

The possibilities of physical fitness assessment as a predisposition for work performance in armed forces.

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The goal of sport scientists is to change the life style of subjects like a predisposition of better work performance and quality of life. During two last decades has been many times declared that the subjects with higher physical fitness are able to work longer time and that the probability of significant mistakes is lower then in subjects with the lower level. The physical fitness is not only performance oriented criterion but more interpreted like a predisposition of subject's health state. This physical ability is strongly pre-determined by a level of actual functional fitness thus preserving functional fitness becomes an issue of high interest.

In order to maintain certain functional fitness status, attention to physical activity levels is one of the easiest ways to offset physical dependency or postpone impairment. The beneficial effects of physical activity on various functional fitness components such as aerobic endurance, muscular strength, velocity, flexibility and balance, joint mobility and appropriate body weight in older adults have been well established (Shephard, 1994). The ability to measure those components is needed for an early detection of potential decline, which is crucial for planning effective and successful preventive programs. Accurate assessment of initial functional status is also important for predicting risk factors for functional dependence, institutional discharge planning, or documenting and evaluating those preventive strategies.

Functional fitness is defined as having a physical capacity to perform normal everyday activities of daily living safely and independently without undue fatigue and without the decline of physical and/or work performance. There are other factors that play an important role such as health status (number of chronic conditions), cognitive functioning, sensomotoric functioning, motor control, or environment. As illustrated in Figure 1, the combination of all those factors determines the general ability to function independently. However, this study is restricted to only one factor – functional fitness with a special attention targeted on measurement issues.

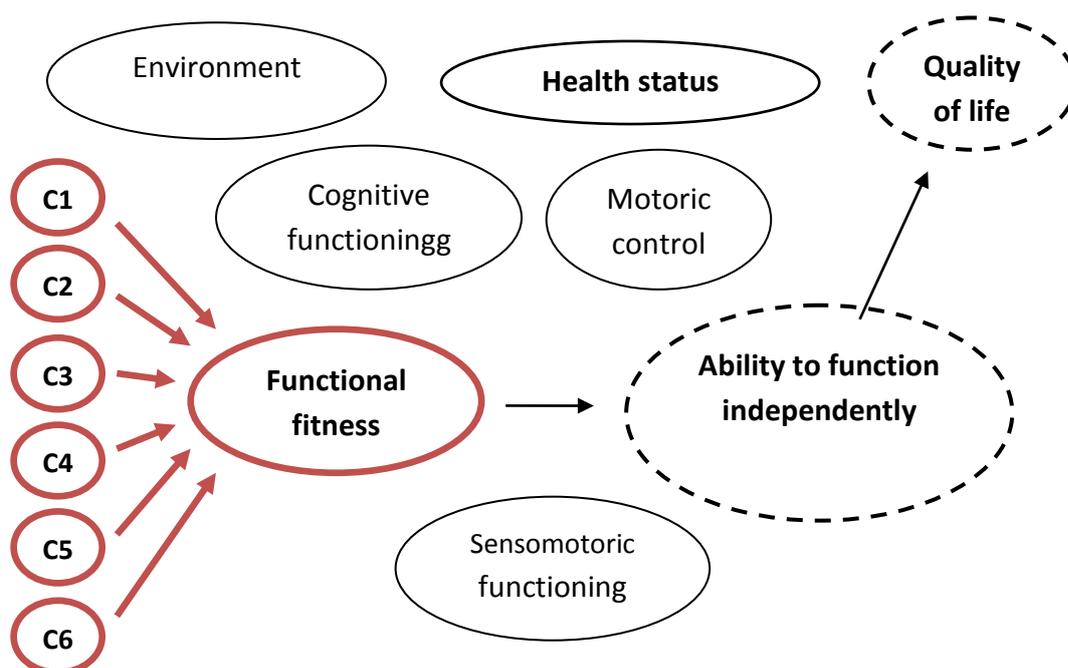


Figure 1 Diagram illustrating the focus of this study – how functional fitness contributes to the quality of life (C1 – C6 represents individual functional fitness components)

Based on the previous text much of the usual age-related decline in functional fitness is preventable and even reversible through proper attention to physical activity. Until recently, however, most instruments to evaluate physical functioning were developed either for non-trained individuals or for specific sport events. Instruments appropriate for frail individuals are too easy and not sufficiently challenging to evaluate fitness in army, instruments for non-trained individuals are usually too demanding hence unsafe and inappropriate for the majority of the army population. The primary goal is to be able to accurately monitor the functional fitness of a wide range of abilities in army so that evolving weakness might be identified and treated before resulting in impairment leading to limitations in functional behaviour.

The physical and psychical load of soldiers fulfilling various tasks escalating by high intensity, risk, variability and duration are very demanding to their physical, psychical and social personality features. The successful mastering of demanding situations of military activities anticipates the development of subjective assumptions, which may interindividually and intraindividually considerably vary. But the result must be an adequate serviceperson’s professional preparedness, enabling to preserve a high level of combat readiness and working capacity. The professional readiness consists of three integral parts – military-professional, psychical and physical readiness (Kubálek, 1993).

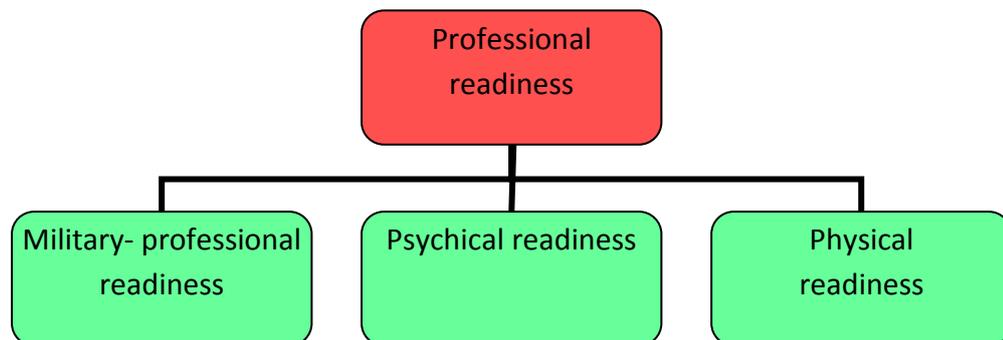


Figure2 Physical readiness – a part of the serviceperson’s professional readiness

The service personnel’s physical readiness is defined as a complex of optimally developed and functional closely interconnected serviceperson’s physical and locomotoring dispositions enabling them to fulfil motoric demanding professional tasks and adequate action in psychosomatic and motoric situations of service and combat activities.

The effectivity of the physical preparation and the current performance is determined by testing. The testing of the service personnel’s physical performance is a part of the control and evaluation and serves to the evaluation of fulfilling the aims and tasks not only of the physical training, but the military training also. Motoric tests used for that purpose are divided into two categories. Basic tests survey general ability for service in the armed forces and special tests survey the level of skills needed for the given military specialization. Every serviceperson should be tested in each category at least once in a year.

Besides the basic and special tests we must not forget testing before the entry to the armed forces. This is in some sense even more important, because it co-determinates on the quality of the personnel the armed forces will have. At present it is one of the critical points, with the setting and before all demanding the fulfilling of performance requirements and the interpretation of the principle of equal chances for women and men in the armed forces.

On one side the modern society makes life easier with regard to the physical effort, on the other side actually this leads to the general decrease of population's physical performance. The sport science is able to give reasons for the training process and how to control its results on one side, but on the other side this process is affected by incompetent interventions of the personnel clerks for example, changing wilfully the criteria to enter the armed forces. Together with the lawyers there are even efforts to affect the performance level by the service personnel alone to run down the requirements. Or even tolerance of physically inefficient servicepersons. That all in the interest of preserving the number of servicepersons or to receive new ones. The specific interest of one influential group is so superordinated to the general interest of the armed forces as such. Without regard to the fact that armed forces in required numbers but for physical inefficiency and ill health unreliable cannot guarantee their country the purpose of their maintenance.

On the entry to the armed forces and the decline of the population performance

Problems on the performance requirements for applicants for the service in the armed forces are i. a. discussed. The already mentioned continuing decline of the population performance raises problems where to get not only physically, but also locomotive capable personnel. Considering the deficiency of those personnel in connection with the declining interest in military career only one solution for the armed forces actually appears - during the recruitment to apply the health aspect above all. To create such a system of physical training within the armed forces which enables to reach with healthy, but still inefficient individuals the necessary quality using attractive methods by steps. Not in a general scale, but according to clearly defined rules and requirements in connection with the serviceperson's specific position. There is no other way for the armed forces as to respect that the civilian environment is not able to prepare a serviceperson.

On the setting of testing sets and testing criteria

Here we encounter similar problems as during the recruitment. In the effort to implement the criteria not only a change of the performance limits, but also the composition of testing sets and the evaluation occurs with the aim to reach better overall results. Another disfavoured moment is that the time of testing is known in advance and this in connection with the lower requirements in practice implies that the training starts shortly before the particular test. Nevertheless it is known that also trained persons, if not practising movement activities come after some time to the level of those who do no sport (Cureton – Warren, 1990). Testing physical performance is not purposeless. Its importance lies at least in two levels. In the first, the performances level the adaptation to movement load, increasing of physical condition and thus creating prerequisites for good working efficiency accounts. In the other one, the health, the contribution of aerobic efficiency (as the most important aspect of physical efficiency) for prevention of diseases connected with lack of movement activities is mentioned. But the results of the last years show that the aerobic efficiency of servicepersonnel declines. One of the reasons is the way of evaluation and at the endurance capabilities the change of norms so that they do not support the development of aerobic effectivity (Bunc, 1994). In some cases the unassuming and benevolent attitude of commanders to servicepersonnel not fulfilling the requirements of physical effectivity in a long term or not attending the tests at all contributes

to this not very good situation. On the other side beyond considerably worsened conditions there is a great space for the work of gym instructors.

On women in armed forces

Imbalanced views also exist on the question of equal chances of both sexes in the armed forces. Thoughts on the legal claim for equal working chances run at fulfilling combat tasks to the possible impeachment of the ability of women to withstand such an employment mentally, but above all physically. Documented, doubtless scientific works exist – some of them originate from also our faculty of the Charles University, which overwhelmingly document the difference in capabilities and possibilities of men and women. There are anatomic, physiologic and other differences, which no physical training removes without the risk of harming the woman organism. The morphological and functional differences between men and women that cause the different performance are the basic obstacle why women cannot on general level adequate practise some military vocations. The physical performance of women is about one quarter lower (Havlíčková, 2003, Laubach, 1976). Requirements for maximum strength and strength components are in many cases inevitable success presumptions in military activities. The development of muscular strength seems to be the basic component of physical readiness in most military professions as well as in sport (Kraemer et al., 2001). This visual angle is supported both by American armed forces statistics (Knapik, 2001), and British armed forces (Gemmell, 2002), illustrating that the bodily injury frequency caused by training doubles at women. The sports science respects those facts in the whole sports history not only by separating men and women races, often by different composition of sports events and the evaluation, but also by differences in medical controls et al. I think that also the sports science and physical culture in general should effectively lobby against unwise standpoints covered under the noble-minded idea of abolishing discrimination. It is not meant how to make the recruitment of women difficult or to prevent them to fulfil themselves professionally. The physical readiness of women, even though different from the readiness of men predestinates them to physically less demanding positions. There are many of them in the armed forces. At the same time this does not mean that there are positions beyond woman's reach in the armed forces. Equal chances yes, but not discriminating to the armed forces.

Résumé

The armed forces are changing continually and still more sophisticated equipment steers for strict specialization. Different requests are the reason that besides basic tests various special tests must exist and probably also various tests for recruitment. Testing of the physical performance must be a natural part of all trainings, because its results enable to predict the future performance, to indicate weak points, measure the improvement, enable to evaluate the training program success and above all motivate for further training. But the goal of the physical training can not only be the fulfilment of military test standards. The servicepersons should in a possible greatest extent place regular moving activities into their lifestyle. With regard to the above mentioned it is necessary besides the obligatory movement activities to offer the servicepersons a wide scale of other possible activities respecting their interests. Evidence exists that after a challenging, above all strength training, the organism much quicker recoveries by aerobic activities with low load than by passive rest (Corder, 1998). The sports science is an effective help in nearly all mentioned problems. It allows finding useful methods of transfer of its chosen results also into the useful service personnel's training applications. I think that even the CISM as a worldwide very influential organization associating army sportsmen often with the highest sporting level could some of its outputs orient in this direction. It would gain an effective argument in situations with which the

countries of the whole world from time to time solve (see the present financial crisis) to support military sports personnel also in difficult times. The armed forces should be interested in keeping top sports personnel in their structures also because in their existence and performance level they see a significant effect other than only a political-propagandistic one.

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