

## **DEVELOPMENT OF SKILLS VALUABLE FOR MILITARY SERVICE THROUGH DIVING FROM THE PERSPECTIVE OF A CIVILIAN INSTRUCTOR**

Józef Jordan, Rafał Parczewski

Military Technical Academy, Military Training Center, Warsaw, Poland

### **ABSTRACT**

This article examines skills that may be beneficial from the viewpoint of a diving instructor in military service. Diving is an extreme sport popular in both civilian and military environments. Skills acquired through diving courses can be useful for service in the Polish Armed Forces, but also in various other uniformed formations. In the collected research material, the authors of the article mainly relied on the opinions of selected civilian instructors and on their own professional experience. The article presents the tasks and structure of the Training Center for Divers and Scuba Divers of the Polish Army, on the basis of the available literature. The main purpose of the article is to present the usefulness of the sport for candidates, as well as soldiers themselves in the Armed Forces. The first part of the paper will present the basic concepts related to diving, while the second part will describe the results of the research with conclusions and recommendations .

**Keywords:** diving, sports, safety, professional soldier, officer.

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## INTRODUCTION

Diving itself is considered an extreme sport, but the personality traits of a future diver that are developed during training can be useful in the profession of a soldier or in other uniformed formations. Of course, entering basic diving training, the potential candidate should also have certain predispositions. Safety during diving is important and modern technological solutions reduce the risk of dangerous situations. However, we must always realize that perseverance and basic swimming skills are required for this sport. Following the instructor's directions also requires focus and, to some extent, the ability to repeat particular exercises or tasks. Nowadays, diving is practiced by a great number of people in Europe and the rest of the world, due to the very high public interest in this form of sport. Of course, there are many forms of diving, as well as the accessible diving equipment. However, the authors of this article will not focus on the description of the equipment itself or the forms of diving, but on the skills of people who practice diving, which can be useful for military service. As in any sport whether it is soccer or swimming, with time we develop certain qualities or skills such as speed, agility, concentration or fitness. Most of these qualities can translate into the way we perform our work tasks in the Armed Forces or other uniformed services. Soldiers as well as officers, perform their duty in various conditions and with different equipment. A soldier performs different tasks compared to a Police officer or Border Guard officer. However, we can find similarities between these professions in basic training, where people from civilian backgrounds go through a period of so-called military unitary training or basic courses in other uniformed formations. It is during basic training or at military academies that the first skills in shooting, reconnaissance, battlefield medicine or other skills related to the specifics of a given uniformed service are developed. Like any sport, diving also has certain health risks. As noted by J. Krzyzak in the aspect of high gas pressures, oxygen has an adverse effect on cells and tissues. High oxygen pressure during diving has an impact on the formation of young bone tissue, but unfortunately the consequences of this for the growing body are not yet known [1]. Professional divers may intentionally ignore and conceal symptoms of illness just to avoid losing their job. [2]. Of course, at any stage of human development, there can be negative effects of diving on overall health, whether it is a child or a middle-aged person. The aim of the article is to gather the opinions of experts – diving instructors, who have assessed the impact of skills acquired during diving on the personality traits of a future soldier.

## CHARACTERISTICS OF DIVING BASED ON THE ARMED FORCES IN THE REPUBLIC OF POLAND

Social and economic changes have made it possible to increase the availability of diving equipment in civilian environments, which had an impact on the development and popularity of recreational diving as a widely available activity for people of all ages[3]. The situation presents differently in the Polish Armed Forces. Military diving plays a key role in operational activities,

especially in the Navy. The main and essential place for diver training for the Armed Forces remains OSNiP, the Polish Army Divers and Scuba Divers Training Center, which is located in Gdynia. This is the only center in the Polish Armed Forces that deals with comprehensive training of soldiers in diving specialties, as well as rescue training of submarine crews and personnel on self-rescue and survival after disasters on water [4]. The center plays a key role in ensuring the operational readiness of the Navy and in the implementation of rescue missions. In addition to these, it also carries out training courses for evacuating submarine crews, rescuing people from sinking ships and carrying out complex underwater work. The training courses are extremely realistic and demanding, with the aim of preparing divers as well as possible for real-life situations. The center is well-equipped with modern decompression chambers, both stationary and portable, which allow training under high pressure. In addition, there are swimming pools on site equipped with cameras and rescue equipment, used to ensure safe conditions during intensive training. One of the most important tasks of OSNiP's is to conduct rescue operations. The Polish Navy has two specialized rescue ships: ORP Lech and ORP Piast [5,6]. These vessels are equipped with diving bells, decompression chambers and underwater vehicles that allow divers to carry out complex operations at great depths. Military diving differs significantly from recreational diving. Military divers face extreme conditions such as low temperatures and poor visibility. Working at the depths of the Baltic Sea, where the temperature ranges from two to four degrees Celsius, requires not only physical endurance, but also precise handling of equipment with thick gloves. Deep diving also comes with the risk of decompression sickness and oxygen toxicity (through an increase in its partial pressure)[6]. Therefore, divers use special gas mixtures, such as trimix, which contains helium - a factor that minimizes these risks. Nevertheless, regular diving at great depths can lead to serious health problems, so it's crucial for divers to constantly monitor their health. Training at OSNiP is as realistic as possible. Simulations include scenarios such as jumping into the water with a parachute, where the canopy of the parachute can cover the diver or drag him or her along the surface of the water. Such exercises prepare divers to handle the most extreme situations, where every second and decision can depend on their survival.

In summary, the Polish Army Diver and Scuba Divers Training Center in Gdynia is a key component of the Polish Navy. Its mission is to prepare divers to perform rescue tasks and underwater work in the most difficult conditions. Thanks to advanced training methods and modern equipment, OSNiP contributes to the Polish Navy being ready for any challenge, both at home and abroad [7].

Apart from the aforementioned center for diver and scuba diver training, it is worth mentioning the Diving Training Center, which operates under the Special Forces Training Center in Kraków. The Special Forces Training Center, established by decision of the Minister of Defense in 2019, is subordinate to the Commander of the Special Forces Component. Its main tasks include organizing and conducting specialized courses and training for soldiers of the Special Forces and other military units, as well as training non-commissioned officers and candidates from among the civilian community. The center also conducts language training

and participates in research on modern training technologies and standards. One of the units that is of particular interest to us in terms of the implementation of underwater training in the military is the previously mentioned Diving Training Center, implementing, among other things, the courses and training required for the acquisition of military diving qualifications for Special Forces soldiers (junior diver, combat diver, senior combat diver, diving supervisor, underwater combat operations supervisor, decompression chamber operator, breathing mixture preparation operator, underwater vehicle operator and fast operational boat operators). It prepares and implements specialized and in-service training in military diving qualifications, conducts ongoing verification of diving authorizations, and organizes examination sessions to obtain military diving qualifications (in cooperation with the Special Forces Diving Qualification Subcommittee), conducts training and methodological activities in the field of diving training, and conducts research on unconventional deployment methods[8].

It is worth noting, however, that in addition to the OSNiP, the Navy and the mentioned above Special Forces Diving Training Center, diving is also carried out in the engineer-sapper subunits, as well as in the airborne brigade and air cavalry, not to mention the special forces subdivisions. Most people serving in the military may be under the impression that military diving ends there. Nothing could be further from the truth, at one time there was a scuba diving section at the then Land Forces Officer Training College, which was later transformed into the Land Forces Academy [9]. It operated on the basis of a cadet interest circle. Currently, there is a twin sports scuba diving section at the Military University of Technology, which carries out periodic pool classes, including scuba diving for cadets, theoretical classes and trips to diving internships, in which cadets train a range of diving skills from navigation to night dives, pre-planning and basic diving. In addition, it realizes the deepening of the latest knowledge of diving through the participation of its members in diving conferences. The scuba section at the Military University of Technology (WAT) plays an important role in the shaping of skills and readiness of cadets to perform basic underwater tasks. The cadets have the opportunity to participate in intensive training that includes both theory and practice

of diving. The activities are instilling the right habits in them, which will undoubtedly prove useful in carrying out tasks at their first and subsequent duty stations. The scuba diving section of WAT conducts comprehensive training that covers various aspects of military diving. Training sessions are held under the supervision of an active diving instructor and include such elements as: diving theory, during which cadets learn about the physics of diving, decompression, breathing mixtures and safety procedures, as well as diving practice, or practical exercises involving diving in a variety of conditions, including pools and open water, allowing for a variety of experience. Classes also include the practice of rescue procedures, the section conducts simulations of emergency situations and learning basic rescue operations. It is worth noting that the sports section operates as a circle of interest, i.e., cadets carry out activities, trips, etc. most often during their free time (less often - business trips) [10].

## RESEARCH RESULTS

The study consisted a group of 20 diving instructors hailing from various locations in Poland. The respondents, who are experienced individual in the field, expressed their opinion on the importance of particular diving techniques and procedures in a military context. The questionnaire included several key questions about the instructors' experience, their work and their opinion on the role of scuba diving in military training. Instructors were given the opportunity to express their thoughts on mandatory training, recommend additional courses and the usefulness of scuba diving in various aspects of military craft. The experts participating in the survey had significant experience as scuba diving instructors. Using a self-authored expert interview questionnaire, research material was collected that allowed for the determination of the article's intended goal, which is to identify useful qualities acquired or developed during diving in military service. The expert interview questionnaire consisted of 10 questions.

The answers to each question are presented below:

How long have you been a scuba diving instructor? (20 responses)

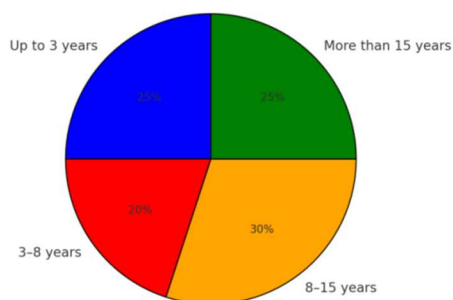


Fig. 1 How long have you been a scuba diving instructor?

What is your experience in working with the military (if any)? (20 responses)



Fig. 2 What is your experience in working with the military?

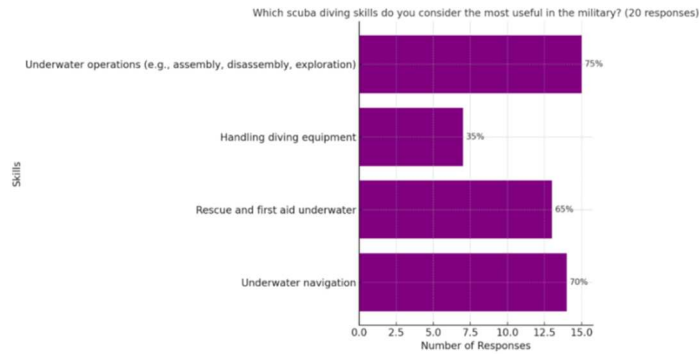


Fig. 3 Which scuba diving skills do consider the most useful in the military?

Do you believe that scuba diving training should be mandatory for soldiers, as part of officer school education in selected programs? (20 responses)

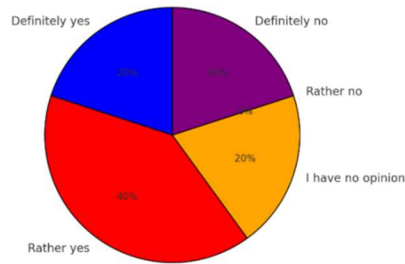


Fig. 4 Do you believe that scuba diving training should be mandatory for soldiers, as part of officer school education in the selected programs?

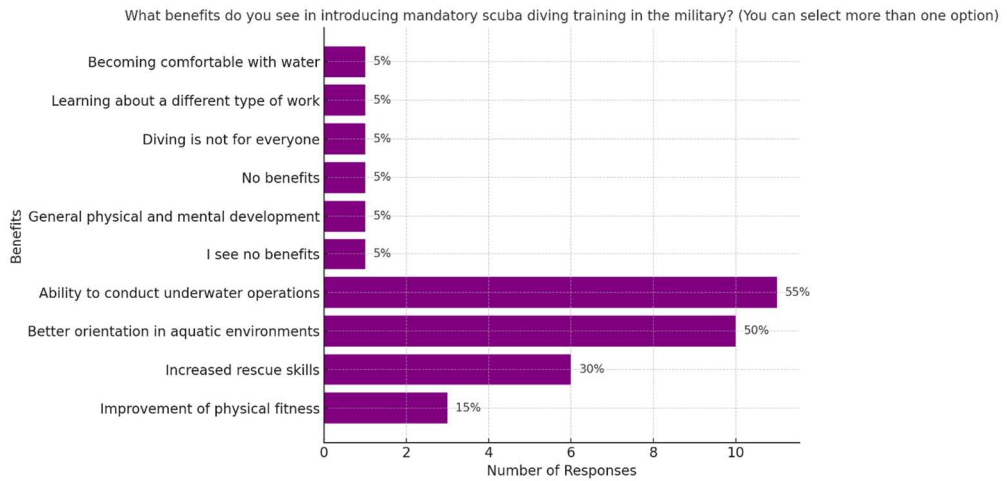


Fig. 5 What benefits do you see in introducing mandatory scuba diving training in the military?

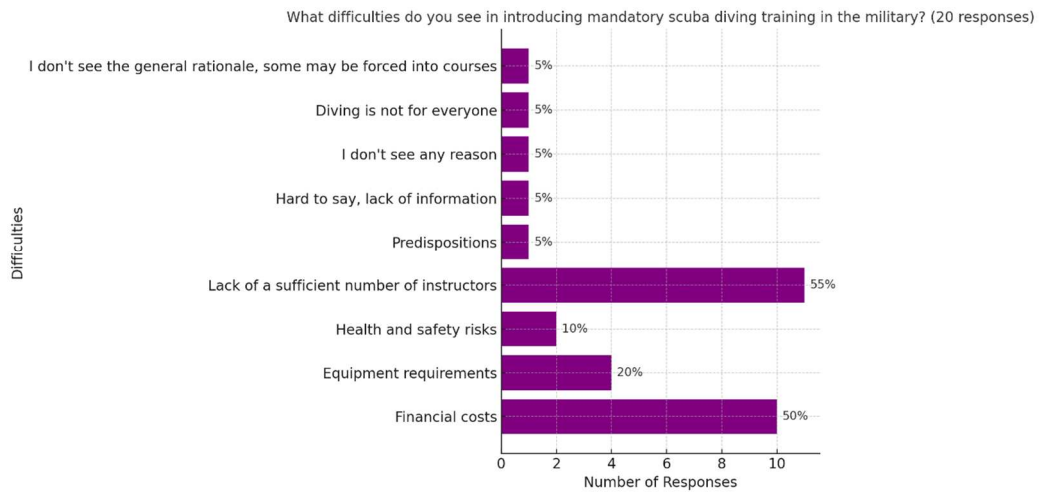


Fig. 6 What difficulties do you see in introducing mandatory scuba diving training in the military?

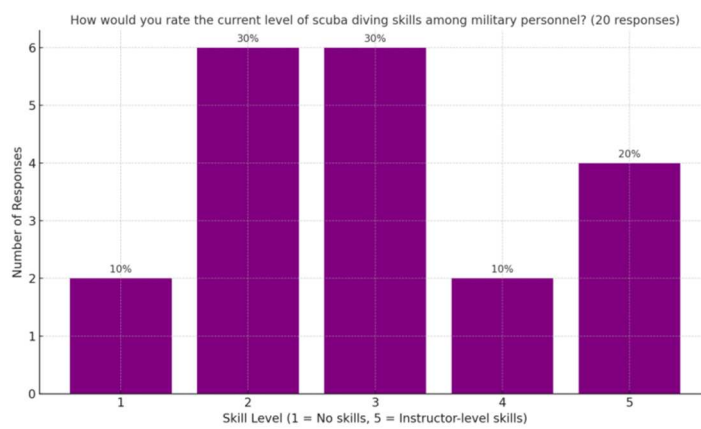


Fig. 7 How would you rate current level of scuba diving skills among military personnel?

In response to open-ended question no. 8 regarding additional trainings or courses recommended for professional soldiers in the field of diving, the majority of respondents mentioned CCR, DPV (Closed Circuit Rebreather), DPV (Diving Propulsion Vehicle), and rescue training. However, regarding question no. 9 about

additional comments on the usefulness of diving in the military, essentially no one provided any input.

Would you recommend diving to soldiers as an opportunity for development useful in their service? (20 responses)

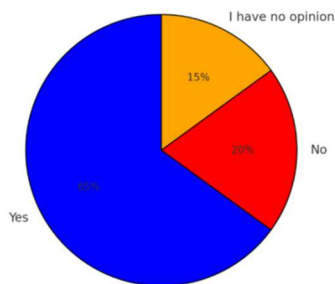


Fig. 8 Would you recommend diving to soldiers as an opportunity for development useful in their service?

The largest group of respondents were instructors with more than 8 years of experience as instructors - 30% of respondents, and another 25% have more than 15 years of experience, indicating that the opinions come from people with a high level of familiarity and a wide range of practical knowledge. More than half (55%) of respondents have experience working with the uniformed services, including a small number who are former soldiers or military retirees. As the most important diving skills for the military, instructors pointed to underwater navigation, rescue and underwater first aid as the most useful skills in a military context (70 and 65% respectively). Respondents also pointed to underwater operations, such as assembly and disassembly, which may be applicable to military missions (75%). The majority of respondents (60%) favored the introduction of mandatory scuba diving training for soldiers, especially as part of officer school education in selected fields. The above may indicate, the need to implement basic diving training within the curriculum at officer schools. Looking from the perspective of the investment priorities for training, respondents mostly assessed that the army should invest in diving training, indicating recognition of its value from both an operational and professional development perspective for soldiers. Experts also recommended a number of additional training courses, including the operation of specialized equipment (CCR, DPV), full-face masks, two-bottle kits and rescue courses (Rescue). What was also emphasized was the importance of DPV (Diver Propulsion Vehicle) training, which can be crucial in operations requiring underwater mobility. Regarding the overall usefulness of scuba diving in the military, most instructors found scuba diving useful, pointing out that it gives soldiers confidence in an aquatic environment, which could be potentially essential during operations in difficult conditions. Respondents also stressed that the skills learned through scuba diving are applicable in a variety of military situations. All respondents unequivocally stated that diving should be recommended for soldiers as a form of personal development that can have a direct impact on their effectiveness in the service.

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**Józef Jordan**

Wojskowa Akademia Techniczna  
Studium Szkolenia Wojskowego Warszawa

## CONCLUSIONS - RECOMMENDATIONS

The collected results of the study and our own experience confirm the complete legitimacy of implementing the sport of diving in the Polish Armed Forces. Therefore, it is reasonable to create student organizations within military universities dealing with the indicated topic. Analysis of the results of the study shows that scuba diving is perceived as an important element of military training, which can significantly increase the operational capabilities of soldiers. Scuba instructors point to the need for more structured and extensive training that includes both basic and advanced diving skills. Introducing mandatory scuba diving training, especially in officer schools, could have long-term benefits and not only increase their operational capabilities, but also boost their morale and confidence when performing in difficult environmental conditions. Scuba diving, therefore, has the potential to become an important component of military training that will contribute to better preparing soldiers for the modern battlefield. By analyzing the results of the study, the authors conclude that:

- Diving sections in military academies increase the effectiveness and skills of future officers in various types of the Armed Forces;
- The sport of diving enhances safety, among other things, through a more qualified staff who, in the future, are capable of serving in units such as Formoza.
- Diving develops individual skills by increasing physical and mental resilience among both soldier candidates and the cadre of the Polish Armed Forces themselves.

Intensive theoretical and practical training, rescue simulations and the development of individual and team skills translate into increased operational capability, safety and efficiency of future officers.

Introducing diving into the training program of officer schools can bring benefits such as increasing overall readiness and flexibility among the future officer cadre of the Polish Armed Forces.