

**Zrinyi Miklós National Defense University**  
Doctoral Council

**Szilvia Nagyné Bereczki psychologist**

**The place and role of profession specified psychological suitability test in  
the HDF and its reform**

**Psychological Suitability test and psychological fitting in profession in the  
demolition expert training**

PhD Theses

**Budapest**

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## **Introduction**

In the past 10 years the HDF has gone through a serious changing process. In the reform of the army the conscripted army has been changed into professional one.

The results of psychological suitability refers to the fact that the appropriate individuals has been chosen to the military profession, those ones that are able to fulfill their tasks without any disturbances in their mental or physical health.

With joining the NATO the task of the HDF has been enlarged. There are more and more special challenges to be fulfilled and in this process psychology has an important role in choosing the appropriate professionals.

A good example to this phenomena the ASVAB test, that was introduced in several NATO countries, and is for measuring the different abilities, besides this it focuses on the person and his job's fitting.

Choosing the professionals means a new task in psychological testing. It is not enough to confirm the general suitability for the military profession and its large subcategories.

There's a need of job and task specified selection that creates the opportunity for selecting the most appropriate individual to the field of profession, who is able to fulfill the new challenges on the longrun.

## **Conceptualization of the scientific problem**

The legal regulation that regulates the psychological testing focuses on the general suitability for the military profession and its large subcategories. This system is not quite suitable for the needs of recruitment and human resources, which was also proved by my own experiences.

Expectancies of several fields of profession are collected into one large subcategory, so the different needs in personal characteristics and abilities won't be differentiated in psychological testing.

In order to promote the successfulness of selection it's highly needed to overview screening tests' effectiveness and to do the appropriate changes. For doing this testing psychological suitability in the practice is the best method. That means testing those ones who has been working successfully on their field of profession for years; testing their performance, abilities and motivation. The tendency to shift the emphasis in testing to personal motivation

and field of interest besides having the appropriate abilities -that is an important element of effectiveness in working-, gives a special meaning to this examination.

Combining the accepted expectancies and mapped competencies in work psychology with testing psychological suitability in the practice leads to a dynamic profession specified psychological fitness checking system -that is highly needed, and promotes the predictive value of suitability tests.

With testing the demolition experts I would like to call the attention to the fact that the equipments that are used in psychological testing now in the practice are only partly to able to predict real suitability in profession. Therefore new psychological testing equipments needed to be explored in order to promote effective selection.

According to my experiences, there are some abilities, skills that characterize those ones who are approved to be fit in this special field of profession. These special abilities and skills are intelligence, good technical skills, that are enforced by the high professional expectancies. Demolition experts need to take their special level exam year by year and their preparation is individual except the first occasion. This fact shows, that they need not only intelligence but the inner motivation too.

Because of the characteristics of the profession technical intelligence is high in the group of demolition experts. This job needs highly focused attention, preciseness and concentration, so the precise attention ability and good hand coordination is also expected. The burdening outside environment, unknown places and the protecting uniform means serious physical and psychological stress load.

From the aspect of psychological suitability certain characteristics has also their special role. Demolition experts are working in teams with three members. Effective teamwork needs creativity, sociability, high level of frustration tolerance and the appropriate level of emotional stability. Because of the characteristics of the job the workmates are dependent on each other that leads to the development of tight social bonds. They are always in life endangering situation because of their work. This danger makes it highly important to have the devotedness to this profession, inner motivation, the higher level of sensory seeking, so only for financial reason no one would choose a job like this.

The effectiveness of a demolition expert is shown by his working without accident. Destruction of thousands of explosives shows that the demolition experts- who are suitable for their job- are working well. Being successful in their job enforces their confidence in profession and excellence promotes the sense of being unique, that strengthens the feeling of being excellent in them.

### **The aims of dissertation**

1. To determine the predictiveness of tests that are used in the psychological fitness checking system so far by the demolition experts, connected to psychological suitability in practice.
2. Exploring the expectancies of suitability in practice /ability, skill, personality, motivation/ with interviews, questionnaires and tests.
3. To introduce psychological testing methods that are appropriate for the new expectancies.
4. Determining the predictiveness of the new testing methods connected with the objective suitability.
5. Developing the new collection of psychological tests according to the results.
6. Determining the levels of criteria of the old and the new testing methods that are sensitive enough to isolate between the group of those ones who had already successfully taken the level exam and those one weren't successful at doing that.

In order to do that I've studied the psychological testing system that is in use and collected the results that have been made so far. I've also studied the newest scientific results nationally and internationally. I've consulted the professionals in the military organization and in the civilian world either connected to this topic, and they gave me useful advices. In the research I've used my former results of suitability testing. I've used the methods of analysis, synthesis, induction, deduction, observation and experimenting while studying the phenomena. I've published in scientific magazines and conferences the subresults of my research.

### **The hypothesis of demolition experts' psychological fitness and objective suitability**

1. The tests of psychological protocol of fitness checking (Pa, Pm, Pk) shows identical results in the two groups of successful demolition experts and the group of those ones who weren't successful at the level exam.
2. It is determinable which selection method predicts well the suitability in the practice.
3. The interviews and questionnaires, that was carried out with the suitable demolition experts, form a good basis for mapping those characteristics, abilities, that are an important part of the expectancies in demolition experts' job.

4. The new tests that were used for measuring the abilities determined in the list of expectancies have strong predictivity, the predictiveness of the profession specified psychological fitness checking test group's predictability is at the appropriate level.

### **Methods of research**

In order to fulfill my aims of research I've used the following research methods:

I've collected the results of psychological tests of those ones who have applied for the demolition expert job between 2001-2007. I've analyzed the results with the method of mathematical statistics. I've divided the members of the tested group into four small groups according to their success in the level exam and the number of the level exam. The test results of the groups were compared with statistical probes. Based on the gained results I've carried out a correlation test, that showed which test shows tight connection with suitability.

After having interviews with the demolition experts and analyzing their content, I've added new elements to the list of abilities. I've formed a dictionary of competence with cooperation of the demolition experts, using the questionnaires and the list of abilities.

With using these equipment the demolition experts have classified their abilities and profession specified expectancies of the demolition expert job have been determined. New tests have been introduced in order to examine the abilities that were determined by the demolition experts. I've statistically analyzed the results in order to explore the strength of connection with objective suitability. According to the statistical analyzation I've made the profession specified psychological testing system of the demolition experts and their level of criteria.

### **Examinations carried out**

The results of the predictvity examination of the general military psychological suitability (Pa) showed that there's a need of developing a profession specified differentiated testing method in order to predict more precisely suitability. Because, the Bregelmann Personality Inventory differentiated not enough between the successful and the unsuccessful demolition experts.

The results of the intelligence tests called the attention to the fact, that the successful level exam demolition experts showed better cognitive abilities, than those ones without

successful level exam. So rising the level of criteria in this test we will be more effective in choosing the appropriate individuals.

From the tests, that have been used so far, based on the “families of jobs” /Pm/, the so called MTVT (technical intelligence test) is able to predict correctly objective suitability.

Selection according to the sensometre/percepto-motoric abilities, measuring choosing reaction time is not differentiating between the successful and unsuccessful demolition experts, besides this it's not fitting to the professional expectancies of the job. But this examination is also not perfectly covers the expectancies of the profession. For this reason there's a need of developing more job and task specified testing methods.

From the specific psychological testing methods (Pk) of the demolition experts the hand coordination testing method is good in predicting, so it is highly recommended to take into the group of profession specified psychological testing methods.

With using focused questionnaires and interviews I've revealed the list of abilities connected to the demolition expert job and determined the demolition experts' job specified expectancies. The testing method, that are in use, isn't examines all the expectancies/requirements that were determined by the demolition experts, so I've suggested to introduce new tests in order to examine them. The new tests /Pieron, FPI, Zuckerman's Sensory Seeking Scale/ were given to both groups of demolition experts, their results were statistically analyzed. The results showed that some factors of the Pieron and the FPI were good at predicting the suitability. Zuckerman's Sensory Seeking Scale and the Work Motivation Questionnaire are useful in making the decision of accepting or not the candidate for the demolition expert job.

I've suggested to introduce a new group of testing psychological suitability by the demolition experts, that are more job and task specified, and contains the test that have been used so far and those new ones that has high predictability and the new levels of criteria.

This was the first time of testing the HDF's demolition experts' psychological testing's effectiveness with examining objective suitability. I've called the attention to the gaps of the psychological suitability testing system, that comes from the testing by the job-family groups. I've examined in details the psychological results of the successful and the unsuccessful level exam demolition experts, and made statistical analyzation of the predictiveness and sensitivity of the ability tests.

In order to explore the demolition expert job's expectancy system I've made individual and group interviews that was completed with task specified questionnaires. After

doing this I've grouped the results with content analyzation and developed a list of expectancies. This list was classified by the successful demolition experts and they were also had to rank them. I've chosen new tests in order to test the expectancies that haven't been tested so far, and measured them on the group of demolition experts.

I've compared the test results with the data of objective suitability. I've showed the results that there are tests /intelligence test, technical sense test, attention performance test, motivation, personal characteristics/ that could predict quite correctly the later objective suitability. These tests are able to be used in the job specified psychological testing of the demolition experts.

According to the tests with high predictability I've suggested to introduce a job specified testing method with a group of psychological tests, and to the level of criteria that could effectively predict the level of suitability.

### **The practical use of the thesis, recommendations**

The material of the thesis contains the history of psychological suitability testing and the conceptualization of the system that in use now, that could be used as a source material for education.

The group of tests that have been developed for the job specified psychological suitability testing of demolition experts could be used for selecting demolition experts, besides this it forms a basis for finding the requirements measuring equipments.

According to my experiences task specified suitability test could be developed in every job, with comparing the psychological test results of the successful ones with the statistical analysis of psychological suitability tests.

According to the examinations that have been carried out so far it turned out that there are abilities which couldn't be tested with pencil and paper. So it becomes more and more important that the candidates in training also have their role in selection. It's worth taking it into consideration that the evaluation of the training time could be also a part of the selection system, because we could gain more precise information from the candidate when he fulfills his tasks.

Nowadays new abilities have been introduced by the demolition experts: they got explosive searching dogs and demolition expert robots. Working with dogs involves to be sensitive to the dog, and the special tempo, and attitude of handling; working with robots



means working in the complicated virtual space in order to control the robot, these are new challenges to the demolition experts. Taking part in missions involves the selection and preparation for the special burden both mentally and physically. Working with the improvisational explosives needs a new working style and knowledge to that from the demolition experts, who have been in the organization for a long time only those ones are suitable who are able to accommodate to the new challenges and flexible enough to do this. In order to do this, new abilities, skills needed, that means new requirements in the demolition expert job. For testing these new requirements new equipments needed, that are to be measured in the group of demolition expert candidates in training. Testing the new abilities could be the goal of an another scientific research.

### **New scientific results**

1. With the revision of the military psychological testing system and the integration of the new elements a job specific psychological selection and suitability system has been developed.
2. While carrying out the research it turned out that the general military psychological suitability system is not sensitive enough to differentiate between the demolition experts, because it examines only few of the inevitable requirements of the demolition expert job.
3. Some elements of the demolition experts' two years testing has the appropriate predictability.
4. The job specified requirement list of the demolition experts has been mapped.
5. It has been proved that the newly introduced Pieron and FPI tests according to the listed requirements, has high level of predictability in the selection of demolition experts. Analyzation has proved that Zuckerman's Sensory Seeking Scale and Motivational Questionnaire can help in selecting successfully demolition experts based on the personality traits that were detected by them.