Female soldiers’ attitudes toward physical fitness standards in soldiers: associations with military rank, age, body composition and fitness level

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Introduction. Nowadays, many of the armed forces offer similar possibilities to serve in the military independent of gender. In Finnish Defence Forces (FDF), women have had possibility to join voluntaryli the military service as conscripts since 1995. Thereby, they also have had a further chance to apply for officer or noncommissioned officer (NCO) careers. In FDF, all services and units accept females. In addition, all deployments are open to women if they have had a necessary military education and required performances. The physiological differences between men and women, however, set women in general at a disadvantage position for the physical fitness demands that are required in the military. In generally, it is harder for women to pass the selection process and secondly perform successfully the military tasks in the service due to the required standards of physical fitness. At the moment, there are only a few studies available of how women soldiers experience the physical fitness requirements, and what factors are associated with the perceptions, attitudes and experiences. Purpose. The purpose of the present study was to assess the associations of physical fitness level, body composition, military rank and age with the perception and attitudes of fitness requirements, as well as perceptions and experiences on equality in female soldiers.

Methods. A survey was conducted in all units in FDF. All participants were informed of the study procedures and its purpose, and all voluntary participants provided written informed consent. 362 voluntary female soldiers participated in the study (68 % conscripts, 2 % cadets, 30 % of officers and NCO’s). Response rate of conscripts was 48 %, cadets 100 % and officers, and NCO’s 39 %, respectively. To determine the associations of military rank, age, physical fitness and body composition, the subjects were stratified into different groups. Conscripts, NCO’s and officers (including cadets) were stratified to three groups. Age groups were formed in to 18-25, 26-35 and >35 years. Physical fitness was stratified to those performing <2200 m, 2200-2600 m and >2600 m according their latest self-reported result in 12-minute running test. Subjects were further divided to normal weight (body mass index (BMI) <25) and over weight (BMI >25) subgroups. For group comparisons, tests for relative proportions were used within the cross tabulations of outcomes variable and military rank, age, physical fitness and body composition (SPSS 20.0.0.1). The level of significance was set at p<0.05. Results. Among the entire study population 96% responded that soldiers must have a good physical fitness. 76 % answered that the general physical fitness requirements in the FDF are not too demanding and similar proportion (74 %) believed that the physical fitness of females is sufficient for everyday and operational duties. Majority of the study population (56-76 %) thought that the current minimum requirements for physical fitness are at appropriate level for females. In addition, 57 % replied that there should be different physical fitness standards for male and female soldiers. 55 % believed that female soldiers could perform their military service or operational tasks if fitness requirements would be lower for females. Nearly half (48 %) reported that it creates inequality when there are the same physical fitness standards for both genders. However, 42 % felt that if fitness requirements would be lower for females this would cause lack of respect or or inferior treatment by their male colleagues. Among the entire study population 12 % of the females had felt being bullied and 23 % had experienced occasional and 1 %
continuous discrimination about their physical fitness. NCO’s, older age, lower fitness level and overweight were associated more with the perception that fitness requirements are generally too demanding for female soldiers and conscripts (p<0.05). Officers, 18-35 years old and higher fitness level experienced less that fitness level of female soldiers is sufficient for the everyday and operational wartime duties of a soldier (p<0.05). In addition, officers, 26-35 years old and those with low fitness level thought more often that physical fitness requirements should be the same for both genders, and also they did approve less for that female soldiers could meet the operational demands if the test requirements would be lower for females than for males (p<0.05). NCO’s, older age, lower fitness level and overweight considered more often that the requirements (>2600 m in 12 minute running test) are too demanding for females in National Defence University (NDU) entrance exam or for appointment to the position of NCO (p<0.05). Those participants with lower fitness level and overweight reported more often been bullied from their physical fitness (p<0.05). There was also less individuals in overweight who reported never experienced discrimination of their physical fitness (p<0.05). Moreover, officers, older age (>25 yrs) and higher fitness level were associated with more often agreeing that there would a lack of respect or or inferior treatment from male colleagues if the physical fitness requirements would be lower for females (p<0.05). Officers, younger age (18-25 yrs) and higher fitness level were associated with more often thinking that the same physical fitness requirements for males and females do not create inequality (p<0.05).

**Discussion.** The main findings of the present study demonstrated that most of the female soldiers consider current requirements for physical fitness appropriate for females in FDF. In addition, over half of the subjects thought that there should be different physical fitness standards for male and female soldier. In addition, female soldiers could perform their tasks successfully if the fitness requirements would be lower than today. In general, NCO’s, older soldiers, overweight and those with low fitness level thought more often that the physical demands and minimum fitness requirements are too high for female soldiers’ and the fitness tests and standards should be gender-specific. Although over half of the females in the present study would like to have gender-specific fitness tests and requirements, the suggestion could be a concentration on creating task–specific requirements. Thereby, it could be possible reduce the inequality experiences derived from male-female differences in physical fitness. In addition, lower fitness level and overweight were associated with higher prevalence of being bullied because of physical fitness. Overweight was also associated with experiences about discrimination because of physical fitness. These findings call for searching ways for prevention of being bullied and discrimination due to physical fitness. These might include more information about zero tolerance in FDF about bullying and discrimination, as well as education of recognising the situations and further the education of solving the problems as a means of preventive actions. **Conclusion.** Although physical training do not seem to narrow the gap between gender differences, it can substantially improve individuals physical performance and lead to meeting required physical fitness standards. The findings of the present study encourage seeking different ways for better communication about the background of the fitness requirements in FDF for female applicants before the military service and before the selection process. In addition, task-specific fitness requirements could be applied in the future. In addition, physical training interventions and personnel training programmes for females could especially be targeted for NCO’s and conscripts, overweight, older soldiers and those with lower fitness level. By applying these actions the number of capable females might increase and the integration of women in the military be improved in FDF.