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COOPERATION OF AVIATION PSYCHOLOGISTS IN THE MILITARY INSTITUTE OF AVIATION MEDICINE AND IN THE MILITARY AVIATION AND MEDICAL COMMISSION AT THE MILITARY AVIATION HOSPITAL IN DĘBLIN

Zdzisław KOBOS

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Author's address: Z. Kobos, Warsaw, Poland, e-mail: zkobos@wiml.waw.pl

Abstract: The author, working in the field of psychological certification first at the Military Aviation and Medical Commission in Dęblin and then at the Main Military Aviation and Medical Commission at Military Institute of Aviation Medicine in Warsaw, is characterized by the specificity of the work of aviation psychologists, methods of examination of psychophysical fitness of military aviation candidates and selection of pilots during their service.

Keywords: methods of selection of military pilots, medical certification in the field of mental state of pilots

Figure: 1 • **References:** 12 • **Full-text PDF:** http://www.pjambp.com • **Copyright** © 2017 Polish Aviation Medicine Society, ul. Krasińskiego 54/56, 01-755 Warsaw, license WIML • **Indexation:** Index Copernicus, Polish Ministry of Science and Higher Education

INTRODUCTION

Creation of the stationary aviation psychological certification center in Dęblin was possible thanks to the establishment on April 4, 1957 by Order No. 4 of the Chief of General Staff of the Polish Army, Garrison Military Aviation Hospital in Dęblin, which changed its name many times (Military Aviation Hospital, 6th Military Hospital, 6th Military Aviation Hospital). Initially, it had only three departments: of internal diseases, surgery and obstetrics, as well as a freelance polyclinic with an x-ray office and a laboratory. Its task was to provide medical care to the staff, families, officer cadets and soldiers of the Air Force Academy in Dęblin.

In 1961, the Military Aviation and Medical Commission (MAMC) in Dęblin was established, within the structures of the Military Aviation Hospital (MAH), to carry out preliminary examinations of candidates for aviation schools and to conduct annual periodical examinations of cadets and officer cadets. In order to guarantee the full-profile examinations for the above mentioned people, in 1965 a Psychological Laboratory was set up in MAH and a Low Pressure Vehicle Chamber was brought in (http://www.szpitaldeblin.pl/historia-zakladu). This Psychological Laboratory carried out research for the benefit of MAH, and was organizationally subordinate to the Commander of the Military Aviation Hospital, who was directly subordinate to the Head of Health Service of the Air Force in Poznań.

APPLICATION OF PSYCHOLOGICAL KNOWLEDGE IN AVIATION AND PSYCHOLOGICAL CERTIFICATION

Initially, the laboratory had no permanent staff, and preliminary and periodical examinations were performed by officers-psychologists from the Military Institute of Aviation Medicine (dr. Piotr Pokinko, dr. Jan Terelak, dr. Henryk Świątek) who arrived to Dęblin alternately for weekly stays. The first full-time psychologist in the years 1972-1973 at the MAH in Dęblin was Czesław Modzelewski, MA, and after he left in 1974, Emilia Gromisz, MA (a graduate of the Catholic University of Lublin) was employed. Another manager of the Psychological Laboratory in 1975 was the recipient of the scholarship of the Ministry of Defense, 2nd lieutenant Leszek Radomski, MA, and at the same time a psychological researcher, Janina Szymańska, was employed. On May 23, 1980, dr. Zdzisław Kobos (a graduate of the Jagiellonian University) joined the laboratory as a deputy manager. In the following years, the tasks and staff structure were expanded, and the laboratory was visited by 2nd lieutenant Marian Macander, MA (a graduate of psychology studies at the University of Łódź and a graduate of military training at the Military Medical Academy in Łódź). Later, the Psychological Laboratory employed Halina Wieraszka, MA (a graduate of the University of Warsaw), and a psychological laboratory worker - Barbara Sułek. The new tasks concerned psychological consultations for Military Aviation Hospital in Dęblin clinical wards (laryngology, internal medicine, surgery, ophthalmology) and for hospital clinics. At that time, the lab employed another graduates of psychology in Łódź: 2nd lieutenant Marek Komasiński, MA, and lieutenant Cezary Grabowski, MA. The main tasks of the team of psychologists, however, were psychological examinations of the candidates for military schools, i.e: Air Force Academy (AFA) and Aviation High School (AHS) in Dęblin, Aviation High School in Zielona Góra, Air Force Academy for Non-Commissioned Officers in Dęblin, School for Warrant Officers of the Aviation Personnel (Technical Air Force School) in Zamość and the Central Training Center for Air Force Technical Specialists (Technical Air Force School) in Oleśnica Śląska and the School for Warrant Air Force Officers in Dęblin, School for Junior Specialists in Dęblin.

ACTIVITIES OF AVIATION PSYCHOLOGISTS FOR THE BENEFIT OF THEORETICAL AND PRACTICAL AVIATION TRAINING PROVIDERS

After moving to MIAM on 4.03.1984, cpt. Leszek Radomski, MA, the offer of psychological effects on the aviation environment related to practical training in the air was expanded. Namely, cooperation was established, among others, thanks to the initiative of inspector of the WOSL headquarters, colonel pil. Franciszek Pajnowski, with the School Headquarters and with the school regiments of this school. As part of their duties, officer-psychologists assessed psychological predisposition to study at AFA, not only in laboratory conditions of the psychological laboratory, but also during flights on planes and gliders during training camps of the so-called Air Military Training (AMT of the 1st and 2nd degree). At that time, the practical learning of piloting on Zlin planes (42, 142), carried out in Polish Aeroklubs in the localities: Olsztyn (Dajtki), Toruń (Lisie Kąty), Częstochowa (Rudniki), Kielce (Masłów), Radom (Osola), Łódź, Piotrków Trybunalski, Ostrów Wielkopolski (Michałków), Mielec (Chorzelów), Nowy Targ, Krosno. In order to be simultaneously present in so many centers

of aviation trainings, and to compare the results of psychological research with the progress in basic aviation training on an ongoing basis, an An-2 aircraft with a crew of 23 AFA School Squadron was assigned to the disposal of a psychologist officer. On the basis of the empirical data obtained from the training in AMT (from civilian instructor-pilots, on the progress in particular stages of training of candidates for aviation), officer-psychologists have prepared forecasts of the psychological professional usefulness of particular candidates for the Recruitment Committee, which they were members of, and presented their opinions during the discussion on eligibility for studies at AJA. Psychological opinions and forecasts were an important element of the recruitment procedure, as there were a lot of people willing to study in aviation schools. At that time, between 2,000 and 5,000 people applied to the Military Aviation and Medical Commission (MAMC) in Dęblin for research.

Moreover, in addition to the selection tests mentioned above, officer-psychologists carried out tasks related to participation in various projects in the field of applied aviation psychology. Namely, at first cpt. Zdzisław Kobos, MA, later 2nd lieutenant Marian Macander, MA, were also consultants for:

1. Organizers of the theoretical training process (AFA Training Department).
2. Pilot-instructors of school regiments providing practical training in the air.
3. They took part in the meetings of the Flight Hygiene and Safety Teams of the school aviation regiments located all over the country.
4. They participated in the teaching staff meetings at aviation schools.

Moreover, Psychological Officers regularly, several times a year, flew to the AFA school regiments: Biała Podlaska, Nowy Glinik, Babimost, Nowe Miasto nad Pilicą, Radom, Modlin, Goleniów and often visited the local airport in Dęblin. In these school regiments, officer-psychologists provided training for pilot-instructors and practical aviation training organizers.

At this stage, cooperation with the above mentioned school regiments was established, among others, in the field of effectiveness of practical training of officer cadets of subsequent years of studies, on military aircraft. This cooperation included the following stages.

1. Preparation of "Preliminary psychological characteristics" of particular officer cadets, which were presented in aviation regiments to instructors-pilots educating individual pilots-students before the commencement of training in the air.
2. Creation, together with pilots-instructors, of "Progress cards in aviation training", during initial training of pilots-students carrying out subsequent stages of aviation missions.
3. Development, in cooperation with the instructor-pilot, of the "Aviation psychological characteristics" of individual officer cadets on individual aircraft, following the completion of training in a given school regiment, with an estimate for further stages of specialist training [4].

Psychologist-officers attached great importance to their research, e.g. by checking the diagnostic accuracy of the applied methods and their usefulness in professional selection procedures. Namely, they performed the so-called local standards annually in relation to all the analyzed professional specialties occurring in aviation schools [5].

The psychological research conducted, its importance and significance for the selection assessment procedures and the effectiveness of education in the "School of Eagles" were appreciated by the then Commander of the Military Aviation Hospital (MAH) col. dr. Jan Borek and other AFA commanders. The results of the psychological examinations of the candidates were of interest to, among others, gen. pil. Józef Kowalski. His successor, on the other hand, at the position of AFA Commander, aviator-cosmonaut gen. pil. Mirosław Hermaszewski often visited the Psychological Laboratory in person, asking psychologists about his officer cadets, who caused didactic or disciplinary problems. The AFA Commander gen. pil. M. Hermaszewski also met with a psychologist at airports, because he was interested in the progress of cadets during aviation training. Usually he arrived for the final 2nd degree Air Military Training (AMT) exams, exchanging his comments with a psychologist and the training staff about the candidates to AFA, who were currently operating their own flights, passing this stage of practical training.

It should be emphasized that thanks to the understanding of the significance, specificity and importance of psychological research for aviation by the then Head of Medical Supply of the AMT col. Jan Krygrowski, MA, the Psychological Laboratory in Dęblin was equipped with the most modern diagnostic methods available on the market at that time, even those which were not available at psychology departments at universities.

For example, in 1985 the Psychological Laboratory of the Military Aviation Hospital in Dęblin had a Hungarian mobile system for psychophysiological research, which was used for field research at airports. Furthermore, this laboratory had a computer version of the *Eysenck Personality Inventory (MPI*

Fig.1. Psychological research of spatial orientation conducted on aerial air instruments.

) Test implemented for the Atari computers, and a few years later it was equipped with a set of psychological tests implemented for IBM computers, the most modern in Europe. These were ten workstations operating in the local Novell network with central control. This computer system of psychological tests, the so-called "Warsaw Test System" [1], was designed by the employees of MIAM, i.e. the then Head of the Department of Aviation Psychophysiology, prof. Jan F. Terelak, with the participation of dr. Kazimierz Migdał and dr. Zdzisław Kobos, MA. While the software of the system was developed by dr. Marek Cieciura, with the help of dr. Włodzimierz Kuzak from MIAM, and lieutenant Sławomir Panasiuk, MSc. Eng. and lieutenant Robert Bielewski, MSc. Eng. - graduates from the Military University of Technology. One of these systems of computer-based psychological diagnostics, i.e. the Warsaw Test System, was installed in the Psychological Laboratory of the Main Military Aviation and Medical Commission of the Military Institute of Aviation Medicine, headed by major Zdzisław Kobos, MA.

PSYCHOLOGICAL ACTIVITY IN AVIATION AND MEDICAL COMMITTES

Psychological activity in aviation and medical committees can be reduced to the few following areas. The first area concerned the professional selection of military and civilian pilots within the framework of aviation and medical certification, under which psychologists had full autonomy in diagnosing cognitive, psychomotor and personality processes, formulated from the perspective of flight safety.

The second important area of activity was participation in committees for the investigation of air accidents and catastrophes. Aviation officers-psychologists were appointed annually, by order of the Chief of General Staff, to the Committee for Investigation of Aviation Accidents of the Ministry of National Defense and the Air Force Command with the rights of a member. As part of this activity, they were on so-called accident stand duty all year round with an order to report to the airport within two hours of being notified by the MIAM on-duty service. It should be added that in those years there was no mobile communication, and the message usually arrived through the assistant of the MIAM officer on duty. Only when "pagers" appeared did they facilitate fast communication. It should be added at this point that a psychologist, after completing the analysis of the cause of the accident or catastrophe caused by the pilot's error or the so-called human factor (e.g. flight organization), analyzed these causes in the entire state of flying personnel from all aviation units. Aviation psychologists were also invited to the annual Conferences on the Safety of Air Forces Flights (and National Air Defense) to present papers on psychological conditions of flight safety. Such a paper was delivered, at the invitation of the Commander of the Air Force gen. Lech Majewski, by prof. dr. Jan F. Terelak, on "Assertiveness in military aviation", during the 51st Conference on Aviation Safety of the Polish Armed Forces, after the dramatic crash of the transport plane "Casa C-295 M", no. 019"[1].

Last but not least, the third important aspect of the activity of MIAM aviation psychologists concerned consultations and didactics in aviation units and training and fitness centers in Mrągowo and Gronik near Zakopane. Psychological counseling provided to pilots in their parent military facilities during study and consultation visits with frequency every six months. On the basis of the information obtained, ad hoc activities (e.g. organizational, personal) were undertaken and

1 The disaster took place on January 23, 2008, at 19:07, during the attempt to land at the military airport of the 12th Aviation Base in Mirosławiec. The plane was transporting officers of the Air Force participating in the 50th Conference on Aviation Safety of the Polish Armed Forces, to their aviation units. During the landing attempt, the crew unexpectedly led to excessive tilting of the aircraft, causing a progressive decrease in the lifting force, which led in the final phase of the flight to a sudden descent with the loss of direction and a collision of the aircraft with the ground. As a result of the plane hitting the ground, all the people on board were killed on the spot - 4 crew members and 16 passengers.

long-term plans were formulated in the form of preventive actions and/or scientific research programmes aimed at solving significant psychological problems in the field of flight safety. There were also frequent meetings with airmen family organizations and a variety of topics on how to cope with daily stress events were addressed. Moreover, such meetings served as guidelines for the modification of the certification regulations and organizational and training instructions, and were the source of knowledge obtained from pilots-flight instructors about current difficulties in training of personnel of a specific facility of the air force.

Moreover, the tasks of MIAM psychologists included scientific activities covering, among others: basic laboratory and application research often conducted in aviation units [2,6,8], active participation in scientific conferences in Poland and abroad [9,10,11,12], and training in aviation psychology for physicians specializing in aviation medicine or for military family organizations [3,7].

AUTHORS' DECLARATION:

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