

## STUDY ON MOTIVATION FOR EDUCATION BY USE OF CONTROL GROUPS FOR COMPARISON AT THE NATIONAL MILITARY UNIVERSITY, BULGARIA

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**Abstract:** *This article presents a study on motivation for education by use control groups for comparison at the National Military University, Bulgaria. The necessary information is collected through a combination of research methods. The basic scientific method, which was used, is empirical survey conducted in a real educational environment. The study is implemented in several stages: diagnostic stage, in which an analysis and assessment of the necessity of such a study is established and proved; basic stage which has been implemented since 2012; and a final stage which includes the development of a forecasting model for the future status of the levels of cadets' and students' satisfaction with their training.*

**Keywords:** motivation, education, military, civil

### 1. Introduction

This article presents a study on motivation for education by use control groups for comparison at the National Military University, Bulgaria. The necessary information is collected through a combination of research methods. The basic scientific method, which was used, is empirical survey conducted in a real educational environment.

The study is implemented in several stages: diagnostic stage, in which an analysis and assessment of the necessity of such a study is established and proved; basic stage which was implemented in the period 2012-2016 and continues till now; and a final stage which includes the development of a forecasting model for the future status of the levels of cadets' and students' satisfaction with their training. [2,4] Motivational theories of needs, socially acquired knowledge, and behavioural, cognitive, psychoanalytic and biologic

motivational theories were studied in the course of the theoretical research. Content and procedural motivational theories were examined during the theoretical research also. After an examination of a variety of theories about motivation, an appropriate questionnaire for research on motivation for education and specific military activities was composed.

### 2. Diagnostic stage

The diagnostic stage of the study on motivation for education and military activities took place in 2012/2013. A representative sample was formed by 156 Bulgarian and Romanian cadets in the last year of their training at the National Military University, Bulgaria and the Land Forces Academy, Romania. The socio-demographic structure of the covered respondents and in particular their distribution by gender is as follows: 15.38% women and 84.62% men. [6] This

preliminary study showed that there were specific problems for each organisation in several areas: relationship between individual efforts and outcomes in education; satisfaction of the time spent on general and specialized military training; methods for external motivation used by the academic and command staff; methods of motivation in forming the cadets as future officers and military leaders; used facilities, equipment, machinery, and teaching methods and materials.

### 3. Control Groups for Comparison as a Single Component of a Study on Motivation

With permission of the Rector of the Vasil Levski National Military University in Bulgaria the study entered its main stage. The main part has been conducted since 2012. It aims at analysing cadets' motivation for education by covering at least four consecutive years of cadets in order to prepare a model for linear predicting of trends.

During the basic stage of the study the following were conducted:

- Research on motivation for training and military activities in the learning process and research on satisfaction using 24 questions for the main target group – cadets who graduated in the academic years 2013/2014, 2014/2015 and 2015/2016 – 144 respondents.
- Research on motivation for training in the learning process and research on satisfaction using 15 questions for control group for comparison which included first-year cadets who started their training in the 2013/2014 academic year – 77 respondents.
- Research on motivation for training in the learning process and research on satisfaction using 15 questions for control group for comparison which included first-year civilian students who started their training in the 2013/2014 academic year – 88 respondents.

*Table 1 Control Groups for Comparison  
2013/2014 Academic Year*

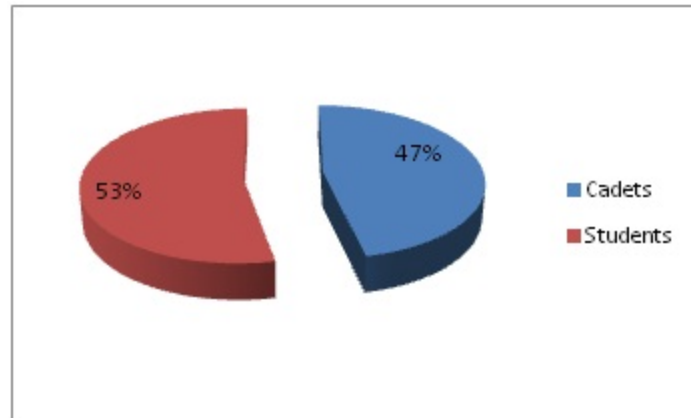
	<b>Total learners</b>	<b>Male</b>	<b>Female</b>	<b>Respondents</b>	<b>Male</b>	<b>Female</b>	<b>Respondents as a percentage of total learners</b>
<b>Cadets</b>	122	106	16	77	68	9	63.12%
<b>Students</b>	170	131	39	88	64	24	51.76%
<b>Total</b>	292	237	55	165	132	33	

The study includes students and cadets in their first academic year of training as control groups for comparison.

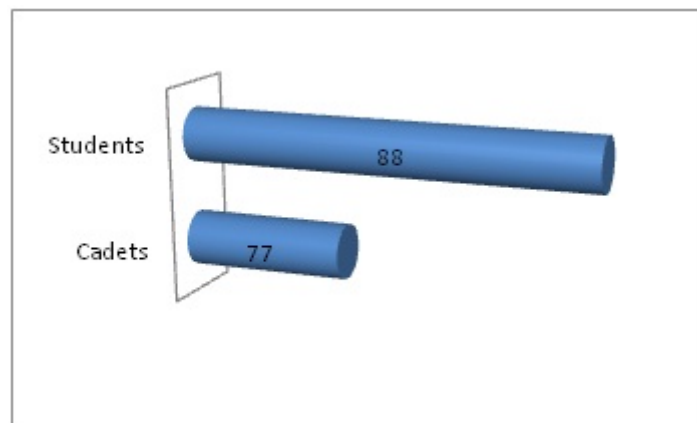
We believe that such a comparison is appropriate and it could show whether there are differences in the perception of individual elements from the relevant dimensions of motivation for training in different groups of learners. It is consistent that the academic learning conditions are different during the different academic years, so we compare the two control groups mainly with cadets who graduated in the 2013/2014 academic year.

Comparisons are made to other tested groups for greater completeness and accuracy of the study.

The total number of the learners in the first year of their training in 2013/2014 was 292, and 237 of them were men and 55 were women. The two control groups consisted of 77 cadets and 88 students. The number of participants in the control group is almost equal for the two types of learners, 47% and 53% of the total respondents, and none of the groups had any significant advantage.



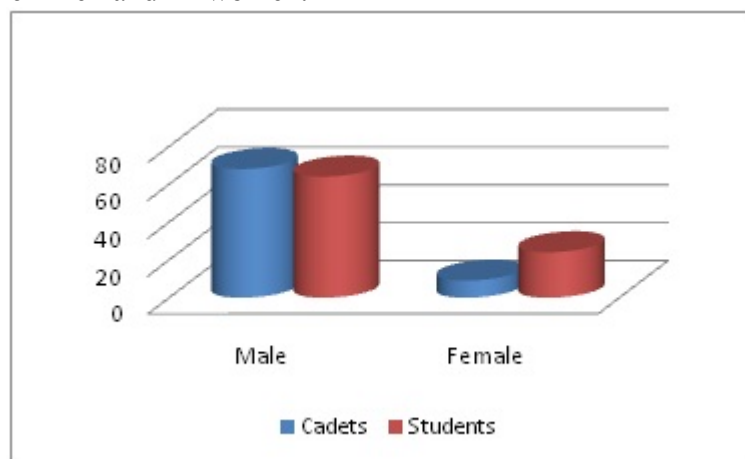
*Figure 1: Groups for Comparison as % of Total Respondents*



*Figure 2: Group for Comparison as Number*

Gender distribution of the control group of cadets was as follows: 68 men and 9 women, which was not surprising considering the military organisation that was explored. The control group of students included 64 men and 24 women.

According to the analysis of distribution by gender, a total of 132 men and 33 women are involved in the control groups for comparison. The data are presented visually in the charts below.



*Figure 3: Total Respondents of Groups for Comparison Distributed by Gender  
1st Academic Year of Training - 2013/2014 Academic Year*

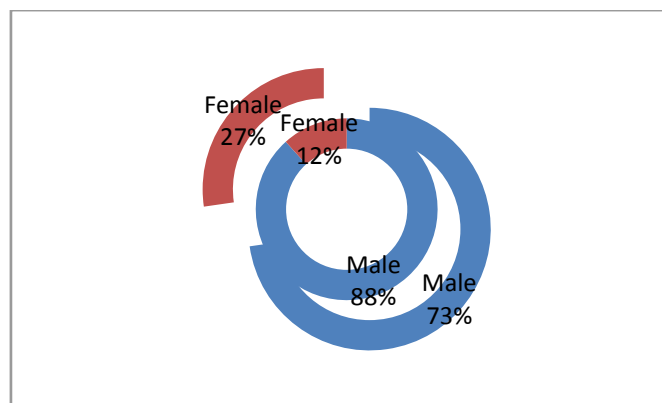


Figure 4: Distribution by Gender of Groups for Comparison in %  
1st Academic Year of Training - 2013/2014 Academic Year

The distribution of the control groups by specialisation, military and/or civilian specialty, was performed at this stage. It is presented below.

Table 2 Distribution of the Control Group of Cadets by Military Specialisation and Civilian Specialty

Military specialisation	Civilian specialty
Organisation and Management of Military Units at Tactical Level – Mechanised Infantry and Tank Troops	National and Regional Security
Organisation and Management of Military Units at Tactical Level – Engineers	Protection of Population and Infrastructure
Nuclear, Biological and Chemical Safety and Protection, and Ecology	Protection of Population and Infrastructure
Air Defence	Communication Techniques and Technologies
Field Artillery	National and Regional Security
Military Computer and Information Systems Communication Techniques and Technologies	Communication Techniques and Technologies
Military Computer and Information Systems Computer Systems and Technologies	Computer Systems and Technologies
Organisation and Management of Military Units at Tactical Level – Materials, Movement and Transportation	Industrial Logistics
Organisation and Management of Military Units at Tactical Level – Tank and Automotive Troops	Management of Resources and Technologies
Armament and Ammunitions	Management of Resources and Technologies
Pilot	Avionics
Air Traffic Control	Avionics
Aircraft and Aircraft Engines	Aeronautical Engineering
Aircraft Electric Appliances and Automatic Systems	Avionics
Communication Information Technology For Navigation	Avionics
Radio-Technical Troops	Communication Techniques and Technologies

Learners from all studied civilians University participated in the control group specialties at the National Military of students as follows:

- Protection of Population and Infrastructure
- National and Regional Security
- Industrial Logistics
- Logistics of Security
- Computer Systems and Technologies
- Communication Techniques and Technologies
- Computer Technologies and Design
- Aeronautical Engineering
- Avionics
- Management of Resources and Technologies – Automotive Engineering
- Management of Resources and Technologies – Armament and Ammunitions.

The studies on the training of cadets and students from the Vasil Levski National Military University and their motivation for training can also be found in the publications of the Bulgarian researchers. [1,3,5,7]

The **final stage** of the research presents a survey of the organisational culture and problems in learning and motivation of cadets not only at the National Military University of Bulgaria, but also in more than 10 foreign military academies and universities. The experts are people with rich academic and/or command experience from Bulgaria and abroad. So far, expert opinions have been submitted by experts from Austria, Poland, the Czech Republic, Slovakia, Romania, Portugal, Switzerland, Netherlands and Belgium from educational institutions which provide educational services in the field of security and defence.

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- Netherlands Defence Academy, Netherlands
- War Studies University, Poland
- Swiss Military Academy, Zurich, Switzerland
- Military Academy of Portugal, Portugal
- University of National Defence, Romania
- University of Defence, Czech Republic, Brno
- Koninklijke Militaire School, Belgium

#### 4. Conclusion

In terms of relevance and importance of the study presented above, all the answers allow to carry out further analysis and seek experts' evaluation in the following areas: performance of students in the learning process, used motivational methods, overall satisfaction of trainees, the particular institutional organisational culture, problems in academic practice and opportunities to increase motivation and academic achievement of all groups of students. A model should be established to predict future states of the levels of satisfaction with training and to provide motivation to students at the Vasil Levski National Military University, Bulgaria. A model should be established to address the problems in the training of cadets from different countries and possible academic decisions should be presented.

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