87 - THE PHYSICAL APTITUDE LEVEL OF THE MILITARY POLICE OFFICERS OF THE CLASS OF 2005 OF THE MILITARY POLICE 25th BATTALION AT TWO MOMENTS IN THEIR PROFESSIONAL CAREER: A DIAGNOSTIC STUDY

SILVIA CRISTINA DA ROSA SOARES; JOÃO CARLOS JACCOTTET PICCOLI. Centro Universitário Feevale Novo Hamburgo, RS, Brazil silvia-cristina@brigadamilitar.rs.gov.br

INTRODUCTION

Our society at present, with its needs and demands for quality security in constant evolution, hopes to find professionals capable of fulfilling its needs among the public law enforcement agents. The Military Brigade as an institution has public security as a mission and it hopes that the military police officer conveys to the citizens an image of a well-prepared professional who is ready to attend to their concerns. In order to do this, a good personal appearance as well as a good physical aptitude is essential for the Military Police officer (MP) to transmit a feeling of security to the citizens.

Along with society's progress, a significant change in life style is evident, one in which electronic gadgets substitute manual activities. Today's citizens, among whom are included the young people who will some day join the Military Brigade, are coming increasingly under the influence of the facilities of the modern world. The Internet and mass media impose new customs, there are new eating habits and electrical appliances make home life easier. Even during leisure time, instead of physical and sports activities, many opt for other means of amusement that are more modern and less demanding in terms of physical effort.

It is the young people spawned by this society who will enlist, with these new parameters and who are no longer influenced by the generation of 80s youth, the 'health generation', who grew up with the media's amply divulged message that exercise was good for your health, thus "move it", became one of the era's slogans, accompanying images of athletes like Robson Caetano and "João do Pulo" among others. What appears in the media nowadays are warnings about illnesses caused by a sedentary life style and poor eating habits.

The military police officer who has grown up tainted by all these vices of the modern world, very often finds in the corps a confirmation of his values, and finds that Physical Education has been relegated to a second level priority. The objective would be to reestablish the relevance of Physical Education in the corps based on the syllabus of the training courses and effective practice in the barracks, seeking to avoid sending officers who are in unfit physical condition out onto the streets.

This matter of the MPs physical conditioning is significant for the fact that the officers, at the beginning of their careers, are in relatively good condition. In order to join the State Military Brigade, recruits take a physical test that shows if they are apt for military police activity, however, after a few years, it can be noted that the same officer who passed that test, is now overweight or even obese and in a physical condition inferior to that expected for good performance of one's duties.

The facilities of the modern world, together with physical inactivity, can cause an increase in the body weight of military police officers if they do not take care of their health and their bodies. An officer in bad physical shape can end up generating the mistrust of the population that may not feel confident in asking for his assistance, especially if some physical effort is required.

It is quite common that after this exhausting work, these professionals try to use their time off to rest up for the next day, when they are not 'moonlighting' (doing side jobs after their regular work day), often neglecting their physical well-being. Many see physical activity as a sacrifice and not as a pleasurable activity that could improve physical aptitude and quality of life. However, there does not appear to be an awareness that by practicing physical activity, the officers would feel better physically, and mainly, healthier, so they could perform professional duties of a higher quality.

When talking about physical aptitude, the idea comes to mind of a fit, vigorous, eager person who does not tire easily. An individual with a good physical aptitude is able to carry out tasks easier and with less effort than a person who is out of shape.

According to Barbanti, (1990), physical aptitude is the capability of carrying out daily tasks with vim and vigor, without excessive fatigue and with plenty of energy to appreciate leisure time activities and to cope with unexpected emergencies. In this sense, Bouchard apud Gobbi, Villar and Zago (2005), complement this concept by affirming that physical aptitude is a dynamic state of energy and vitality that allows every one to not only carry out daily chores, leisure time activities and cope with unexpected emergencies without excessive stress, but also to act in a preventative manner against hypocinetic illnesses.

According to ACSM (2003) physical aptitude refers to the set of a person's physical attributes that can be enhanced by taking part in appropriate exercise programs. Thus, in general terms, physical aptitude may be considered as the capability that an individual has to do physical activities.

In Nahas's (2003) view, the components of physical aptitude include the physical aptitude related to performance and one related to health. The former refers to components of physical aptitude that contribute to good performance in sports (agility, balance, speed and anaerobic endurance) and the latter involves components associated with the state of health (strength and muscular endurance, flexibility, anaerobic endurance and body composition), a factor which generates a better condition in aspects of prevention and reduction in the risk of illness as well as aspects of everyday activities.

Cardio-respiratory aptitude is directly related to the capability of the heart to supply oxygen to the active muscles and the capability of these muscles to generate energy using this oxygen. Body composition refers to the percentage of our body weight which is fat relative to tissue free of fat (fat and lean body mass). Muscular aptitude is made up of muscular strength, maximum strength that a muscle manages to generate to a given speed and muscular endurance, capability that a muscle has to do repeated contractions or to resist muscular fatigue. Flexibility can be defined as the capacity to move a joint through its complete movement amplitude (ACSM, 2000).

The officer who has all of these components of physical aptitude well developed has the necessary vigor for a great majority of the activities in which he will wish to participate in during his life whether it is at work, at home or while enjoying leisure time. Although in order to have a satisfactory physical aptitude there has to be an enhancement of these components through a continual and adequate training program for each one of these elements of physical aptitude. According to the ACSM (2000), physical training promotes a wide variety of physiological adaptations, but the long periods of inactivity are associated with a reversal of many adaptations. The concept of reversibility states that when physical training is interrupted or reduced, the systems of the body readjust themselves in accordance with the diminished physical stimuli.

Therefore, in order for the officer to always maintain a good physical aptitude level it is very important that the training begun during the course continue uninterrupted, so as not to lose all the physiological adaptations gained from the training and return to physical aptitude level equal to or inferior to the level at the onset of the training (POLLOCK; WILMORE, 1993).

Given the concern with knowing the current physical aptitude level of the members of the Military Police, this study was developed with a group of military police officers at the beginning of their careers, taking into account their performance on the

Physical Aptitude Tests (TAF in Portuguese), which were carried out during their official training course and a new test done one year after graduation with the aim of finding out if there were any changes in the physical aptitude level at any of those points. The objective of the present study was then, to research whether there were changes in the physical aptitude level of the Military Police class of 2005 from the Military Police 25th Battalion in São Leopoldo, during their training course and one year after completing it.

MÉTHODOLOGY

The current study, categorized as descriptive, involved 31 students of the Basic Training Course for Military Police from the Class of 2005 of the Military Police 25th Battalion in São Leopoldo, all male gender, aged between 18 and 25 years, selected for convenience and who had voluntarily signed the Free and Clear Consent Release.

In order to measure the physical aptitude level of the subjects studied, the tests used by Military Brigade of the State of Rio Grande do Sul were used, as is established by Instruction Note of Teaching and Training No. 020 of the Military Brigade, which aims to regulate the systematic instruction of the Physical Education, Personal Defense and Physical Evaluations in the Corps: for men up to the age of 35, running for 12 minutes, pull ups and sit ups; for men over the age of 35 and women, running for 12 minutes, push ups and sit ups; being that the males do the push ups with four supports - the hands and feet are parallel to each other; while the females use hands and knees parallel to each other.

The following were used to apply the tests: stopwatch, whistle, fixed bar, mat and athletic track marked in meters. Before the tests began, those being evaluated presented a health certificate from a doctor indicating they were able to do them. Their age was also recorded and there were demonstrations by the evaluator of each exercise with descriptions in detail. Those being evaluated did the corresponding tests depending on age, where there were either pull ups on the bar or push ups on the ground.

Even though a new Instruction Note was issued regulating Physical Education in the Military Brigade, with a new table, the same table that had been in use at the time of the training course was used so the results would not be distorted, since the new table changed the points system for the exercises.

It should be pointed out, though, that of the evaluations made during and one year after the training course, only the second was made by the researchers; the first was carried out by a Physical Education professional that was working with the study subjects at that time. Even though the evaluations were made at different times by different evaluators, the procedures used were the same established by the Instruction Note in force then.

Descriptive statistics (calculations of the arithmetical average, standard deviation, identification of the minimum and maximum values) was used in the analysis of the data. To verify the differences existing between the groups, the Wilcoxon (dependent samples) test was used to test the differences between the distinct moments, following the methodology described by Siegel (1978). All the statistical procedures were carried out on SPSS software (Version 11.5) and having as criteria of significance p = 0.05.

RESULTS AND DISCUSSION

Table 1 shows the gradual change in the average of the exercises in all the cycles of the training and at the present time. The cycles I, II, III, and IV represent the batteries of tests done during the training course and the current time represents the battery of tests done a year after the end of the training.

Table 1 - Distribution of the averages, standard deviation, minimum and maximum scores and classified scoring of tests applied to the subjects of the study at five distinct moments: Cycles I, II, III, IV and Current (n = 31)

Variable				Values	
	Moment	Average	Standard deviation		
Pull ups	Cycle I	7.6	3.4	2	14
(rep)	Cycle II Cycle III Cycle IV Current	8.5 9.0 9.6 5.2	3.4 3.3 3.3 2.7	2 3 3 1	14 14 15 10
Sit ups	Cycle I	46.0	2.9	40	50
(rep)	Cycle II Cycle III Cycle IV Current	47.7 49.1 49.6 42.3	2.5 1.7 1.9 4.2	42 45 45 35	50 54 54 52
Running	Cycle I	2,773.5	182.0	2,300	3,100
(meters)	Cycle II Cycle III Cycle IV Current	2,826.5 2,868.4 3,004.2 2,400.6	175.1 155.9 203.6 216.5	2,300 2,400 2,400 2,000	3,100 3,200 3,420 2,750
Score	Cycle I	224.6	36.5	130	285
(pts)	Cycle II Cycle III Cycle IV Current	238.7 255.3 267.0 158.9	39.7 30.4 26.9 46.2	130 175 175 61	295 300 300 238

A progressive increase in the general average of each cycle of the group can be observed when analyzing Table 1; while the tests done a year after the end of the course show there was a drop in the physical aptitude level.

Also shown in Table 1 are the changes in general scoring attributed to the officers tested, according to the table concept used by EsEF/BM, where:

EXCELLENT = 300 Points / VERY GOOD = 255 to 299 Points / GOOD = 211 to 254 Points /

FAIR = 151 to 210 Points / POOR = up to 150 Points

The findings show that in cycle I, which represents the beginning of the course, the officers' average score was 224.6, rated as GOOD, progressing until they reached the end of the course, cycle IV, with an average score 267.0, which was rated VERY GOOD. One year after the course (current) the average score fell to 158.9, leaving them currently with the rating of FAIR.

Comparison between cycle I and IV

Table 2 - Comparison of the averages, standard deviation, of the tests applied to the subjects of the study during cycles I and IV (n = 31).

Average ± Standard deviation							
Variables	Cycl	le I	Cycl	e IV	Z	р	
Pull ups (rep)	7.6 ±	3.4	9.6 ±	3.3	4.671	0.00000**	
Sit ups (rep)	46.0 ±	2.9	49.6 ±	1.9	4.797	0.00000**	
Running (m)	2,773.5 ±	182.0	3,004.2 ±	203.6	4.862	0.00000**	
Score (pts)	224.6 ±	36.5	267.0 ±	26.9	4.861	0.00000**	

Table 2 outlines a comparison between the averages and the standard deviation resulting from the tests applied in cycles I and IV of all the exercises, showing a significant improvement, being that the probability of error is practically zero ($p \le 0.000$).

Analyzing tables 1 and 2 leads to the conclusion that the training done during the course period was satisfactory. Although not all the students reached a maximum score, all of them improved their physical aptitude level on all the exercises in the test. The fixed bar test increased 2 repetitions on average, the sit ups test increased by an average 3.6 repetitions and the running test improved 230.7 m on average.

With regards to the quantity and quality of the exercises necessary to develop and maintain healthy adults in good shape, the ACSM apud Pollock and Wilmore (1993), recommend a training frequency of 3 to 5 days per week and for strength training a minimum of two days per week. In the present study, the research subjects trained twice, for aerobic conditioning as well as strength training, achieving improvement in both of these components of physical aptitude

The comparison between cycles I and IV shows an improvement in the general average of the officers when they left the course compared to when they arrived. In fact, continual training enabled the officers to obtain a considerable and important improvement for their professional future and for their health.

Table 3 represents a comparison between the averages and standard deviation of cycle V and the current time. It should be noted that between the last tests carried out during the course and those done a year later, there was a general drop in the physical aptitude of the officers in all the exercises. While the pull ups decreased by an average of 4.4 repetitions, the sit ups decreased 7.3 repetitions on average and the running test improved by an average of 603.6 m. The scoring fell from 267.0 to 158.9, changing the rating from VERY GOOD to FAIR.

Comparison between Cycle IV and Current Time

Table 3 - Comparison of average results, standard deviation, between the tests applied to the subjects of the study for cycles IV and current (n = 31)

	Average ± stan	dard deviation		
Variables	Cycle IV	Current	Z	p
Pull ups (rep)	9.6 ± 3.3	5.2 ± 2.7	4.908	0.00000**
Sit ups (rep)	49.6 ± 1.9	42.3 ± 4.2	4.846	0.00000**
Running (m)	3,004.2 ± 203.6	2,400.6 ± 216.5	4.861	0.00000**
Score (pts)	267.0 ± 26.9	158.9 ± 46.2	4.861	0.00000**

The drop in the general physical aptitude level of the group was due to the fact that the training was interrupted since, according to ACSM (2000), physical training promotes a great variety of physiological adaptations, however, long periods of inactivity are associated with the reversal of many adaptations. The concept of reversibility establishes that, when the physical training is interrupted or reduced, the body systems readjust in accordance with the diminished physical stimuli.

Comparison between Cycle I and Current

Table 4 - Comparison of the resulting averages, standard deviation, between the tests applied to study subjects in cycles I and IV (n = 31)

	Average ± stan			
Variables	Cycle I	Current	Z	p
Pull ups (rep)	7.6 ± 3.4	5.2 ± 2.7	4.819	0,00000**
Sit ups (rep)	46.0 ± 2.9	42.3 ± 4.2	4.330	0,00001**
Running (m)	2,773.5 ± 182.0	2,400.6 ±216.5	4.863	0,00000**
Score (pts)	224.6 ± 36.5	158.9 ± 46.2	4.862	0,00000**

Table 4 shows the difference between the physical aptitude level at which the officers find themselves at the current moment and the physical aptitude level they found themselves at the beginning of the training course. The physical aptitude level recorded one year after the course is inferior to the physical aptitude level recorded at the first test done by the officers in the training course.

Making a general analysis of the results obtained it became clear that during the period they were taking the course there was a significant improvement in the officers' physical aptitude level demonstrating the efficiency of the training carried out (comparison between cycles I and IV, see table 2).

Nevertheless, there is an evident loss in physical aptitude a year after finishing the course (comparison between the cycle IV and current, see table 3). In addition there is the aggravating circumstance that the current state of the physical aptitude of the officers is even worse than it was at the beginning of their course (comparison between cycle I and the current, see table 4). Therefore, the manner that the practice of Physical Education in the Military Brigade is being carried out with ostensive law enforcement officers, in contrast to what happens with officers on their training course, does not achieve the expected objective. According to Bohnenberger et al. (2001), the practice of physical education at the military brigade barracks is usually carried out by the administrative officer on duty who closes the section and goes to the field behind the barracks where most of the time the men end up just playing a soccer match, and there is seldom a specific training activity to work on muscle strength or cardio-respiratory capacity (BOHNENBERGER et al., 2001)

Emphasis must be given to the importance of maintaining physical training without interruptions, since in this case the physical aptitude level clearly fell sharply from the moment it lost continuity. According to Pollock and Wilmore (1993), it is easier to lose conditioning than to acquire it. For every week without training, one loses three weeks of training on average. Imagine, then, a year without training, which was the case of the military police researched.

Even more alarming, is to consider that young adults between the ages of 20 and 27, after two years of service, reach the levels of physical aptitude presented here - how will they be after 15 or 20 years of service? If they continue at this pace, without anything being done by them or by the corps, as far as changing this situation, those same military police officers may become obese or even have health problems caused by their sedentary lives. In the research done by Alves (1999) it was found that 50.59% of the sedentary military police officers were from 30 to 39 years old and 18.43% from 20 to 29, totaling 69.02% of the sedentary officers up to 39 years old, which is considered a high percentage of sedentary officers in an age range that is still young.

Based on this study, it is concluded that there were significant changes in the physical aptitude levels of the military police officers of the class of 2005, of the 25th BPM, during their training course as well as one year after it finished. The changes reached the highest rate during the course, since the physical aptitude levels of the subjects studied improved significantly. While the changes recorded in the test carried out with the officers one year after the course showed a very large drop in the general average of the physical aptitude level, ranking even lower than the initial score.

The practice of Physical Education during their training course is within the expected, given the improvements recorded. However, the way things are being done for the common member of the corps, has been proven to be flawed, since the general averages of the physical aptitude levels fall significantly. There are two reasons for this happening: 1) the military police officer is not sufficiently interested to continue practicing after joining the troops; 2) the Military Brigade does not offer the necessary conditions for the regular enlisted officers to practice physical activities.

As a suggestion, the Military Brigade, through the Department of Education and Training of the Corps, should adopt more energetic measures in order to guide and monitor the full compliance as outlined in Instruction Note no 003 of the High Command of the Military Brigade dated 29 of March of 2006, in reference to the frequency of physical activity in the Corps for all members of the military police.

REFERENCES

ALVES, Mauricio M. A medida indireta do consumo de oxigênio como parâmetro principal da avaliação física especial na Brigada Militar. Monografia (Curso Avançado de Administração Policial Militar) - Academia de Policia Militar, Porto Alegre. 1999.

AMERICAN COLLEGE OF SPORTS MEDICINE. ACSM, **Manual de pesquisa das diretrizes do ACSM para os testes de esforço e sua prescrição**. 4. ed. Rio de Janeiro: Guanabara Coogan, 2003.

BARBANTI, Valdir J. Aptidão física: um convite à saúde. São Paulo: Manole, 1990.

BOHNENBERGER, Marcus Aurélio; JUKIANE, André Idalmir Savian; LIMA, Alexandre Martins de; PACHECO, Pedro Wilson Ferreira. **Programa de ginástica laboral para a Brigada Militar**: método para sua Implementação- Proposta. Monografia (Curso Avançado de Administração Policial Militar) - Academia de Policia Militar, Porto Alegre 2001.

GOBBI, Sebastião; VILLAR, Rodrigo; ZAGO, Anderson Saránz. Bases teórico-práticas do condicionamento físico. Rio de Janeiro: Guanabara Koogan, 2005.

NAHAS, Markus V. Atividade fisica, saúde e qualidade de vida. 3. ed. Londrina: Midiogral, 2003.

NIEMAN, David C. **Exercício e Saúde** : como se prevenir de doenças usando o exercício como seu medicamento. São Paulo: Manole, 1999.

SIEGEL, Sidney. Estatística não paramétrica. São Paulo, Mc Graw-Hil, 1978.

POLLOCK, Michael L.; WILMORE, Jack H. Exercícios na Saúde e na Doença. Traduzido por Maurício Leal Rocha. 2. ed. Rio de Janeiro: Medsi, 1993.

THE PHYSICAL APTITUDE LEVEL OF THE MILITARY POLICE OFFICERS OF THE CLASS OF 2005 OF THE MILITARY POLICE 25th BATTALION AT TWO MOMENTS IN THEIR PROFESSIONAL CAREER: A DIAGNOSTIC STUDY ABSTRACT

This study aims to discover if there was a change in the physical aptitude level of the Military Police officers of the class of 2005 of the Military Police 25th Battalion in São Leopoldo, during their course and one year after their graduation. A battery of tests from the Rio Grande do Sul Military Police was used in a sample of 31 subjects selected for convenience. Significant differences in physical aptitude level were found in comparing the tests done during the course and those done a year after its conclusion. The score and rating average was 224.6 points, which was rated "GOOD" on the TAF evaluation table, at the beginning of the course, increasing to 267 points, rated 'VERY GOOD' at the end of the course and went down to 158.9 points, rated "FAIR" on the test done a year after finishing the course. It was found that there was a significant difference in the physical aptitude level during the course as well as a year after it ended. The changes during the course reached the rating, while those recorded a year after the course displayed a significant loss in the physical aptitude level, even lower than the initial score.

KEY WORDS: Physical aptitude. Military Police.

NIVEAU D'APTITUDE PHYSIQUE DES POLICIERS MILITAIRES DE LA CLASSE DE 2005 DU 25e BATALHÃO DE POLÍCIA MILITAR, AU LONG DU COURS DE FORMATION ET UN AN PLUS TARD.

Ce travail fouille le changement du niveau d'aptitude physique des policiers militaires de la classe de 2005 du 25e Batalhão de Polícia Militar de São Leopoldo, au long du cours et après un an de formation. On a été utilisé la baterie de tests de la Police Militaire du Rio Grande do Sul, dans une épreuve selecionée par convenance de 31 sujets. La comparaison des tests réalisés au long du cours et les tests réalises un an après sa conclusion a montré une différence significative du niveau d'aptitude physique. La moyenne générale qui était de 224,6 points, considerée BONNE, dans le tableau unique d'évaluation TAF (test d'aptitude physique), au début du cours, on a augmenté à 267 points, considerée TRÈS BONNE à la fin du cours et on a diminué à 158,9 points, considerée RÉGULIÈRE dans le test réalisé un an après le cours . On a conclu donc une différence significative des niveaux d'aptitude physique au long du cours et un an après sa conclusion. Les changements pendant le cours ont été plus grands, pendant que ceux d'un an plus tard ont montré une perte significative du niveau d'aptitude physique, inférieurs qu'au début. MOT-CLÉS: Aptitude physique. Policier Militaire

NIVEL DE APTITUD FÍSICA DE LOS POLICÍAS MILITARES DE LA CLASE DE 2005 DEL 25º BATALLÓN DE LA POLICÍA MILITAR, A LO LARGO DEL CURSO DE FORMACIÓN Y UN AÑO DESPUÉS RESUMEN

El objetivo de este trabajo fue investigar si hubo cambio en el nivel de aptitud física de los Policías Militares de la clase de 2005 del 25º Batallón de Policía Militar de la ciudad de São Leopoldo, Rio Grande del Sur (RS) a lo largo del curso y año después de la graduación. Se utilizó una serie de pruebas de la Brigada Militar del estado del Rio Grande do Sul y una muestra seleccionada por conveniencia de los 31 individuos. Comparándose las pruebas realizadas a lo largo del curso con los testes realizados un año después de su conclusión fueron encontradas diferencias significativas en el nivel de aptitud física. El promedio general de la puntuación y concepto que era 224,6 puntos, clasificados en el concepto "BIEN" en la Tabla única de Evaluación de la TAF (Teste de Avaliação Física/Prueba de Evaluación Física), subió a 267 puntos, concepto "MUY BIEN" al final del curso, y disminuyó para 158,9 puntos, con concepto "REGULAR", en la prueba realizada un año después de lurso. Se concluyó que hubo diferencia significativa en los niveles de aptitud física tanto a lo largo del curso de formación cuanto un año después de su conclusión. Los cambios durante el curso llegaron a un índice más alto, ya los constatados un año después de la graduación demostraron una pérdida significativa en el nivel de aptitud física, inferior al inicial. PALABRAS CLAVE: Aptitud física. Policía Militar.

NÍVEL DE APTIDÃO FÍSICA DOS POLICIAIS MILITARES DA TURMA DE 2005 DO 25º BATALHÃO DE POLÍCIA MILITAR, AO LONGO DO CURSO DE FORMAÇÃO E UM ANO APÓS RESUMO

Este trabalho objetivou investigar se houve mudança no nível de aptidão física dos Policiais Militares da turma de 2005 do 25º Batalhão de Policia Militar de São Leopoldo, ao longo do curso e após um ano de formação. Foi utilizada a bateria de testes da Brigada Militar do RS, a uma amostra selecionada por conveniência de 31 sujeitos. Comparando-se os testes realizados ao longo do curso e os testes realizados um ano após a sua conclusão foram encontradas diferenças significativas no nível de aptidão física. A média geral da pontuação e conceito que era de 224,6 pontos, classificados no conceito "BOM" na Tabela única de Avaliação da TAF, no início do curso, aumentou para 267 pontos, conceito "MUITO BOM" no final do curso e diminuiu para 158,9 pontos, conceito "REGULAR" no teste realizado um ano após o curso. Concluiu-se, que houve diferença significativa nos níveis de aptidão física tanto ao longo do curso de formação, quanto um ano após a sua conclusão. As mudanças durante o curso alcançaram um maior índice, já as constatadas um ano após o curso demonstraram uma perda significativa no nível de aptidão física, inferior ao inicial.

PALAVRAS CHAVES: Aptidão física. Policial Militar