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MOTIVATION FOR OCCUPATIONAL SAFETY

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Abstract. *It is one of the characteristics of human beings to be guided, not only by one, but by a number of motives, and to be active due to influence of a number of needs. All of these motives together form a complex of factors that induce and direct human activity. Since motives are immanent, that is, constituent parts of an integrated whole called personality, only by their careful analysis we can get an answer to the question: Why do people in certain situations behave in such a way and not in another? What is also important is to find out what the motives of such a behavior are, in order to understand the causes that make healthy human beings break the rules, sometimes on purpose, and so expose themselves to danger. By cognition of the objective stimuli in the working environment, it is possible to explore practical ways to remove or decrease effect of the factors causing unwanted motivation.*

Key words: *occupational health, functional autonomy, satisfaction of needs*

1. INTRODUCTION

In order to increase working success and protect all the elements of productive work, we use a system of different measures to help create motives for working activity and occupational safety in an employee.

By analyzing main motives in a working activity, Tomaševskij came to a conclusion that there are five of them in the process:

The motive of benefit consists in getting an award for work results. The notion of benefit includes material benefit (salary, premium) and social benefit (self confidence, recognition of one's own personality, prestige). Openly expressed link between the real results of work and its benefit, as the research has shown, strengthens the power of the motive of benefit. In addition, it is necessary to inform the employees systematically about the results of their work, as well as to inform them in time.

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The motive of safety consists in avoiding danger during the working process. By the term 'danger', we consider not only the possibility of physical injury that would endanger employee's health and life, but also material danger (connected with breaking of machines, losing premium, becoming invaluable and losing position) and socially meaningful danger (administrative punishments, losing respect and authority, etc.). The author noticed that the term 'danger' could not be evaluated as contrasted to benefit. He emphasized difference in principle between psychological and physiological mechanisms of positive motivation – aspiration to achieve something (for example, to win a reward) and to avoid something (for example, to lose a reward). Psychological investigations have shown different influences of one or the other motive upon the activity results and intense effectiveness of the motives oriented toward agitation.

The motive of comfort is manifested in aspiration to choose an easier way to carry out tasks that demand less energy loss and less psychological effort. However, the easier tasks are not those that can be fulfilled in the objectively simplest way, but those for which a man has acquired habits. The most uncomfortable elements and actions are especially those that seem redundant to the employee and in contrast to his acquired habits. Therefore, sometimes, an individual protection device, which is in employee's opinion unnecessary, appears to him as especially uncomfortable, although it does not disturb him at all.

The motive of pleasure is expressed in employee's satisfaction with the results of the process of work. Such pleasure can occur directly after the achieved result, or indirectly, by showing what is the effect of that result in achieving a further goal. It is obvious that the manifestation of the pleasure motive depends on the criteria of evaluation, favor and interest of the employee. Such motive is especially strong when the profession corresponds to employee's training, that is, when it is a matter of prestige.

The motive of 'leveling' is expressed in aspiration to act according to the way accepted by the working group, and with desire not to be worse than the others. This motive does not differ in principle from the social usefulness motive and the motive of avoiding social criticism because a man, in a specific situation, expects neither reward nor punishment. The motive of accepting cooperatives' opinion originates from aspiration, which characterizes humans only, to take part in the general way of thinking, starting from knowledge that the environment expects something from them and it appears as a product of the collective work itself.

These motives are more or less present in each employee's activity. However, the role and specific weight of each of those motives in total working motivation is not the same for every employee. Each employee has its own motive hierarchy that expresses the dynamic kernel of a personality, which induces and directs man toward a specific activity.

During the analysis of human behavior in a working process it is necessary to point out the main motive and determine its intensity as well as to determine relative power of the other motives that stimulate man into working activity. In order to understand why one specific motive has the greatest power in a working activity, we have to analyze criteria for valuing personality and to point out the objective conditions under which that motivation has manifested itself. Nevertheless, there are a number of objective laws, which influence the power of motivation directly. They will be further analyzed in the text after we try to place the motivation for occupational safety into the general work motivation scale.

Is the motivation for occupational health autochthonous or is it a derivative of the safety motive?

According to Maslov's theory of the motive hierarchy, the motive of safety is the first to be satisfied right after the biological motives (Maslov, 1982). Its function is to organize behavior and engage organ capability. Biological motives and the motive of occupational safety, according to Maslov, are motives of lower order. In this conception, an organism as a whole is considered as a mechanism directed toward searching for safety. It is manifested in striving to keep the situation constant, which will provide satisfaction of the motives relevant for an individual. The need for safety can be expressed in the following goals (Rot, 1983):

- All biological needs of an individual should be satisfied, especially existential needs;
- Employee's position and reputation in a society should be protected and he/she should be treated as a member having full civil rights;
- Employee should satisfy his/her psychological and social needs (need for aesthetics, for knowledge, etc.).

Although the source of this motive is in child's need for love, it has, also, a great importance in adult life. Many people think that the origin of striving for social order, obedience to law and discipline and acquiring property, lies in the aspiration to ensure existential, social and psychological safety.

As we have already mentioned, the way to satisfy man's needs is directly influenced by the environment man lives and works in. Not only biological conditions for development, but also social circumstances influence motive transformation. In that sense, Allport presented his theory of functional autonomy of motives, according to which there is historical but not functional continuity in development and transformation of motives (Allport, 1969.). He recognizes two levels of functional autonomy. The first is "perseverative functional autonomy " and it is based on neurological mechanisms, and the second is "independent functional autonomy" which the author uses to explain higher or so-called "mature" forms of motivation. We will not get into further analysis of "independent functional autonomy", according to which the idea of oneself and the philosophy of life of an individual are the main organizing factors of human behavior. It is possible to paraphrase the illustration the author cited in order to explain his assumption: a worker who gets a job in a factory, without any wish to do the job he was given, would later like that job and devote all his life to it.

Bearing in mind already explained instrumental theory of occupational motivation, according to which instrumentality is defined as association between two goals, that is, as a belief (expectation) that one goal is necessary and sufficient condition for achieving other important goal, motivation for occupational safety could be considered as a prerequisite and an important factor of motivation for work.

Based on what we have already stated and taking into consideration that each compilation bears risk, ***it is thought that motivation for occupational safety is autochthonous motivation in terms of Allport's "independent functional autonomy", based on biologically similar motive for safety and determined by social conditions of development and the principles of instrumentality which lie in the basis of motivation for work***.

The motives for occupational safety are strongly influenced by the cognitive component, that is, the ability to understand clearly the object of motivation. Psychologists of the Wirtzburg School proved in an experiment that both clarifying and defining of an object a person is directed to, strengthen the motives for reaching that object. This dependence is defined by "the law of specific determination of will power". Therefore, if an employee does not imagine dangers of his job intelligible enough and in that way does not realize clearly benefit which protection devices and the occupational safety rules would give him, then the strength of his motivation to use such devices and follow the safety rules will be very low. As a result of this proportion, some other, already mentioned, motives of working activity will take higher places in the motivation hierarchy in employee's behavior instead of the motives for occupational safety.

The power of motivation for occupational safety is influenced by habits. Habits increase work results and the more successful employee is in his job, the more attractive the job becomes. That is why we can conclude that habits not only positively influence the motive realization, but also strengthen their intensity. Accordingly, by forming habits of obeying rules of occupational safety, employees strengthen their own motivation to behave according to the rules. Besides, if a habit is influenced by a stronger motive, it will form faster. Therefore, an appropriate chain of factors is formed in that way: a stronger motive induces forming of habits, and already formed motives strengthen this motive even more.

Original attractiveness of some motives' goal contributes to strengthening of them in the working process. It is one of the characteristics of man to idealize attractive objects, which directs him even more to them, and sometimes makes them an object of some other motives. Under the influence of such strengthened motivation, adequateness of perception could be disturbed and employee could comprehend a situation the way he wanted to see it, and not the way it really is. Namely, under the influence of a strong motive, which reduces the ability of differentiation in relation to conditions surrounding it, man can easily accept wishful for real. Therefore, for example, under the influence of strong motivation to finish the job sooner, employee could hastily appraise a situation, understand the job to be simple, allow himself to make a mistake and experience an accident at work. Another psychological effect can also contribute to this misappraisal of a situation: under the influence of strong motivation, an accident could seem less likely than it really is. In the mentioned example, employee may even notice that he is breaking the rules of safe work in a hurry, but the consequences of such an action seem to him less likely than they actually are, which may be one of the reasons for his injuries at work.

The described factors, together with other factors of cognitive and emotional nature, influence the power of motivation for occupational safety, providing it, in each case, a place in the hierarchical system of motives in the scope of entire work engagement.

Research Goal

A goal of this research is:

- to investigate motivation for occupational safety in employees of different demographic characteristics (sex, age, length of service, qualifications and material status).

- to investigate motivation for occupational safety in employees of different occupational roles (laborer vs. clerk, executive vs. manager, key staff member vs. not very important staff member).

2. METHODS

Research was conducted on the sample of six employees of holding corporation "Zdravlje" in Leskovac from 01.03.2000. to 31.05.2000. The employees worked in a group (of around 20 members), and they were allowed breaks and slowdowns during the production process.

Research consisted of more than one part, and Supplement No.1 and Supplement No.2 were used for the needs of this paper.

Data on *demographic characteristics* (sex, age, length of service, qualifications and material status) and *occupational roles of the tested employees* (laborer/clerk, executive/manager, key staff member/not very important staff member) were collected by using a questionnaire that consisted of eight questions, which the tested employees answered by circling one of the given answers (*Supplement No.1*).

Data on *motivation for occupational safety* were collected by using a scale for evaluating occupational motivation, which consisted of 35 items. There were seven sub-scales in this instrument. Each question was answered by circling one of the given answers. Each of 35 items started with: "It would be important for me to…" and then there were additions that represented some of the needs or concrete means of motivation. Answers were classified on a four- degree scale, which enabled the employees to express the degree of importance (1 = not important, 2 = mostly not important, 3 = important and 4 = very important). Each of seven sub-scales consisted of five questions (items). Range of points was from 5 to 20, where higher score denoted higher motivation, and lower score lower motivation. This form of instrument, as well as a number of items, was taken from the research of Majstorovic (1996.) because his way of evaluating motivation seemed the most acceptable considering the goals of our work. Seven sub-scales in this instrument represented seven determining motivating factors, which were often present in researches of these areas: income, employment, inter-human relationships (social needs), personal needs, safety work conditions (occupational safety), work contents and participation in decision making (*Supplement No.2*).

Data, collected in this research, were processed by the following statistical methods, measures and procedures:

- frequencies and percents;
- ranks;
- arithmetic mean and standard deviation;
- importance of difference between arithmetic means for dependent and independent samples;
- Pearce linear correlation coefficient from raw data and skater-diagrams and its importance;
- rank-difference coefficient (ro coefficient);
- Hi-square from 2×2 charts and charts larger than 2×2 and its importance.

3. RESULTS AND DISCUSION

In order to get a fuller picture of motivation for occupational safety, we calculated the "achievements" of employees in all seven scales of the instrument of occupational motivation. Minimal and maximal values, arithmetic means and standard deviations, as well as ranks based on them were shown in Table 1.

Table 1. Occupational motivation

Sub-scales	Rank	AM	SD	Min.	Max.
1) safety work motivation	I	16.86	2.00	8	20
2) employment	I	16.84	2.58	7	20
3) material stimulation	III	16.25	1.89	11	20
4) social needs	IV	15.48	2.28	8	20
5) partic. in decision making	V	14.12	3.01	5	20
6) work contents	VI	13.82	2.77	6	19
7) personal needs	VI	13.73	2.55	7	18

AM1: AM2 → not important; AM1: AM3, 4, 5, 6, 7 →level 0.01;
AM2: AM3, 4, 5, 6, 7 → all differences important at level 0.01;
AM3: AM4, 5, 6, 7 → all differences important at level 0.01;
AM4: AM5, 6, 7 → all differences important at level 0.01;
AM5 : AM6 → level 0.05; AM5 : AM7→level 0.01;
AM6 : AM7 → not important

By determining importance of differences between arithmetic means for dependent samples, we noticed that the difference between average achievement of an employee on the safety work motivation scale (AM = 16.86) and average achievement on the employment motivation scale (AM = 16.84) is not statistically important. We can reliably conclude that these two factors have equal work motivational value in employees of our research.

By comparing arithmetic mean on the safety work motivation scale and average values measured on five other scales, we determined that safety work had:

- 0.61 point on the average higher work motivation value than salary (the difference is important at level 0.01, t = 7.14);
- 1.38 points on the average higher work motivation than social needs (level 0.01, t = 16.25);
- 2.74 points on the average higher work motivation value than taking part in decision making (level 0.01, t = 22.99);
- 3.04 points on the average higher work motivation than work contents (level 0.01, t = 26.03);
- 3.13 points on the average higher work motivation than personal needs (level 0.01, t = 29.94).

By comparing arithmetic mean on the employment motivation scale and average values measured on five other scales, we determined that certainty of employment had:

- 0.59 points on the average higher work motivation value than salary (level 0.01, t = 6.03);
- 1.36 points on the average higher work motivation than social needs (level 0.01, t = 13.12);

- 2.72 points on the average higher work motivation value than participation in decision making (level 0.01, t = 26.04);
- 3.02 points on the average higher work motivation than work contents (level 0.01, t = 23.69);
- 3.11 points on the average higher work motivation than personal needs (level 0.01, t = 29.18).

Based on the results of these analyses, we can conclude with 99% reliability, that the motivations for safety work and certainty of employment are much more present in the employees of our research than other five motivational factors. In accordance to this, motivations for safety work and certainty of employment share the first place on the rank order of occupational motivation.

By comparing arithmetic mean on the material stimulation motivation scale and average values measured on four other scales, we determined that material stimulation had:

- 0.77 points on the average higher work motivation value than social needs (level 0.01, t = 7.14);
- 2.13 points on the average higher work motivation value than participation in decision making (level 0.01, t = 18.34);
- 2.43 points on the average higher work motivation value than work contents (level 0.01, t = 22.71);
- 2.52 points on the average higher work motivation value than personal needs (level 0.01, t = 28.92).

Based on the results of these analyses, we can conclude with 99% reliability, that motivation for salary is much more present in the employees of our research than other four motivational factors. In accordance to this, motivation for salary takes the third place on the rank order of occupational motivation.

By comparing average motivational value of social needs with average motiva-tional values of three other motivational factors, we determined that social needs had:

- 1.36 points on the average higher work motivation value than participation in decision making (level 0.01, t = 10.82);
- 1.66 points on the average higher work motivation value than work contents (level 0.01, t = 12.24);
- 1.75 points on the average higher work motivation value than personal needs (level 0.01, t = 13.23).

Based on the results of these analyses, we can conclude with 99% reliability, that motivation for social needs is much more present in the employees of our research than other three motivational factors. In accordance to this, social needs take the fourth place on the rank order of occupational motivation.

By comparing average motivational value of participation in decision making with average motivational values of two other motivational factors, we determined that social needs had:

- 0.30 points on the average higher work motivation value than work contents (level 0.05, t = 2.13);
- 0.39 points on the average higher work motivation value than personal needs (level 0.01, t = 3.41).

Based on the results of these analyses, we can conclude with 95% reliability, that motivation for participation in decision-making has higher work motivation value than work contents, and with 99% reliability that participation in decision-making has higher work motivation value than personal needs. In accordance to this, participation in decision-making takes the fifth place on the rank order of occupational motivation.

By comparing arithmetic means of intensity of work motivation for work contents (AM = 13.82) and personal needs (AM = 13.73), we calculated 't' value of the test, which is 0.94, and which shows that the difference is not statistically important.

The conclusion is that work motivation value of these two factors is equal, that is, they share the sixth place on the rank order of occupational motivation.

In order to determine a place of motivation for safe work in the range of seven work motivation factors, we have conducted a correlative analysis. By applying formula for calculating Pearce linear correlation coefficient and determining its importance, we came to the results shown in Table 2.

Table 2. Correlation between motivation for safe work and other motivational factors.

	employment	salary	social needs	deciding	work cont.	personal n.
Safe work	r = +0.61 (0.01)	r = +0.43 (0.01)	r = +0.53 (0.01)	r = +0.38 (0.01)	r = +0.31 (0.01)	r = +0.39 (0.01)

Table 2. results show that there are positive correlations, important at level 0.01, between the intensity of the safe work variable and the intensity of six other variables (motivational factors).

4. CONCLUSION

a) employees who have developed motivation for safe work at the same time have developed motivation for certainty of employment, and vice versa, employees who have lower motivation for safe work, at the same time have lower motivation for certainty of employment – this is high and positive correlation (r = +0.61);

b) employees who have high motivation for safe work, at the same time have developed motivations for social needs and salary, and vice versa – this is positive correlation of medium height (r = +0.53, that is, r = +0.43);

c) employees who have developed motivation for safe work have, at the same time, developed motivational factors for personal needs, participation in decision making and work contents, and vice versa – this is low positive correlation (r = +0.39, that is, r = +0.38 and r = +0.31).

Finally, we can conclude that out of seven motivational factors, safe work, together with certainty of employment, has the greatest motivational value. Motivation for safe work is positively connected with other motivational factors – at first with certainty of employment, then social needs and salary and the least with personal needs and participation in decision - making and contents of work.

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MOTIVACIJA ZA ZAŠTITU NA RADU

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Ljudima je osobeno da se ne rukovode pojedinim, već nekolikim motivima i da su aktivni, ne pod uticajem pojedinačnih već niza potreba. Svi ovi pokretači zajedno stvaraju složeni kompleks faktora koji pokreće i usmerava čovekovu delatnost. Budući da su motivi imanentni, tj. konstitutivni deo integrisane celine koja se naziva ličnost, jedino njihovom pažljivom analizom se može doći do odgovora na pitanje: zašto se čovek u određenoj situaciji ponaša tako a ne drugačije? Takođe je, radi razumevanja uzroka koji pokreću zdrave ljude da ponekad namerno (hotimično) krše pravila, izlažući pri tome sebe velikoj opasnosti, neophodno, pre svega, otkriti motive takvog ponašanja. Spoznajom objektivnih podsticaja iz radne sredine, moguće je istraživati praktične puteve za otklanjanje ili smanjenje dejstava faktora, koji izazivaju neželjene motivacije.

Ključne reči: *zdravlje radnika, funkcionalna autonomija, zadovoljavanje potreba*