

Physical fitness evaluation



Chapter 1 THE PROBLEM – – – ITS BACKGROUND The Armed Forces of the Philippines (AFP) is a government institution mandated to serve and protect the Philippine Constitution and its people. It is a well-organized and disciplined body composed of a citizen armed force necessary for the defense and security of the State. For operational efficiency and effectiveness, the AFP is composed of three (3) Major Services: the Philippine Army (PA) which conducts ground combat operations, the Philippine Air Force (PAF) which secures the Philippine air space and the Philippine Navy (PN) which secures the Philippine territorial waters.

Each service considers the other services as brothers-in-arms and members of one big family. But how does this big organization maintain its high level of competence? Its individual members, from its top brass down to its privates, seamen and airmen, must always be in top physical and mental condition to meet the daily requirements of the body and mind in accomplishing its mission and objectives, be it pushing the enemy in combat operations and frontlines or pushing pens and papers as regard to the administrative duties of the organization.

Either way, military personnel should maintain high level of physical fitness at all times whether in the garrison or in the field. Physical fitness, as defined by Lt. Colonel Teodosio, is the possession of an individual of a healthy body, a capacity for skillful and sustained performance, an ability to recover from exertion rapidly, a desire to complete a designated task and a confidence to face any eventuality. It is in fact the ability to function effectively in physical work, training, and other activities and still have enough energy left over to handle any emergencies which may arise.

Physical fitness is a must among men in uniform. Rank, length of service or nature of assignment is never an excuse for any military personnel to disregard his state of physical readiness. Complete personnel readiness always includes physical fitness. Having a healthy body, free of disease and defects, does not necessarily label a person to be physically fit in the military service. Even prior to joining the military, there are standards applicants and candidate soldiers should reach. Military personnel should possess the attributes which are the essential components of physical fitness: strength, endurance, agility and coordination. The AFP Regulations Board therefore enacted Circular Number 22, GHQ, AFP dated April 2, 1963 entitled Physical Conditioning and Fitness Test which was rescinded by Circular Number 1, GHQ, AFP dated July 23, 1973 and Circular Number 9, GHQ, AFP dated June 21, 1993 respectively to promulgate minimum physical achievement requirements for all military personnel and to recommend physical conditioning and fitness test within the various commands.

Read also article “ A nation should require all of its students to study the same national curriculum until they enter college”.

Furthermore, Standard Operating Procedure Number 3, GHQ, AFP entitled AFP Standard Physical Fitness Test dated July 15, 2010 is being implemented to provide a common standard in the conduct of PFT in the AFP. Based on the above, considering the values and importance of physical fitness, the researcher opted to venture on this study with the end in view of evaluating the physical fitness test performance of military personnel that will enhance his physical well-being that contributes to his over-all performance.

Conceptual Framework

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This study used the systems analysis paradigm utilizing the input-process-output conceptual framework (Figure 1). The inputs included the following: AFP Circular Nr 09 dated 21 June 1993, Standard Operating Procedure (SOP) Nr 03 dated 15 July 2010, Physical Fitness Test CY 2010 Results, and the results of survey questionnaire and personal interviews conducted by the researcher. In the process, the circular and SOP were reviewed and analyzed. PFT results were tabulated; analyzed and then statistical treatment was applied together with the results of the survey questionnaire.

The difference between the performance of male and female was also tested. Figure 1 Research Paradigm Showing the Flow of the Study The researcher also tested the relationship of the military personnel's performance in the three (3) events included in the PFT as presented in Figure 2. The output then would be a proposal in Guidelines in the Implementation of PFT. Figure 2 Paradigm Showing the Relationship of Hypothesized Variables

STATEMENT OF THE PROBLEM This study aimed to evaluate the performance of military personnel in Physical Fitness Test assigned at GHQ, Camp Aguinaldo, Quezon City during the Calendar Year 2010.

Specifically, this study answers the following questions: What are the events included in the Physical Fitness Test being conducted among the military personnel? Is there a significant relationship in the performance of the respondents among these events? Is there significant difference between the performance of male and female military personnel? What are the factors that affect the performance of military personnel? What are the benefits of

PFT among military personnel? Hypothesis The null hypotheses evaluated in this study were:

There is no significant relationship in the performance of military personnel among the events involved in the Physical Fitness Test. There is no significant difference between the performance of male and female military personnel in the Physical Fitness Test. IMPORTANCE OF THE STUDY Physical fitness, as mentioned, is an essential element for the accomplishment of mission and objectives of the AFP. The AFP would benefit from this study as this Physical Fitness Test performance evaluation could become the basis to determine ways in improving the state of discipline of the members of the organization insofar as the implementation of Physical Fitness Program and Testing is concerned. Military personnel are the ultimate beneficiaries of this study as this could serve as the basis in the formulation of strategies that would put them to the highest degree of performance in physical fitness test necessary for the most effective attainment and maintenance of combat readiness. The school administrators and teachers would also be benefitted from the results of this study.

This will remind them how important an individual's physical fitness is, therefore, like values education, it could be integrated to the lesson. Citizenship training became important in education since the American Era; and during the Commonwealth Period curricular emphasis aside from character education was on duties of citizenship. It then became one of the fundamental aims of education since the 1973 Constitution up to the present period. It is therefore necessary for the teachers to impart their students the need for maintaining an individual's physical fitness.

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The students are another full beneficiaries of the research particularly those who are interested to join the Armed Forces or other agency like the Philippine Military Academy, Philippine National Police, Philippine Drug Enforcement Agency, the National Bureau of Investigation or any other military schools and organization that require good physical state and condition. This could motivate and challenge those candidate soldiers and officers to mentally and physically condition themselves to qualify and fit the military service.

This could also help to alleviate students' thinking that Physical Education subjects are less important instead, this could stimulate their interest to perform well even if P. E. is just one of the minor disciplines. DEFINITION OF TERMS 2-mile or 3. 2K run. This event tests cardio-respiratory (aerobic) endurance and the endurance of the leg muscles. Body Mass Index (BMI). Body Mass Index (BMI) is defined by the Centers for Disease Control as reliable indicator of body fat as a value calculated from a person's weight and height.

This is the weight in relation to height: an index that expresses adult weight in relation to height. It is calculated as weight in kilograms divided by height in meters squared, or 704. 5 times weight in pounds divided by height in inches squared. A body mass index of less than 25 is considered normal, and one of over 30 implies obesity. Citizen's Army Training (CAT). This is a training program which became a part of the Philippine Education Secondary curriculum. Factors. These are something that contribute to or have an influence on the outcome of something (Microsoft Encarta® 2009. 1993-2008 Microsoft Corporation). In this study, these are the things that

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contributed to the performance in physical fitness test of military personnel such as age, weight, body mass index, purpose, physical activities, lack of exercise, excessive exercise, work load, perception, vices, climate or weather and motivation. GHQ. The full form of this is General Headquarters. It is the headquarters of the AFP organization, commanded by a general, the Chief of Staff. Major Services. These are the three (3) major branches of service in the armed forces, the air force, the army and the navy.

In this study, these are the branch of service in the Armed Forces of the Philippines, the Philippine Air Force, the Philippine Army and the Philippine Navy. National Service Training Program (NSTP). This is a program aimed at enhancing civic consciousness and defense preparedness in the youth by developing the ethics of service and patriotism while undergoing training in any of its three (3) program components. Its various components are specially designed to enhance the youth's active contribution to the general welfare. Office of the Special Services (OSPS).

This is an office and a unit of the AFP located in Camp Aguinaldo which assists the Chief of Staff, AFP on all matters pertaining to recreational and welfare concerns including sports development, physical fitness, and housing and health services. Performance. This pertains to the act of carrying out or accomplishing something such as a task or action (Microsoft Encarta® 2009. © 1993-2008 Microsoft Corporation). In this study, it refers to the military personnel's standing in Physical Fitness Test and the observable output of strength, agility and endurance. Philippine Air Force (PAF).

This is a branch of service in the Armed Forces of the Philippines responsible in organizing, training and equipping air forces for prompt and sustained air operations. Philippine Army (PA). This is a branch of service in the Armed Forces of the Philippines responsible in organizing, training and equipping army forces for prompt and sustained combat operations on land. Philippine Navy (PN). This is a branch of service in the Armed Forces of the Philippines responsible in organizing, training, equipping maintaining and operating naval forces and naval aircrafts to provide waterborne support and assistance.

Physical Fitness Program. This is a series of physical or sports activities set by the AFP to maintain its member's physical fitness and conditioning.

Physical Fitness Test. This is a set of physical exercises used as a standard measurement of one's ability to function effectively in physical work, training and other activities. It has three (3) events in this study. These are push-up, sit-up and timed 3. 2K run. Push-ups. This event measures the endurance of the chest, shoulder, and triceps muscles. Reserve Officers' Training Corps (ROTC). This is a program institutionalized under Sections 38 and 39 of Republic Act No. 077 designed to provide military training to tertiary level students in order to motivate, train, organize and mobilize them for national defense preparedness. Sit-ups. This event measures the endurance of the abdominal and hip-flexor muscles or tests the effectiveness of the mid-body section of the individual. Test Results. The soldier's fitness performance for each PFT event is determined by converting the raw score for each event to a point score. Properly interpreted, performance on the PFT shows the following: Each soldier's level of physical fitness.

The entire unit's level of physical fitness. Deficiencies in physical fitness. Soldiers who need special attention. SCOPE AND DELIMITATION OF THE STUDY This study covered the evaluation of performance of military personnel assigned in General Headquarters (GHQ), Camp Aguinaldo, Quezon City during the Physical Fitness Test (PFT) conducted in the year 2010. This also determined if there is significant difference between the performance of male and female military personnel and if there is significant relationship in the performance of military personnel among the events included in the PFT.

However, its limitations fall on the policies and standards set by the AFP embodied on the current AFP Physical Fitness Program, AFP Circular Number 09 dated 21 June 1993, on the document provided by the Office of the Special Services, AFP (OSPS, AFP), which is the PFT 2010 results and on the answers provided by the respondents in the interview and fielded questionnaire by the researcher. Delimitations would be on the aspect of time since military personnel assigned in GHQ were the only subjects taken for the study.

The subjects of the study composed of personnel from the three (3) Major Services: the Philippine Army (PA), Philippine Air Force (PAF) and Philippine Navy (PN) from the offices under the General Headquarters ; Headquarters and Support Command. The personnel from AFP Wide Service and Support Units which has around five thousand (5, 000) personnel were not included due to the limit of time allotted to conduct the study. However, this study can be considered as initial testing or pilot study that can be expanded to cover the entire AFP.

RELATED LITERATURE AND STUDIES The discussions presented in this section are excerpts from books, internet, journals, manuals and articles reviewed for their relevance and to give background information to the study. The researcher intended to include the review on the history of fitness to give background of its origin and emphasize its importance. On The History of Fitness and Its Importance As the 21st century approaches, one of the greatest accomplishments to be celebrated is the continuous pursuit of fitness since the beginning of man's existence.

Throughout prehistoric time, man's quest for fitness has been driven by a desire to survive through hunting and gathering. Today, though no longer driven by subsistence requirements, fitness remains paramount to health and well-being. Fitness has been known to be in existence for as far as pre - 10, 000 BC. This was during the early man. Due to their primitive lifestyle, survival required the hunting and gathering mode of living which was a continuous task. (Hunting in the Ancient World, 1985) Most of the tribes would be forced to go for an average of 2 days hunting journeys in search of food and water.

It is in such ways that one would find that fitness was inevitable. Apart from the hunting and gathering mode of fitness, there was need for regular physical activity. (Randers-Pehrson, 1993). Such activities were in the form of traveling to the surrounding villages where one had family and / or friends which had a distance between five to thirty miles. From this information, one will see that walking such a distance was a method of fitness. When one visited such family and friends, there would be activities like dancing and cultural games that were vigorous and lasted for several hours at a time.

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Such lifestyles of hunting and cultural activities required a high level of fitness. Fitness for Military Might As civilizations advanced, physical fitness was driven by art and military might. Early political and military leaders within the civilizations of Assyria, Babylonia, Egypt, Palestine, Persia, and Syria, realizing the importance of fitness to the efficiency and performance of military forces, encouraged fitness throughout society (Green, 1989). The best example of a civilization utilizing fitness for political and military purposes is the Persian Empire.

The Persian Empire during its height, with its policy and emphasis on high fitness eventually encompassed all of the Near East. Persian leaders demanded strict physical fitness from its people, which was accomplished through the implementation of rigid training programs. Fitness training to improve strength and stamina was not intended for health benefits, but rather to create more able soldiers to help expand the Empire (Foundations of Physical Education and Sport, 1995). Fighting skills were highly correlated with physical fitness levels, making it imperative for individuals to maintain high fitness levels.

Spartan society required males to enter special fitness programs at the age of six. This upbringing consisted of rigorous training programs that ensured all boys would grow into highly fit adult soldiers. Females were also required to maintain good physical condition for the purpose of being able to have strong offspring who could serve the state (Borrow and Brown, 1988).

According to Dalleck and Kravitz, the military-dominated culture of Sparta resulted in one of the most physically fit societies in the history of mankind.

Physical Fitness during the World Wars

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Throughout world history, military conflicts have had major impacts on the state of fitness. Essentially, the modern fitness movement evolved out of the influence of World War I and II and subsequent development of the Cold War. With the declaration of war came the necessity to draft military personnel. Important contributions to fitness came during the 1940s, specifically from Dr. Thomas K. Cureton at the University of Illinois. Cureton introduced the application of research to fitness, which improved exercise recommendations to individuals.

Cureton not only recognized the numerous benefits of regular exercise, he strived to expand the body of knowledge regarding physical fitness. He wanted to answer questions such as how much exercise was healthy and what types of exercise were most effective. More importantly, Cureton wanted to know how physical fitness could best be measured within an individual. Among his most important contributions were developing fitness tests for cardio-respiratory endurance, muscular strength, and flexibility.

His research resulted in multiple recommendations for the improvement of cardio-respiratory fitness, including the identification of exercise intensity guidelines necessary for improved fitness levels. His suggestions became the fundamental basis behind future exercise programs (CSU Class Project Reference for Thomas Cureton). Then Kennedy became more involved in national fitness promotion and started youth pilot fitness programs. His commitment to fitness can best be summarized when he said, “ Physical fitness is the basis for all other forms of excellence. ” (1962) In the 20th century, fitness became an industry.

The military draft showed how woefully out of shape and unfit for combat Americans were. This brought government attention to the lack of fitness of its citizenry. This led to the establishment of minimum fitness standards not only in the military but among country's public schools as well. Section II of the US Army Field Manual 21-20, Physical Training (Oct 1957) states the following importance of Physical Fitness: (a) Improves Sense of Well-Being. The physically fit individual enjoys a feeling of well-being and confidence in his ability to meet any emergency. (b) Improves Appearance.

Physical conditioning tends to harden the muscles, eliminate fat, and improve the muscle tone. This results in better posture and an improved soldierly appearance. (c) Improves Ability to Accomplish Mission. The well-conditioned soldier is able to march long distances through rugged country with a full pack weapon, and ammunition. He is physically able to drive fast-moving tanks and trucks over rough terrain; make assaults after running and crawling long distances; jump into and out of foxholes and over obstacles; lift and carry heavy objects; and keep going for many hours without sleep or rest.

He has the strength and determination to avoid capture and, if captured, to resist efforts to break his will and lessen his desire for escape. He is physically capable of exploiting any opportunity to escape and, after escaping, of enduring severe hard-ship until he can make his way to friendly lines. (d) Improves Emotional State. There is a close relationship between physical fitness and mental and emotional fitness, or morale. Fatigue, weakness, and physical exhaustion are usually associated with low morale.

The rugged, tough, well-conditioned soldier has a feeling of fitness and confidence and is much less susceptible to many of the factors and attitudes that undermine morale. On Components of Physical Fitness The American College of Sports Medicine states that physical fitness is divided into three components: health-related, skill-related and physiologic components. The health related components of physical fitness are cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition.

The physiological components of fitness are metabolic fitness, morphologic fitness and bone integrity. The skilled related components of physical fitness are speed, power, agility, coordination, balance, and reaction time. In Lt Col Emmanuel Teodosio's book entitled "The Marine Troop Leader", he discussed the four (4) components of physical fitness that a military must possess, namely; strength, endurance which has two (2) types - muscular endurance and cardio-respiratory endurance, agility and coordination. While books and manuals on physical fitness like the Nutrition Peak Performance Manual from www.wellness.com and www.myfit.ca/archives websites, state that there are five (5) components. Included in the five main basic components of physical fitness are: (1) Cardiovascular endurance - Of all the five components of physical fitness, perhaps the most prominent is cardiovascular endurance, as it is key for your overall health and performance. Cardiovascular endurance simply denotes the efficiency and capability of your heart to supply oxygen and nutrients to tissues as well as to eliminate toxic elements from your body.

Some of the physical activities that help to achieve cardiovascular endurance are jogging, walking, swimming, and cycling. (2) Muscular Strength - This

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component of physical fitness is determined by the amount of force or strength that your muscles could pick up and exert at a time. Among all the physical fitness components, muscular strength is probably the only component that is directly connected to the amount and nature of activity or work-out you undertake.

A well-devised fitness program, especially weight lifting and strength training, could help you to enhance the muscle's capability to put forth force and retain contraction, thereby aiding to improve your overall health, in addition to strengthening your bones and reducing the chances of developing diseases such as osteoporosis. (3) Muscular Endurance – Even though muscular strength and muscular endurance are linked, both of them are different. Muscular endurance is all about your muscle's ability to undergo repeated contractions without deteriorating.

One of the significant ways to achieve muscular endurance is via switching up your exercise program and gaining from a continuum of exercises such as biceps curls, leg extensions, hamstring curls, and chest presses. (4) Body Composition – This implies the ratio of your body fat to body lean mass. If your body fat is high, it indicates that you are not fit enough to undertake even your day to day activities. Further, high body fat is associated with conditions such as obesity, coronary heart problems, arthritis, joint pains, and diabetes.

On contrary, if your body lean mass is high, it means that your bones, muscles and tissues are healthy. (5) Flexibility – Last but not least is the physical flexibility, which indicates the ability of your muscles as well as

joints to move at its fullest level. Improved flexibility could help you achieve a number of benefits such as healthy joints, strengthened back, and minimized risk muscle tendon injuries. Enhanced body movement flexibility could be accomplished through an appropriate fitness program. On Benefits of Physical Fitness

In general, being physically fit helps an individual to achieve a continuum of benefits. Among the immediate benefits of physical fitness programs are: (1) Enhanced Appearance – Fitness programs not only helps for one's body's detoxification process but also to tone skin and body. This in turn helps to achieve gorgeous, glowing skin, apart from enhanced overall appearance. (2) Improved immunity system – Proper and balanced fitness programs help to improve immunity system, thereby safeguarding the body from infections and ailments. 3) Strengthened bones – Several studies reveal that both men and women begin to lose bone mass from a very young age of 30 – 35. But, undertaking certain fitness-related exercises such as walking, jogging, and weight lifting help to strengthen bones. This in turn minimizes the risk of osteoporosis. (4) Reduced Back Pain – Exercise programs focused to flatten abs and lower back muscles help to strengthen lower, upper, and oblique muscles, which in turn aid to reduce back pain. (5) Self Confidence – If one could achieve a good appearance through effective fitness programs, it would help to undertake any action with much confidence. 6) Better Sleep – Undertaking proper exercise programs enable a person to sleep faster and longer. This in turn helps to wake up early, thereby allowing him to remain fresh and active the whole day. Other obvious benefits of proper physical fitness programs are: (1) Minimized risk of developing cardiac related

problems, (2) Normalizing blood pressure, (3) Burning out bad cholesterol, (4) Healthy sex life, (5) Lowering the chances of developing certain kinds of diseases such as colon cancer and (6) Enhanced metabolism.

The above mentioned benefits are benefits in terms of the total-wellness and health of an individual. A study on “ The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance” (July 2010) conducted by the US Department of Health and Human Services at Atlanta, GA showed positive result that student physical activity may help improve academic performance including academic achievement (e. g. , grades, standardized test scores); academic behavior (e. g. , on-task behavior, attendance); and factors that can positively influence academic achievement e. g. concentration, memory, attention, improved classroom behavior). For the military, other than the cited benefits, physical fitness enhances combat readiness. Physical fitness determines service retention and career or rank advancement of military personnel. On Maintaining Physical Fitness Maintaining general fitness should be everyone’s goal. Physical fitness improves and maintains the sense of general well-being. There are many ways to improve health, and an individual can design how and when to achieve an optimum program that is right for him.

The inclusion of CAT in the secondary curriculum and ROTC and NSTP in the tertiary curriculum is for the preparation of the youth since they are the “ reserve force” in case of military personnel shortage in times of war and armed conflicts. Likewise, Republic Act No. 9163 recognizes the youth’s vital role in nation-building, to wit: “...the State shall promote civic consciousness among the youth and shall develop their physical, moral, spiritual,

intellectual and social well-being. It shall inculcate in the youth patriotism, nationalism, and advance their involvement in public and civic affairs.

In pursuit of these goals, the youth, the most valuable resource of the nation, shall be motivated, trained, organized and mobilized in military training, literacy, civic welfare and other similar endeavors in the service of the nation. ” (Section 2) It is therefore important to maintain physical fitness among the youth since it is essential to such programs and trainings. The guidelines below represent standards for adults (How to Maintain General Fitness, 2011): (1) Exercise consistently and regularly.

Record the number of exercise days per week, (2) To maintain general fitness, design an exercise program that increases the cardiovascular efficiency and endurance, (3) Use variety to build muscular strength and endurance, (4) Stretch frequently, before and after exercise to increase flexibility, (5) Measure the optimal body composition and seek to improve the body composition over time, (6) Vary the intensity, or the degree of physiological stress, on isolated muscles and (7) Pay attention to duration, or length of time, of each workout session, and attempt to increase the duration. On Fitness Testing Former Armed Forces of the Philippines Chief of Staff Lt Gen Alexander Yano said, “ Physical fitness has always been as old as the organization itself. It’s been a requirement for everybody to be generally fit and there is no exemption. It doesn’t say that generals are exempted so we will tow the line. ” There can be several arguments in favor of requiring recruits to pass a fitness test.

In some areas, such as law enforcement personnel, there is a documented high level of serious health risk problems in terms of cardiovascular disease, lower back disorders and obesity. To minimize this known risk, physical fitness is encouraged. Physical fitness has also been demonstrated to be a bone fide occupational qualification. Job analyses that account for physical fitness have demonstrated that the fitness areas are underlying factors determining the physiological readiness to perform a variety of critical tasks.

Fitness level has also been shown to be predictive of sick time and job performance indicators. When trying to maximize performance, it is important to determine the individual's ability in each aspects of performance. Fitness testing attempts to measure individual components of performance, with the ultimate aim of studying and maximizing the person's ability in each component. Therefore, physical fitness can be an important area for minimizing liability. The unfit person is less able to respond fully to strenuous physical activity.

Consequently, the risk of not performing physical duties is increased. The following shows the benefits of Fitness Testing: (1) Identify Weaknesses and Strengths. Of the many benefits of fitness testing, the major use is to establish the strengths and weaknesses of the individual. By comparing results to the previous or past results, one can see the areas which they improvement, and the training program can be modified accordingly. This way valuable training time can be used more efficiently. (2) Monitor Progress.

The initial testing session can give the individual an idea of where his fitness levels are at the start of a program, so that future testing can be compared to this and any changes can be noted. A baseline is especially important if one is about to embark on a new training phase. Subsequent tests should be planned for the end and start of each new phase. By repeating tests at regular intervals, he can get an idea of the effectiveness of the training program. (3) Provide Incentives. The incentive to improve can often be provided by the ‘ goal’ of a certain test score.

By knowing that they will be tested again at a later date, the individual can aim to improve in that area. (4) Talent Identification. Testing is primarily used for help in designing the most appropriate agile training program. A general non-sport specific testing battery can provide with an idea of basic strengths and weaknesses, although testing has sometimes been used in this way for talent identification, it has generally not been very reliable in predicting the future success of juniors, mainly due to varying growth patterns (Guidelines for Exercise Testing and Prescription, 1986).

On United States Armed Forces PFT After having discussed the birth of fitness, its components and benefits, as well as the reasons and importance of fitness testing, the researcher would like to further tackle on the differences in the way of conducting PFT among the Major Services of United States compared to how the AFP conducts it. The AFP Physical Fitness Program is patterned after the United States Physical Program though in the United States, each of the Services has its own directives that govern Physical Fitness programs.

For the Army, it is the Field Manual 21-20, Physical Fitness Training (1998). For the Air Force, it is the Air Force Instruction 40-501, the Air Force Physical Fitness Program (1998), and AFI 40-502, the Weight Management Program (1994). For the Navy, it is Navy Instruction 6110. 1E (1998), and for the Marines it is Marine Corps Order 6100. 3J Physical Fitness (1998) and Marine Corps Order 61001B Weight Control and Personal Appearance (1993). A closer look at each of the four services will identify the similarities and philosophy pertaining to Physical Fitness.

The Army stresses the importance of physical fitness through good leadership, proper exercise techniques, nutrition, and environmental conditions. The Army mandates a vigorous program consisting of physical training three to five times per week. There is a four-week course to qualify personnel to be the experts in fitness training and in conducting Physical Fitness Tests. These individuals are called Master Fitness Trainers, responsible for training others in the area of fitness through sound, safe exercise programs. The APFT is a three-event physical performance test used to assess endurance.

It is a simple way to measure your physical strengths, abilities, and cardio-respiratory fitness. The intent of the APFT is to provide a baseline assessment regardless of Military Occupational Specialty. The APFT is to be taken at least twice a calendar year and must be able to meet the minimum standards to be eligible for promotion or transfer, and to attend Army schools. The three PFT events are two minutes of push-ups, two minutes of sit-ups, and a timed 2-mile run. The results from each event are assigned a score.

This test is based on a points system to determine if the individual passes or fails the test. To pass, one must score 180 points or higher with at least 60 points in each event. Age, gender and the amount of repetitions or time elapsed for each event determines your score. Unlike other military endurance tests the APFT is normally performed in normal workout gear. The following chart shows examples of the minimum requirements for the Army PFT:

PFT: Age Group	Gender	Push-Ups	Sit-Ups	2-Mile Run
17 – 21	Male	42	53	15: 54
22 – 26	Male	40	50	16: 36
27 – 31	Female	17	50	19: 36

This table reflects the Army's bare minimum PFT requirements; these scores are considered below average and may reflect poorly on one's record. To maximize scores on the Army PFT, an individual will need to commit to a regular work-out routine. The US Air Force also stresses the importance of a good Physical Fitness Program. Command emphasis is given to provide actual duty time for each person to exercise. The fitness concept is centered on individual physical training allowing each to set an individual pace. The Air Force also incorporates a fitness test to measure a person's fitness condition.

It is based on cycle ergometry. This test is to measure the effectiveness of the Physical Fitness Program based on aerobic capacity. The results of the test are used more for a screening process on the program rather than an actual evaluation of fitness of the individual. The Air Force tests the heart rate to estimate the volume of oxygen consumed to determine the best course for optimal good health and fitness. To start basic training, the requirements are: 15 Push-ups, 45 Sit-ups and Beep test score of 6.5. A new Air Force Fitness Test was introduced on January 1, 2004.

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The program replaced the annual ergo-cycle test that the Air Force used for several years. The new fitness assessment consists of four areas: body composition, aerobic fitness (running), push-ups, and crunches (sit-ups). During initial entry processing, both men and women are required to pass a Physical Fitness Test (PFT) that measures cardiovascular endurance, muscular strength and endurance and mobility. The test consists of 2-mile run, push-ups, sit-ups. In addition to initial entry physical fitness requirements, the Air Force has an annual fitness test requiring a passing score.

The PFT is taken every fall and spring term while a cadet is enrolled in US Air Force ROTC. Cadets in the GMC not on scholarship must attempt the test but do not have to pass. Scholarship cadets and cadets in the POC, however, must pass the test each fall and spring term. All events must be completed. There is a short rest period between each event. There is a minimum score of 75 points. The PFT is composed of three events in the following order: push-ups, sit-ups and 1. 5-mile run. The US Navy's fitness program is basically the same as the Army and Marine Services.

It too stresses the importance of a good Physical Fitness Program to be a part of every sailor's daily life. The Navy has several levels of formalized training to certify personnel to administer, conduct, and supervise fitness training and assessments. Mission readiness and operational effectiveness is contingent upon a good physical fitness program that reflects conditioning and good health. There is a formalized Command Fitness Enhancement Program to assist in increasing and maintaining each sailor's over all cardio

respiratory fitness, muscular strength and endurance, flexibility, and reduction in excess body fat.

The Navy's Physical Fitness Test is also semi-annual and encompasses four events. The test is designed to measure flexibility, muscular endurance and aerobic capacity. The Navy physical readiness test consists of the following: sit and reach flexibility, a 1.5 mile run (or 500 yard/450 meter swim or elliptical trainer), curl-ups (sit-ups) and push-ups. These are scored on a point system similar to the Army's Fitness Test structure. Physical Fitness excellence is an important part of the Marine Corps. It focuses on combat conditioning, which stresses good health, excellent fitness, and unit cohesion. The common goal of the Marine Corps is to conduct regular exercise, fitness tests, and health education. This will enhance soldier's physical performance both on and off the battlefield. The commander will assign a Command Physical training Representative to administer physical conditioning, testing, and remedial programs. It is a requirement for every Marine to participate in PT a minimum of three hours per week and have a fitness test semi-annually. The events used to measure physical strength and endurance are the pull-ups and flexed-arm hang.

The abdominal crunch and three mile timed run are the other events administered during the Marine fitness test. This is an evaluation based on a point system adjusted according to age group to determine the level of physical conditioning for each Marine. As shown from each of the U. S. military Services, Physical Fitness Programs are instituted to condition and test personnel in over-all physical condition and health. There are a few

distinct differences among the Services. One of these is the assessment of flexibility administered by the Navy.

The Air Force is the only service that leaves fitness conditioning up to the individual. The consensus across the board is the positive impact physical fitness has on an individual's health. It is proven time and time again that a regular exercise program and good nutritional habits will produce better alertness, mental, and physical health. In order for Soldiers, Airmen, Sailors, and Marines to be effective in combat, they need to be in the best physical condition to endure all the stresses associated with a wartime environment.

On PFT of the AFP

Unlike the US and other country's Armed Forces, the PFT being conducted in the AFP is set for all the branches of the services of the AFP. The PFT is composed of the following events – push-ups, bent-leg sit-ups and the two-mile (3. 2-K) run. Policies and procedure, rules in performing the PFT and each event which has scoring chart are all contained in the SOP No. 3 dated 15 July 2010, published by the General Headquarters, Camp Gen Emilio Aguinaldo, Quezon City. On Factors Affecting PFT Performance Terah Talley, a contributing writer from [www. suite101. om](http://www.suite101.com) discussed the five key factors to consider when trying to achieve total fitness. These includes: body type, genetic makeup, age, health, and lifestyle. The first factor to consider when looking at fitness is body type. Broadly, people fall into three body type categories: ectomorphs, endomorphs, and mesomorphs. Ectomorph refers to those of a lean and slim physique. These bodies tend to be long boned and light weight, leaving them better suited for long-distance events. Being

better “ all-rounders,” endomorphs are inclined to be heavier and stronger, having a rounder appearance than ectomorphs.

The third body type is mesomorphs, which consists of those who are powerfully built, with large bones and well-defined muscles. Mesomorphs are great at strength events such as lifting, sprinting, and throwing. Another is the genetic makeup. Most people can maintain a healthy or unhealthy fitness level regardless of their genetic background. However, there are genetic differences that make some people react differently to training than others. Some researchers believe that our genes give our bodies a “ set point,” which is the weight the body naturally maintains.

Each body has different capabilities depending upon genetic makeup, but exercise can be used to overcome areas of weakness. Age is also considered. Generally, maturing in age has negative effects on fitness level and physical performance because the muscles, ligaments, and tendons shorten, bones become more brittle, joints become worn, and the heart muscle weakens. Exercise is a great way of holding off these problems and potentially reversing them. Added to these is health. There are common reasons not to engage in an exercise program including heart disease, asthma, arthritis, old injuries, and allergies.

However, there are programs that can alleviate many of these problems and lead to a more active lifestyle. Depending upon the trainee’s current health status, some training techniques should be avoided while others should be explored in order to cater to ailments and boundaries. Finally, lifestyle preferences should be considered when looking at a person’s total fitness.

This can be considered the most important factor and consists of the nutritional and physical choices made daily. Smoking, drinking alcohol, eating nutritionally poor foods, and denying the body regular exercise can lead to a malfunctioning body.

In order to reverse previous damage and enhance current fitness levels, a healthy lifestyle that includes activity and a nutritious diet should be maintained. From discussions on Factors Affecting Fitness in Physical Education from www.teachpe.com, the following are considered to be the factors that affect fitness performance: The first one is age. An individual is usually fittest in his twenties. Fitness falls in thirties as muscles get weaker, bones get lighter, heart rate decreases, joints get stiffer, movements get slower and body fat increases.

Sex is also considered to be one of the factors. Up to 11 years, males and females are equal in fitness. Then things change in terms of strength. Males grow about 50% stronger due to testosterone promoting bone and muscle growth. It is released at puberty. In terms of cardio-vascular, males are better at transporting oxygen. They have larger hearts and lungs and more blood and have haemoglobin per red blood cell. In bone matters, males are usually larger and heavier than females because they have bigger bones and have a narrower pelvis so easier to transfer power from legs to trunk.

In terms of speed, due to longer bones bigger muscles, males move faster and generate more power but in terms of flexibility, females of all ages tend to be more flexible though when considering body composition, females usually have more body fat than males. Fat is extra weight to carry around

and puts extra strain on the heart, joints and muscles. Physique is another factor. Build and shape make one more suited to one sport or event. A tall thin person is more suited to play basketball but playing basketball is not only the basis for fitness. Diet is also considered to be one of the factors.

One's body needs certain substances for energy, growth and repair. If an individual doesn't eat a healthy diet, his body won't function properly. He gets out what he puts in. No matter how unfit an individual is, his regular exercise will make him fitter. Another is the physical disability of the individual. A disability means part of the body doesn't function properly. However, many disabled people are first class athletes. Illness and fatigue – When a person is tired or ill, he is less fit for any activity. His performance suffers when he is tired.

Drugs (including alcohol) – Alcohol, smoking and many other substances dramatically lower one's fitness. Alcohol dramatically affects aerobic fitness though not anaerobic fitness. Smoking affects the oxygen absorption of the lungs. Some illegal drugs can improve performance such as steroids, beta blockers, and other stimulants. Stress – Exams, quarrels, overwork, money problems all lead to stress. Stress causes high blood pressure and heart disease (even cancer). It makes muscles tense: lose one's concentration and then he makes mistakes. Environment – Fumes from traffic and factories will damage the lungs over time.

This means that fitness suffers. During hot humid days – one can overheat while on high altitudes, the air is thinner. Chapter 2 METHOD OF STUDY This Chapter deals with the description of research design used, the instrument

used for gathering the data and the statistical treatment. This study made use of the descriptive method. In terms of collecting information, the types of research used were both the quantitative and qualitative research. This mixed-design study satisfied its aims, those are to determine the differences of male and female Physical Fitness Test (PFT) performances and relationships among the events included in the PFT.

The qualitative descriptive was employed since its basic purpose was to determine the factors affecting the performance in PFT of military personnel assigned at GHQ, Camp Aguinaldo, Quezon City. INSTRUMENTS AND TECHNIQUES USED In order to determine the factors that individually affect the performance of the military personnel and the benefits of testing the physical fitness, the researcher considered the issues sought from the review of the studies and literature. Questionnaire was used to gather the data. Questionnaire Questionnaire is the most common instrument of data gathering.

Its contents were relevant to the study goals. Preparation/Construction. The first part is about the profile of the respondents where name was optional. Rank, gender, age, height and weight were mandatory to be filled up since these are necessary in the evaluation being conducted. Topics and issues on factors and benefits were carefully converted in a form of opinion-based questions using Likert Scale with five (5) degrees of agreement/disagreement for the factors, three (3) degrees of frequencies for benefits and corresponding points for each degree and frequency were given to determine the scores of the respondents.

There are ten (10) questions for each part with fixed answers and an open where the respondents can supply his answer using his own words.

Validation. Suggested questions were submitted first to the thesis adviser for content-validity, comments and corrections. There were some items that were not needed so these were removed. Other comments, suggestions and corrections of a physical fitness expert and the unit's admin officer, who is also the athletic officer, who are not participants of this research study, were also sought. Administration and Retrieval.

Distribution of questionnaire was administered personally through the Chief Admin Office. The researcher forwarded a letter of request to conduct the study to each unit/offices through their Chief of Office for approval of the test and interview to be conducted. Due to time constraint, questionnaires were just forwarded to the chief clerk of other units or offices wherein the researcher waited for approval and made a follow up after one (1) day for the schedule of the retrieval of the questionnaires. The questionnaires were then retrieved after four (4) days. Documentary Analysis

Documentary analysis was deemed the most appropriate method and the primary tool in order to adequately evaluate the relationship and difference between the variables involved in this study. In order to get the data on the performance of the military personnel when the PFT was conducted in the calendar year 2009, the researcher requested a copy of the results from the Office of the Special Services, the office in-charge in the conducting of the PFT in GHQ, Camp Aguinaldo. The scores on the different events and other data from the results were tabulated, analyzed and were statistically treated.

Also, the policies, directives and SOP's were provided by the Publication and Records Division of the Office of the Adjutant General. **SAMPLING**

PROCEDURE The sampling procedure used was the Probability Sampling Method. Furthermore, the researcher used the stratified sampling method since different groups of sample must be represented. To determine the sample size, Slovin formula (1960) was used, given as follows: “ $n = \frac{N}{1 + Ne^2}$ ” where n = sample size N = population size e = desired margin of error Error is the percentage allowable for non-precision since a sample is used instead of a population (Zulueta and Perez, 2010).

The total population in this study was 1, 950. Using the mentioned formula, the researcher came up with the sample size of 332 as shown below: “ $n = \frac{N}{1 + Ne^2}$ ” where n = sample size $N = 1, 950$ $e = 0. 05$ “ $n =$ ”

$1950 / (1 + 1950(0. 05)^2) = 1950 / (1 + 4. ) n = 331. 91$ or

332 **TREATMENT OF DATA** The statistical instrument employed in the interpretation of data and testing the null hypothesis is illustrated as follow:

The data gathered were tallied and tabulated and were subjected to the percentage and frequency distribution method using the formula as follows:

(Medel, et al. 1994) Percentage: “ $P = \frac{f}{N} \times 100$ ” here P = represents the

Percentage f = represents the frequency N = total number of respondents

100 = the constant number multiplier To ensure the different groups of the sample, through stratified sampling, the above percentage was also used to determine the number of male and female military personnel, the Officers and the Enlisted Personnel and the number of male and female Officers as well as the male and female Enlisted Personnel. Weighted Mean Weighted mean was used to show the average score of the military personnel in their

scores from the three (3) events in the two (2) physical fitness tests conducted in 2010.

It was computed as follow: $W'' 1'' = (PFT1+PFT2)/2$ where $W'' 1'' =$ Weighted mean (Push-ups) PFT1 = scores from first PFT PFT2 = scores from second PFT $W'' 2'' = (PFT1+PFT2)/2$ where $W'' 2'' =$ Weighted mean (Sit-ups) PFT1 = scores from first PFT PFT2 = scores from second PFT and $W'' 3'' = (PFT1+PFT2)/2$ where $W'' 3'' =$ Weighted mean (2-Mile Run) PFT1 = scores from first PFT PFT2 = scores from second PFT Table of computation is shown in Appendices, Table No. 1. Hypothesis regarding the relationship between the performances of military personnel on the three events were tested with the use of Pearson r Product-Moment Correlation Coefficient. $r_1 = (N \sum xy - (\sum x)(\sum y)) / \sqrt{(N \sum x^2 - (\sum x)^2)(N \sum y^2 - (\sum y)^2)}$ $r_2 = (N \sum xz - (\sum x)(\sum z)) / \sqrt{(N \sum x^2 - (\sum x)^2)(N \sum z^2 - (\sum z)^2)}$ $r_3 = (N \sum yz - (\sum y)(\sum z)) / \sqrt{(N \sum y^2 - (\sum y)^2)(N \sum z^2 - (\sum z)^2)}$ Where $r_1 =$ The non-significant difference between the performances of male and female was tested through the Z test. The critical value of Z at 0.05 level of significance is 1.96. The value of Z was computed through this formula:

$Z = (M-F) / \sqrt{((M^2 \cdot F^2) / (n1 \cdot n2))}$ Where: M = mean of the male F = mean of the female $n1 =$ number of male $n2 =$ number of female

Standard Deviation of the male: $\sqrt{(X1-X2)^2 / N1}$ Standard Deviation of the female: $\sqrt{(Y1-Y2)^2 / N2}$ Push-ups, sit-ups and 2-mile run were labeled Z1, Z2 and Z3 respectively. The weighted mean for all indicators in the factors that affect the Physical Fitness Test performance of military personnel were acquired using the Likert Scale. Formula: $\bar{x} = \sum x / n$ Where: $\sum x =$ sum of all data N = number of respondents The Likert Scale with a 5 point rating scale

was used as follows: 4. 5 – 5 Strongly Agree 3. 5 – 4. 49 Agree 2. 5 – 3. 49 Moderately Agree 1. 5 – 2. 49 Disagree 1. 0 – 1. 49 Strongly Disagree

Table 1. The final form of the survey questionnaires for the military personnel respondents are consist of personal information with 10 items as indicators under the factors that mostly affect military personnel's PFT performance as rated by themselves. The conversion is shown in Table 2 The Likert Scale with 3 point rating scale was also used as follows: 2. 5 – 3. 0 Always 1. 5 – 2. 49 Sometimes 1. 0 – 1. 49 Never Table 3 Table 4 shows the frequency of the 10 items as indicators under the benefits or importance of PFT. Chapter 3 Analysis and Interpretation of Data

This chapter pertains to the presentation, analysis and interpretation of the data gathered from the survey questionnaire and from the analysis of the documents related to the problems as stated in this study. Profile of the Respondents According to Gender Figure 7 shows the profile respondents according to gender. There were 1, 492 male military personnel and 458 female military personnel who actively participated the Physical Fitness Test, which are equal to 76. 51% and 23. 49% respectively. The same percentages were used to get the number of respondents which are 254 and 78 male and female respectively.

Profile of the Respondents According to Age Figure 8 shows the distribution of respondents according to age. As reflected, the majorities of the respondents belong to 37 – 40 age range; next most numbered of respondents are from the 45 – 48 age range; the third most numbered are from 41 – 44 age range; several are from 49 – 52; some from the 29 – 32 age

range then 33 – 36 age range; few from 25 – 28 with a little difference from 53 – 56 age group; and the least number of respondents belong to 21 – 24 age group. Profile of the Respondents According to Rank

Figure 9 shows the distribution of respondents according to rank. From the total population, 12.05% or 235 are Officers and 87.95% or 1,715 are Enlisted Personnel. Taking the same percentages for the respondents, representatives of both the Officers and Enlisted Personnel are 40 and 292 respectively. Events included in the Physical Fitness Test As reflected in paragraph 4b of the Standard Operating Procedure No. 3, GHQ, AFP dated 15 July 2010, the Physical fitness Test is composed of the following events – push-ups, bent-leg sit-ups and two-mile (3.2K) run.

The ‘push-ups’ are intended to test the upper body strength while the ‘bent-leg sit-ups’ assess the effectiveness of the mid-body section. On the other hand, the two-mile or 3.2K run is designed to evaluate one’s cardiovascular endurance and lower body potency. All the events taken in one PFT session evaluates one’s staying power, stamina and fortitude. Performance of the Military Personnel in the Events Appendix 5 shows the tabulated scores of the military personnel on the three events. The variables x , y and z represent the three events, push-ups, sit-ups and 3.2k run, respectively.

The computed value of r_1 the coefficient of correlation between x and y , is 0.6424. The computed value for r_2 , the coefficient of correlation between y and z , is 0.4354; and the computed value for r_3 is 0.4288, the coefficient of correlation between x and z . Since the (3) three values were less than 1.96, at significant level of 0.05, the hypothesis is accepted. Therefore there is no

significant difference in the performance of the respondents among the three events. Performance of the Male and Female Military Personnel Appendix 6 shows the Physical Fitness Test scores of male and female military personnel.

Table 5 shows the computed mean and standard deviation of male and female military personnel for each event. Table 5 Mean and Standard Deviation of Male and female Respondents

Variables	N	Minimum	Maximum	Mean	Std. Deviation
X_female	78	70.50	100.00	79.01553	10.0079
Y_female	78	70.50	100.00	76.97511	10.0076
Z_female	78	70.50	100.00	77.61607	10.0077
X_male	254	71.00	100.00	79.85637	10.0079
Y_male	254	70.50	100.00	77.61607	10.0077
Z_male	254	70.50	100.00	76.63802	10.0086

Computations are reflected in Appendix 7, using the two-sample mean test, the Z-test results for the three events were tabulated in Table 6.

Table 6 Z-test value at 0.05 Level of Significance Push ups 1.13 Sir ups 0.929 3.2 K Run 1.93 Since all the computed Z are all less than 1.96, the hypothesis that there is no significant difference between the performance of male and female military personnel is accepted. Factors that Affect the Performance of Military Personnel Table 7 shows the factors that affected the performance of military personnel. Table 7 Factors that Affect the PFT Performance Of Military Personnel

Nr	Factors	Total Weight	Weighted Average	Description	Rank
1	Age	17	43.8	As military personnel get older, the performance in PFT becomes poorer.	7
2	Weight or Body Mass Index (BMI)	14	57	Military personnel who have normal weight have better PFT performance compared to those who are overweight.	3
3	Purpose	12	774	Military personnel are forced to undergo PFT for the sake of promotion or	00

schooling. 5 4Physical Activities 15844. 97The activities set forth in the AFP Physical Fitness Program, like Road Run and “ Tae-Bo”, contribute to the better performance in PFT. 1 5Lack of or Excessive Exercises 13164. 2- Lack of or excessive exercises contribute to the poor performance in PFT. 4 6Work Load 6652. 08Administrative duties and office responsibilities contribute to the poor PFT performance of military personnel. 11 7Perception 6522. 04Many of military personnel are tired of undergoing the PFT. 12 8Vices 12323. 86Military personnel who do not have vices perform better than those who smoke and drink liquor and who are voracious eaters. 6 9Climate/ Weather 8192. 57It is easier and performance is better when PFT is conducted during wet season than dry season (summer). 10Motivation 15204. 76A military personnel performs better when motivated or encouraged by his: Self/ Personal Interest (for promotion and schooling2 8462. 65Other soldiers/colleagues8 6472. 03Officers or their seniors13 6832. 14Family10 As reflected, Physical Fitness has a weighted mean of 4. 97 which means that respondents strongly agreed that it was the most contributing factor in the performance of military personnel in Physical Fitness Test. It is followed by motivation or personal interest like promotion and schooling, hence it was ranked second.

It can also be noticed that motivation set up or given by other officers or seniors ranked last among the factors. Other factors considered by the respondents are the following: stress, personal and health problems, the proctor conducting the PFT, the initiative and individual responsibility and for female – the monthly period and sometimes the pre-menstrual syndrome or PMS. Benefits of Conducting the PFT Among the Military Personnel Table 8

Benefits of Conducting the PFT Among the Military Personnel

Rank	Importance/Benefits	Total Weight	Weighted Average
1	The PFT motivates the military personnel to exercise regularly.	222	896
2	The PFT helps increase the enthusiasm of military personnel to actively participate in the morning exercises and “ Tae-Bo”.	9412	954
3	The PFT helps improve achievement records.	9552	992
5	4The PFT improves the total health profile of military personnel.	9573	01
5	5The PFT helps military personnel to determine his/her own maximum physical strength.	9372	945
6	6The PFT adds encouragement to military personnel to join other physical and sports activities.	7832	457
7	7The PFT helps improve military personnel’s stamina and maintain his/her endurance.	9532	992
8	8The PFT determines whether or not the individual will continue in the service;	7242	279
9	9The PFT encourages the individual to see their doctor for a medical check-up;	7732	428
10	10The PFT makes the individual to refrain from taking too much vices of the body (food, alcohol and drugs;	4891	5310

Table 8 shows the benefits of conducting the Physical Fitness Test. Respondents strongly believed that Physical fitness improves the total health profile of military personnel.

Appendices
 Letter to Units
 Letter to respondents
 SOP Results
 Table of Computation of Performance Among the 3 Events
 Table of Computation of Male and Female Respondents