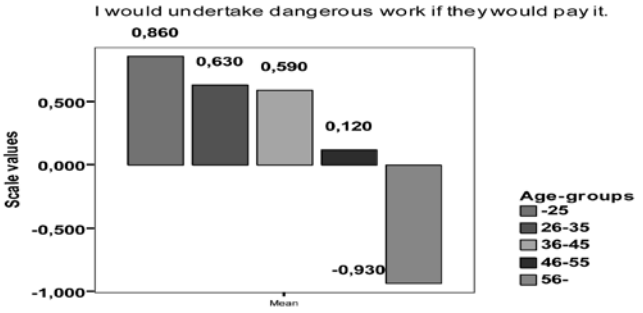

Figure 8: Analysis results about the employees' attitude of assumption of risk in relation to the material motivation. The figure shows it according to distribution of age-groups.
Source: own processing 2009

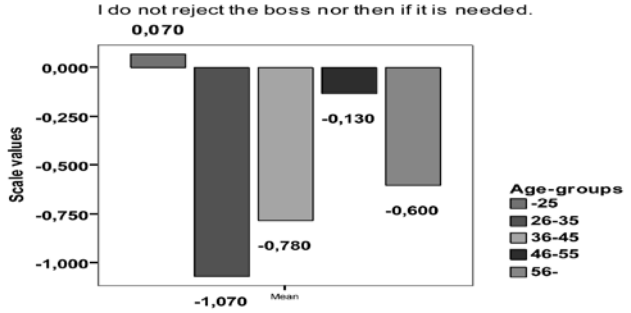

Figure 9: By the managerial authority onto the assumption of risk predisposing attitude effect distribution among the age groups
Source: own processing 2009

The farm workers in exchange for the suitable payment what they think, they would undertake more complicated and other professional knowledge demanding works, compared it to their own skills or abilities. That situation automatically brings about a considerable work safety risk factor from the beginning. From the result of the analysis is statable that the attitude of the assumption of risks among young age-group rather focuses on to avoid it than to accept 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 mostly *(Figure 8).* The prevailing effect of the leading power, and smaller resistance capacity against leaders expectations *(Figure 9)* and, arising from the young persons' life situation, too easy motivating possibility for risk-taking, are reduce the degree of freedom of the choice.

Therefore in terms of risk that is statable the most exposed age-group in this sample is the younger than 25 years group of people.

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 neither take dangerous work in their own attitude nor if more payment is offered, nor if the leader expects it and nor if the day's work will not be finished in time.

It established that the examined attitude variables which are 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.

It established that 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 regulations greatly increasing if under the leader's supervision and the agreement of executive partner are combined.

In connection with the direction manners evaluations it was established that the evaluations are creates an idealized order of the direction manners and/or modes of provisions 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 implementation.

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

In connection with the dimension of OSH contentment analysis I established that the OSH contentment hardly exceeding the average level (table 4). Between the groups were differences at the case of certain variables.

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

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

Significant difference arose in connection with the contentment of supply situation of work clothes; leaders were more contented, than the employees. On the other hand,

the evaluation of the effort for the reduction of the monotonous work, the farm workers have high-level contentment than leaders have.

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

Table 4: 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

4. Results

It should be to emphasize that these results only applying to the sample. Naturally these results have generalizable characteristics, but the research sample size and the special geographic and economic area are not suitable for statements of general regularities. However, these results have characterized some basic patterns.

The main results are:

- 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. Onto the demonstration of this I created an own, independent organizational OSH safety culture dimension model, what 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 which are suitable for complex measurement and characterization of 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 fatal work accidents data and the agricultural employees' data number changes, I proved that, the improvement in the agricultural accident statistics, caused unambiguously by the decline of the number of employees' . For this, that is statable, the agriculture in our days is similarly risky sector than it was 25 years ago.
- I verified that, the interviewed representatives of the different managing levels - relating to OSH – have an attached importance to 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 leading power, and smaller resistance capacity against leaders expectations *(Figure 10)* and, arising from the young persons' life situation , too easy motivating possibility for risk-taking, are reduce the degree of freedom of the choice. Hereby that is statable that the most exposed age-group for the risk challenges of the workplaces is the younger than 25 years age-group.

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