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MASTER OF MILITARY STUDIES

**TITLE: The Future of Joint Force Fitness:  
Not Every Marine a Rifleman...and That is Okay**

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## **The Future Scenario**

CPT William Gates stared at his three computer monitors. A bead of sweat formed and fell from his forehead as his focus narrowed on one particular monitor. From a sensitive compartmented information facility (SCIF) in the basement of a building located on MacDill Air Force Base (AFB) in Tampa, Florida, he was the night shift of a Task Force assembled to defend Special Operations Command's (SOCOM) networks from malicious hackers concentrated in the Southeastern region of China. CPT Gates did not realize while finishing dinner with his wife that this would be the moment the Chinese gained the upper hand after four months of repeated intrusion attempts against the network. CPT Gates reached for his Mountain Dew. Though a stimulant, it centered him, and he knew with what was now manifesting on his screen, tonight would be filled with Mountain Dews. CPT Gates was not the prototypical Army officer from the 20<sup>th</sup> century. He stood 5'7" and fluctuated between 205 and 210 pounds, but he was always able to pass the new revised minimum physical fitness standards the Army had adjusted in 2025. Over the next ten hours, CPT Gates and his cell worked feverishly to reestablish bypassed firewalls and destroy malware which had sneaked through their defenses. At shift change, CPT Gates delivered a thorough After-Action Report (AAR) to his daytime counterpart and assured him the SOCOM networks were, once again, completely secure. As CPT Gates exited the building and confronted the Florida sun for the first time in 14 hours, he could not help but smile. This was why he left Google and joined United States Army Cyber Command (ARCYBER). Not for the benefits, and certainly not for the money, but knowing what he did every day directly supported the defense of the United States of America. He knew he would sleep deeply until his next shift.

## **The Current Scenario**

After over 16 years of intense fighting, and with seemingly no end in sight, the Joint Force is physically depleted, worn down after numerous deployments, and recruiting efforts are becoming increasingly difficult and complex, due to a lack of potential candidates. An unemployment rate of 4.1% as of January 2018 further exacerbates recruiting challenges because the civilian job sector is affording plenty of opportunity.<sup>1</sup> Furthermore, a 2009 report from the Pentagon noted 75 percent of Americans aged 17 to 24 were ineligible for military service due to factors such as education, criminal history, or general health, with 27% being too overweight for military service.<sup>2</sup> With regard to the latter fact and the transition to a five-domain battle space with the emergence of the cyber domain, now may be time to consider an agile and adaptive fighting force where physical fitness is not paramount for all occupational specialties and where service members are more mentally agile than physically fit. This study begins with a brief historical review of Army fitness testing and then examines the current physical and combat readiness evaluations of the Joint Force to ascertain if these evaluations should change to reflect the physical requirements of 21<sup>st</sup> century conflict. Additionally, I will argue that the Department of Defense (DoD) should standardize physical fitness testing across the services and reevaluate physical and combat readiness definitions in an effort to enable recruitment of the personnel required to dominate the cyber domain and improve overall military strength numbers. These tests should be gender-neutral, age indiscriminate, and scalable by each service to achieve occupational specialty specific standards.

### **Historical Background of Physical Fitness Testing**

Despite the inherently physical nature of war and combat leading up to the 20<sup>th</sup> century, the first metric-based measures of Soldier fitness, appeared only in 1920.<sup>3</sup> The test, called the

Individual Efficiency Test (IET), consisted of a “100 yd run (14 sec); running broad jump (12 feet); wall climb (8 ft unassisted); hand grenade throw (30 yards into a 10’ diameter circle); and obstacle course run.”<sup>4</sup> Dr. Joseph Raycroft, the manual’s author, noted that physical fitness beyond “calisthenics” was important for Soldiers.<sup>5</sup> Thus it is evident, even from the earliest stages of regulatory physical fitness standards, there was a need to evaluate combat fitness. Yet, over the next eight decades, there were few concerted efforts to do so. .

In Training Regulations No. 115-5 (TR 115-5) published in 1928, the evaluation of combat readiness through physical testing was notably omitted.<sup>6</sup> The *Basic Field Manual, Physical Training*, Field Manual (FM) 21-20, released in 1941, would serve as the legacy document for Army physical fitness over the next 60+ years and included an Obstacle Course Test comprised of seven obstacles and involved “100-yard linear courses that used a low hurdle (3’ v. 2½’), a wall (fence) climb (8’ v. 7’), a running jump (6’ ditch v. 10’ trench from a platform), and balance test (24’ v. 20’).”<sup>7</sup> The Army Ground Forces Test (AGFT), established in 1942, would be tested every two to three months, and included push-ups for the first time, along with a “300 yard shuttle run, 20-sec. burpees, 70 yard pig-a-back run (carrying a man of equal weight), 70 yard zigzag run (involving creeping, crawling, jumping, and running on seven legs of ten yards each), and a four mile march (50 minutes).”<sup>8</sup>

Following the AGFT, numerous other tests and variants would be implemented, to include the Physical Efficiency Test Battery in the 1940s, the Physical Fitness Test Battery of the 1950s, the Physical Combat Proficiency Test in the 1960s, the Army Physical Fitness Evaluation in the 1970s, and eventually, in the 1980s, the Army Physical Readiness Test, which would later become the Army Physical Fitness Test (APFT), as it still exists at the time of this paper, was created.<sup>9</sup>

### **The Department of Defense Guidance**

The DoD outlines the services requirements for physical fitness in their DoD Directive 1308.1, *DoD Physical Fitness and Body Fat Program*. The latest, dated 30 June 2004, outlines the requirements for the members of each service to “maintain physical readiness through appropriate nutrition, health, and fitness habits.”<sup>10</sup> The discussion on the effects of nutrition and health, though relevant for evaluating physical readiness, go beyond the scope of this paper. Instead, focusing on fitness habits and, more importantly, how evaluators of successful “physical habits” (i.e. physical fitness testing) ensure readiness will be the emphasis. Fitness tests must be able to measure the overall physical capacity of the service member and ensure each maintains an appropriate level of fitness.

In the same Directive, the DoD states, “Aerobic capacity, muscular strength, muscular endurance, and desirable body fat composition, form the basis for the DoD Physical Fitness and Body Fat Program.”<sup>11</sup> This Directive provides enough ambiguity in language to give the services flexibility in determining how they can successfully evaluate each criterion. In the current physical fitness tests for each service, their specific use of the terms “aerobic capacity,” “muscular strength,” “muscular endurance,” and “body fat composition” are used in their regulations showing their programs are successfully nested within the DoD’s guidance. Each service goes out of their way to use these terms in their doctrine to make sure the DoD knows their guidance has been received and implemented.

In the same Directive, the DoD then provides freedom to the services in terms of the level of fitness service members must maintain. The Directive states, “Individual Service Members must possess the cardio-respiratory endurance, muscular strength and muscular endurance,

together with desirable levels of body composition to successfully perform in accordance with their Service-specific mission and military specialty.”<sup>12</sup> The last part of this guidance, “Service-specific mission” and “military specialty,” is where the current physical fitness tests of the services fail to hit the mark. In terms of “Service-specific mission,” there is no reason the aerobic capacity of a 24-year-old male serving as a US Army Human Resources (HR) Specialist, a largely administrative function, needs to be the same as if the same 24-year-old male was serving as a US Army Infantryman who is required to engage the enemy in close quarters combat. The Infantryman’s job, in training and in combat, is incredibly demanding on the cardiovascular system whereas the HR Specialist’s job, by nature, is not. Yet, as will be explained later, both roles have the same minimum standards for the Army’s evaluator of aerobic capacity, the two-mile run. Additionally, though the Directive dictates services must ensure service members have the muscular endurance to do their “military specialty,” there is a questionable correlation between how doing two minutes of push-ups helps the US Army Indirect Fire Infantryman carry and employ an 81mm mortar package weighing 78 pounds.

The DoD’s Directive emphasis on body fat composition goes beyond physical readiness. The Directive says, “The Military Services shall implement body composition programs that enhance general health, physical fitness and military appearance.”<sup>13</sup> The DoD Directive was issued in 2004 and the study of human health and physical fitness has been ongoing and always evolving. Military appearance is a generic term that may vary slightly depending on the audience, though it usually references someone in good physical shape. That is a product of an era where wars were physically taxing. In order to take a beach or charge a hill, the service member had to be fit in order to achieve tactical success. In the new five domain battlespace, which will include cyber warriors fighting cyber wars, military appearance may need to become

a thing of the past if the hope is to recruit and retain the best cyber warriors. Cyber warfare requires mentally agile and technologically savvy cyber warriors capable of defending our networks and pursuing offensive cyber-attacks in the transregional cyber domain. More important than whether these cyber warriors look physically fit, is if they are “technically” and mentally fit in the conduct of cyber operations.

Services are given fairly liberal guidance from DoDD 1308.1, with respect to evaluating the success of their physical fitness training. The main emphasis the directive outlines is that the services must evaluate their service members based on a specific standard of performance.<sup>14</sup> The services succeed in accomplishing this though their evaluations are flawed, as will be addressed later in this paper. Additionally, physical evaluations are required at least annually which ensures fitness is maintained year-round.<sup>15</sup>

The *Joint DoD Committee on Fitness* is a partner directive to DoDD 1308.1 and defines fitness as “The ability of Service members to meet the physical demands of their jobs for an extended period of time and to have the additional ability of meeting physical emergencies, such as those imposed during combat or other stressful situations.”<sup>16</sup> This definition achieves two ends. First, it defines fitness relative to the mission of the military. Second, it addresses the fact that service members must not only be able to meet the needs of their specific jobs, but also to have energy in reserve to deal with stressors beyond the fitness of their daily jobs. This is where the argument for the HR Specialist to achieve a level of fitness above the minimum standards could be made, but this compels two arguments. First, do physical fitness assessments alone address combat readiness? The answer is definitively no, though as will be discussed later, the Marines are addressing this issue and the Army has aspirations to do the same. Second, is there a requirement for non-combat arms military-specialties to be combat ready? Again, the answer is

no, though with a caveat. Soldiers deployed to a combat zone should be required to take a combat readiness test, but again, the standards for the Infantryman and the HR Specialist should not be the same, as they currently are with the Marine Corps Combat Fitness Test. Furthermore, DoDD 1308.2 adds “flexibility” and “weight management” as components of fitness, in addition to the ones previously mentioned.<sup>17</sup> Flexibility will be seen as a qualitative metric of fitness addressed by the Army later in this document, but the DoD’s inclusion as components of fitness here makes it interesting the services do not adequately test for service member’s flexibility.

The DoD goes further and provides a more thorough instruction on how to address service member fitness in “*DoD Physical Fitness and Body Fat Programs Procedures*” published in 2002. The fact this DoD Instruction has not been updated in over 15 years is alarming, especially considering the advancement in the study of human physiology in that time span but is not of particular emphasis for this paper. This is the first of the DoD Directives and Instructions which addresses all service members must be tested regardless of age.<sup>18</sup> Additionally, it continues to assert testing should address service specific needs and missions.<sup>19</sup> The Instruction later goes on to require that services address occupation-specific testing and training requirements.<sup>20</sup> This is where the departure from the adage “Every Marine a Rifleman” is best suited. Not every Marine needs to have the physical requirements of a rifleman, specifically those with administratively heavy or, more importantly, cyber warfare careers. This represents a cultural shift for the military and is a necessary change if the United States wants to continue to compete with our near peer competitors in the future.

The Instruction shapes the services the most in how it provides formal direction on evaluations of physical fitness. It first states services must evaluate aerobic capacity, muscular strength, and muscular endurance, but goes on to say physical fitness tests are “not intended to

represent mission or occupationally specific fitness demands.”<sup>21</sup> Here the Instruction has provided the specific criterion which it intends the services to measure without dictating how it is measured. The flexibility of choice for the services is a good thing, but the broad nature of the three tested areas do not adequately evaluate the true fitness level of the service member. As will be discussed later, simply ensuring services evaluate aerobic capacity, muscular endurance, and muscular strength falls short of truly evaluating a service member’s overall fitness level. The second part, where testing is not meant to “represent mission or occupational specific fitness demands,” permits the services to develop a combat or job-specific fitness test, but also overgeneralizes the fitness of a particular service. It goes on further to describe that physical testing must be administered regardless of age or gender.<sup>22</sup> This need for testing regardless of age or gender is a given but overlooks the fact the physical fitness needs of occupational physical fitness testing is more important than the age or gender of the service member.

Defining the DoD’s expectations in regard to physical fitness is successfully addressed in DoDI 1308.3, but actually hinders the services. In terms of “muscular endurance” it states, “The ability of a skeletal muscle or group of muscles to perform repeated contractions for an extended period of time. It is measured as the number of submaximal contractions performed or submaximal sustained contraction time. Most of the practical “strength” tests (e.g., push-ups and sit-ups) are measures of muscular endurance.”<sup>23</sup> Here the Instruction has addressed what it means by muscular endurance, but seemingly provides the answer it is looking for from the services by saying the push-up, which is used by all services, and the sit-up, which a variant is used by all services, are the most practical measures of muscular endurance. It goes on further to define muscular strength and why pull-ups are a better measure of true strength than the push-up.<sup>24</sup> In identifying the pull-up, push-up, and sit-up as measures of muscular strength and endurance it

hamstrung the services in their choices for testing measures. Anytime a higher headquarters provides guidance with recommendations they are leading their subordinates in the direction the higher headquarters wants them to act. Removing the examples of exercises which measure these components of fitness would have allowed the services more freedom of thinking how to best measure. Where the Instruction provided guidelines on muscular strength and endurance, it was far less prescriptive in defining aerobic capacity, thus enabling services to not limit themselves to solely running.<sup>25</sup> That said, though all four services utilize running as the measure of aerobic fitness, the distances vary by branch. It should also be noted all three of these DoD regulations are from 2005 and before. A lot has changed with respect to both physical fitness and warfighting in the decade since.

### **The United States Army Physical Requirements**

*“Combat readiness is the Army’s primary focus as it transitions to a more agile, versatile, lethal, and survivable force.”*<sup>26</sup> *Army Physical Readiness Training*. May 3, 2013.

The Army is charged with fighting and winning the nation’s land wars and Field Manual (FM) 7-22 puts the emphasis on combat readiness by addressing the needs for Army Soldiers to have “strength, stamina, agility, resiliency, and coordination” in order to fight the nation’s current and future fights.<sup>27</sup> The DoD Directives and Instruction addressed the need to measure the first two, but the Army has added two more metrics which should be measured in order to determine a Soldier’s suitability on the battlefield: agility and coordination (resiliency is more of an abstract concept focused on mental and emotional fitness). FM 7-22 goes on to provide examples of where these capabilities will be tested.

To march long distances in fighting load through rugged country and to fight effectively upon arriving at the area of combat; to drive fast-moving tanks and motor vehicles over

rough terrain; to assault; to run and crawl for long distances; to jump in and out of craters and trenches; and to jump over obstacles; to lift and carry heavy objects; to keep going for many hours without sleep or rest—all these activities of warfare and many others require superb physical conditioning.<sup>28</sup>

These instances provide relevant examples where a Soldier's physical fitness would be tested but fails to address two issues. The first is how does a Soldier's ability to do push-ups for two minutes ensure their ability to "lift and carry heavy objects" or their ability to run two miles allow them "to march long distances in fighting load through rugged country?" The second question is why the HR Specialist or cyber warrior needs to be capable of doing any of these things when they most likely will never be asked to during the entirety of their careers. FM 7-22 rebuts by saying, "Physical readiness is the ability to meet the physical demands of any combat or duty position, accomplish the mission, and continue to fight and win."<sup>29</sup> Ultimately this statement goes against DoD guidance which directs physical readiness to be commensurate with occupational specialties, but also puts an unnecessary physical burden on low-density, non-combat arms specialties to achieve levels of physical fitness not required to be successful in their jobs. There may be highly competent Soldiers, who will never see the battlefield, yet are required to maintain a level of fitness equal to the warfighter solely because their promotion points are linked to their PFT score. An argument can be made to transferring non-combat related military occupational specialties from service members to DoD civilians, but this would require a massive reduction in DoD mandated service members in addition to a complete force structure reorganization. The DoD can more effectively and efficiently manage these requirements by adjusting fitness requirements.

FM 7-22 outlines the need, based on DoD guidance, to assess a Soldier's aerobic capacity, muscular strength, and muscular endurance. It then identifies common Soldier tasks

and the physical requirements which extend far beyond these three basic principles (as illustrated in Figure 1).<sup>30</sup>

PRT Components	Warrior Tasks						Battle Drills	
	Employ hand grenades	Perform individual movement techniques	Navigate from one point to another	Move under fire	Perform Combatives	Assess and Respond to Threats (Escalation of Force)	React to contact	Evacuate a casualty
<i>Strength</i>								
Muscular Strength	X	X	X	X	X	X	X	X
Muscular Endurance	X	X	X	X	X	X		X
<i>Endurance</i>								
Anaerobic Endurance	X	X	X	X	X	X	X	X
Aerobic Endurance		X	X			X		X
<i>Mobility</i>								
Agility	X	X	X	X	X	X	X	X
Balance	X	X	X	X	X	X	X	X
Coordination	X	X	X	X	X	X	X	X
Flexibility	X	X	X	X	X	X	X	X
Posture	X	X	X	X	X	X	X	X
Stability	X	X	X	X	X	X	X	X
Speed	X	X	X	X	X	X	X	X
Power	X	X	X	X	X	X	X	X

Figure 1 addresses the baseline needs (muscular strength, muscular endurance, and aerobic endurance), adds flexibility (as addressed in DoDD 1308.2), but goes further to address how anaerobic endurance and most functions of mobility are not required to be evaluated, yet are essential in conducting standard Soldier tasks. One would hope a Soldier would want to achieve high levels of fitness in these areas to ensure success on the battlefield, yet their career is only in jeopardy if they do not achieve an adequate measure in the three tested. Furthermore, most occupational specialties will never have to employ these tasks outside of training. FM 7-22 does

a good job of later defining the qualitative aspects of mobility, but these qualitative aspects of Soldier fitness could easily become quantifiable metrics. This is especially true if they are really important to warfighting, if not in a physical fitness test, then at a minimum in a combat readiness test.<sup>31</sup> There are plenty of relevant tests to measure speed, power, and agility which could be easily implemented. The Army Physical Fitness Test “consists of push-ups, sit-ups, and a 2-mile run—done in that order—on the same day. Soldiers are allowed a minimum of 10 minutes and a maximum of 20 minutes rest between events.”<sup>32</sup> The Army PFT fails to evaluate the muscular endurance of the biceps, latissimus dorsi, and gluteus maximus, while also failing to adequately evaluate muscular strength in any of the three components. The problem of not adequately addressing all the muscle groups of the body is a similar problem within the Navy’s physical readiness test.<sup>33</sup>

### **The United States Navy Physical Requirements**

*“It has become increasingly important for all Navy personnel to maintain a minimum prescribed level of physical fitness necessary for world-wide deployment, whenever or wherever needed.”*<sup>34</sup> *Physical Readiness Program, OPNAV Instruction 6110.1J*, July 11, 2011

The Navy’s Physical Readiness Test (PRT) adequately addresses the three core components outlined by the DoD as it is a near mirror of the Army’s PFT, replacing the sit-up with the curl-up and reducing the two-mile run to a one-and-a-half mile run.<sup>35</sup> The Navy PRT consists of two minutes of curl-ups, two minutes of push-ups, and a “cardio-respiratory fitness” event (usually the one-and-a-half mile run) and “shall be completed on the same day, at least 2 minutes, but no more than 15 minutes between each event.”<sup>36</sup> The interesting thing about the Navy’s one-and-a-half mile run opposed to a two-mile run is the Navy’s assertion the one-and-a-

half mile run represents “the definitive assessment of cardiorespiratory fitness.”<sup>37</sup> The validity of this statement would assume all services, instead of the two who incorporate it into their physical fitness testing, should utilize the one-and-a-half mile run to adequately measure aerobic capacity per the DoD guidance, yet both the Army and Marines opt for longer distances, two miles and three miles respectively. Additionally, the Navy addresses the inadequacy of the PRT to effectively evaluate all muscles of the body but does pay mention to the fact the curl-ups evaluate abdominal strength which is a key factor in lower back injury prevention.<sup>38</sup> This is an acknowledgement of a service stating their PRT is not only a measure of current fitness levels, but also a preventive measure in the health of the force. This is similar to the US Air Force requirements.

### **The United States Air Force Physical Requirements**

*“Overall fitness is directly related to health risk, including risk of disease and death. Health and readiness benefits increase as aerobic fitness, body composition, and muscular fitness improve with increases in physical activity.”<sup>39</sup> Personnel Fitness Program, AF Instruction 36-2905, October 21, 2013*

The Air Force takes an approach to physical fitness testing which is in line with DoD guidance, but also goes beyond simply measuring aerobic capacity, muscular strength, and endurance. The Air Force Instruction 36-2905 requires the evaluation of body composition as part of its physical fitness testing, whereas other services use it as a supplement to physical fitness testing. The Air Force is the first service to, at length, identify how their physical fitness testing relates to the long-term health, not just physical readiness, of their Airmen. It also identifies how physical fitness supports overall health as it “will increase productivity, optimize

health, and decrease absenteeism while maintaining a higher level of readiness.”<sup>40</sup> Clearly the Army and Navy are more concerned with physical readiness and its importance in service specific warfighting while the Air Force is concerned with productivity and decreasing absenteeism. This attitude is reflected in its four-component physical fitness test and, more importantly, the weight to which they give each component (illustrated in Figure 2).<sup>41</sup> The Air Force PFT consists of one minute of push-ups, one minute of sit-ups, a one-and-a-half-mile run, and a body composition assessment, all which must be measured within a three-hour window on the same day.<sup>42</sup>

**Figure 3.2. Composite Fitness Score Formula.**

Composite score =		$\frac{\text{Total component points achieved} \times 100}{\text{Total possible points}}$		
<b>Component:</b>	Aerobic	Body Composition	Push-ups	Sit-ups
<b>Possible Points:</b>	60	20	10	10

Figure 2 depicts the Air Force’s emphasis on aerobic capacity (one-and-a-half mile run) as representing 60% of their PFT, where muscular strength and endurance (push-ups, sit-ups) are valued 1/3 of aerobic capacity and equal to body composition (abdominal circumference). The Air Force thus becomes a service that values body composition, and its long-term effects on health and wellness. Also, to note, this is not a “Pass/Fail” requirement, as treated by the other three services, but instead a main component of their physical fitness test. The Air Force’s focus on body composition is also in line with the DoD’s focus on bearing a military appearance as it is later states, “Commanders must ensure members present a professional military image while in uniform.”<sup>43</sup> This calls into question what the Air Force expects of a “professional military image” when the job expectations of an Air Force Combat Controller and a C-130 pilot are vastly different.

AFI 36-2905, in defining physical fitness, goes beyond the DoD Directives and expands physical fitness into two sub-categories: health-related and skill-related. Health-related components include the standard expected by the DoD (aerobic capacity, muscular strength, muscular endurance, and body composition), and adds “flexibility-mobility-stability.”<sup>44</sup> This expands the physical assessment requirements related to health (though the Air Force does not adequately test them) and mirrors some of the qualitative metrics the Army feels are important in order to be combat-ready (by the Army’s definition flexibility and stability fall under a broader category of mobility). The Air Force’s definition of “skill-related components” or agility, balance, coordination, power, reaction time, and speed.<sup>45</sup> With the exception of “reaction time,” all of these components are elements of mobility addressed by the Army. Suffice to say, the qualitative measures of fitness of the Army and the skill-related components of health of the Air Force are in line with what service members should be prepared for on the battlefield, yet neither service adequately tests for an appropriate level of readiness. The service which comes the closest to measuring the performance requirements for a combatant on the battlefield is the Marine Corps.

### **The United States Marine Corps Physical Requirements**

*“As professional warrior-athletes, every Marine must be physically fit, regardless of age, grade, or duty assignment. Fitness is an essential component of Marine Corps combat readiness. Furthermore, physical fitness is an indispensable aspect of leadership.”<sup>46</sup> Marine Corps Physical Fitness Program, MCO 6100.13 W/CH 2, January 30, 2015*

At the time of this writing, the Marine Corps is the only service with a physical fitness and combat readiness test. The Marine Corps, like the previous services, falls in line with DoD

guidance, with some particular nuance, which further advocates for a delineation of physical fitness standards. The Marine Corps Order first advocates that the fitness program must “develop Marines who are physically capable of performing their job requirements in garrison, training and combat.”<sup>47</sup> As previously stated in this document, what is expected should be evaluated and requirements should be occupational specialty specific. There is no need for a Marine Corps Finance Technician to be expected to perform at the same level of physical readiness as a Marine Corps Infantry Assaultman. Yet, that Marine Corps Finance Technician can still perform their job requirements in “garrison, training and combat” with a lower standard than that of their Infantry Assaultman brethren without issue. This is further exacerbated by the fact the Marine Corps incorporates Marine PFT results into annual fitness reports.<sup>48</sup> The Marine Corps PFT must be done within a two-hour window and is broken out by gender with males required to do as many dead hang pull-ups as possible, two minutes of crunches, and a three-mile run, with females expected to do the same with the exception of doing a flexed-arm hang opposed to dead-hang pull-ups.<sup>49</sup> If the Marine Corps truly wants to ensure individual physical training programs are not “developed solely towards preparation for the PFT or CFT” then these mandatory comments and impact on fitness reports should not be considered as a factor.<sup>50</sup> The Marine Corps Order also asserts, “Every Marine must be physically fit, regardless of age, grade, or duty assignment.”<sup>51</sup> There is agreement Marines should be fit regardless, but instead everything should be duty assignment/occupational specialty specific, irrespective of age or gender. The Marine Corps has slight variations from the other services in the administering of their PFT in the three components are pull-ups, crunches, and a three-mile run.<sup>52</sup> Where the Marines excel in terms of ensuring those heading to combat are physically prepared for combat is through the administering of the Combat Fitness Test (CFT).

### **Marine Corps Combat Focused Fitness**

The Marine Corps CFT is used “to assess a Marine’s physical capacity in a broad spectrum of combat related tasks.”<sup>53</sup> The Marine Corps CFT is the first service-wide assessment which directly evaluates a Marine’s ability to accomplish tasks which replicate an experience they may experience in combat. According to MCO 6100.13 w/ CH 2, the CFT consists of “three events: Movement to Contact (MTC), Ammunition Lift (AL) and Maneuver Under Fire (MANUF).”<sup>54</sup> The CFT thus consists of three of the components of the Army’s Warrior Tasks and one of the Army’s Battle Drills and now has taken qualitative evaluators of performance and made them quantitative. Additionally, the CFT was “specifically designed to evaluate strength, stamina, agility and coordination as well as overall anaerobic capacity.”<sup>55</sup> The CFT thus addresses two qualitative, skill-related components of fitness not addressed by the other services in including the need to evaluate agility and coordination, with the added bonus of evaluating an area of endurance which the Army designates as a valued component of Soldier skills, but fails to evaluate anaerobic capacity adequately. The Marine Corps CFT proves a vital resource in ensuring the overall physical capacity of Marines. The Marine Corps CFT also represents a more reasonable assessment than combat readiness assessments used by elite US Army Rangers.

### **United States Army Ranger Physical Assessment Test**

The United States Army Ranger Regiment is part of the United States Special Operations Command (USSOCOM) and their direct action and airfield seizure missions require a top level of physical fitness. The Ranger Physical Assessment Test (RPAT) is how they ensure this level of fitness is maintained. The purpose of the RPAT is “to measure all components of fitness

(strength, endurance, movement skills), using tactically relevant tasks.”<sup>56</sup> Here the Rangers have adequately addressed the three components of fitness in the eyes of the Army (strength, endurance, movement skills = mobility), but the test itself goes beyond the capacity of what the standard Soldier should be expected to maintain. The test is:

1. Conduct a two-mile run wearing ACUs, boots, RBA and MICH helmet.
2. After the completion of the run, climb the 20-foot fast rope and do a controlled descent.
3. Drag a 185-pound SKEDCO litter 50 yards, turn around and drag it back 50 yards to the start point.
4. Next, climb a 20-foot caving ladder and climb back down.
5. Then sprint 100 yards, turn around, sprint back 100 yards.
6. Scale an eight-foot wall.
7. Conduct a one-mile run wearing ACUs, boots, RBA and MICH helmet. Time stops when you cross the line.<sup>57</sup>

Though the test adequately assesses what a US Army Ranger may experience in combat and what a regular Army Infantryman may encounter, this is not a relevant test for non-combat arms specialties. Additionally, the RPAT is administered once per deployment cycle which represents a positive change in evaluating combat focused fitness.<sup>58</sup> The focus of combat focused fitness is ensuring Soldiers are prepared to go to combat, so potentially combat focused fitness should only be evaluated prior to a Soldier deploying. The RPAT exceeds the combat fitness requirement of every Soldier, but ensuring every Soldier is prepared for combat before a deployment is relevant. The CFT is a more manageable measure of combat readiness and, though currently measured annually, could potentially just be evaluated leading up to combat deployments with a standard more commensurate with their non-combat arms occupational specialty. Aside from the Army Rangers, the regular Army is also implementing a new assessment of combat readiness.

### **Unites States Army Combat Readiness Test**

The Army Combat Readiness Test (ACRT) is still in the development phase and has yet to be implemented, but if implemented could represent a positive shift in how the Army evaluates the physical readiness of Soldiers. The reason the ACRT would be a positive shift is because it evaluates more components of physical fitness than the current Army PFT. The events of the ACRT are “two-mile run, deadlift, standing power throw, t-pushup, sprint/drag/carry, leg tuck.”<sup>59</sup> The ACRT measures “five components of physical fitness - muscular and aerobic endurance, muscular strength, speed/agility and explosive power.”<sup>60</sup> The ACRT thus evaluates the three quantitative measures set forth by the DoD while also evaluating three qualitative metrics set forth by the Army. Though labeled the “Army Combat Readiness Test” the test actually better represents a physical fitness evaluator than the Army’s current PFT. The Army is also trying to address the differences between occupational specialties with the Occupational Physical Assessment Test (OPAT).

### **United States Army Occupational Physical Assessment Test**

The OPAT is comprised of four events designed to measure a Soldier’s physical capabilities: standing long jump, seated power throw, strength deadlift, and interval aerobic run.<sup>61</sup> The four-event test came after a “Physical Demands Study” evaluated Soldiers of all occupational specialties conducting their Warrior Tasks and Battle Drills.<sup>62</sup> What the OPAT does best is focus on a Soldier’s ability to perform a job while remaining “gender, age, and body-size neutral.”<sup>63</sup> This is the most important difference between the OPAT and the other fitness tests which have been examined in this paper. The OPAT simply measures whether a Soldier is capable of performing the tasks required by their job and is tiered based on the physical demands of certain occupational specialty. This means if two Soldiers want to become Infantryman; one a

24-year-old female, first-term enlistee who stands 5'6" and weighs 134 pounds, and the other is a 30-year-old male Specialist who stands 6'4" and weighs 220 pounds looking to change from a non-combat arms occupational specialty, both will be evaluated against the same standard. This is the way fitness tests need to be in the military going forward. General fitness assessments regardless of specialty are also utilized in the civilian work force, such as evaluation of the elite performers in Cirque du Soleil.

### **Cirque du Soleil Physical Fitness Testing**

A study conducted over an 18-month period evaluated measurement of physical performance exhibited by performers in Cirque du Soleil.<sup>64</sup> The six-assessment test measured "proprioception, aerobic fitness, general upper body strength, lower body power, upper body strength and endurance, and anaerobic capacity."<sup>65</sup> The six elements were: dynamic balance, Harvard step test, handgrip, vertical jump, pull-ups, and 60-second jump test.<sup>66</sup> The importance of the study in the context of this argument is twofold. The first is the study proved the six tests evaluated, with the exception of the balance test, were reliable indicators of performance, took minimal equipment, minimal time, and minimal space to evaluate many quantitative and qualitative aspects of fitness which could be utilized for military physical fitness assessments. The second, and more valuable point for this paper, is the fact that the study showed consistent testing in measures related to fitness showed athletes maintained consistent levels of performance.

### **The Future of Joint Force Fitness**

CPT Gates waited anxiously at the Short Fitness Center on MacDill AFB for the Joint Combat Readiness Test (JCRT) administrators to arrive and conduct his annual fitness screening. He was thirty minutes early, but his anxiousness did not reflect anticipated success, but instead a dread of the only evaluation of his physical fitness. He did not have to take the Joint Combat Fitness Test (JCFT) considering he was in a non-deployable billet, effectively conducting cyber operations from MacDill. “Bill! Good to see you. Ready for this?” Capt. Stephen Jobs was the Special Operations Command – Central (SOCCENT) J-3 and a long-time Navy Seal. He had worked with Bill previously on numerous cyber defensive operations when Bill was in a CENTCOM focused Task Force. “Ready as I’ll ever be, sir.” CPT Gates sheepishly retorted. Capt. Jobs actually looked forward to JCRT day. Despite multiple knee surgeries and a shoulder which always seemed to pop because, as Capt. Jobs was one to say, “I used to be hardcore”, he enjoyed the lowered JCRT standards of his J-3 billet. SOCCENT, recognizing the mileage on the operators’ bodies over time, lowered the J-staff JCRT standards because their bodies had already been overused. As he limbered up, SSgt Jessica Jones approached the pair “Gentlemen, is this where the JCRT is being conducted?”. “To the best of our knowledge” said CPT Gates. SSgt Jones was the embodiment of fitness and she had been looking forward to this JCRT for months. Having recently been promoted, she was looking forward to her next assignment as an Infantry Rifle Platoon Sergeant. She was optimistic this opportunity would present itself when her husband took a job at CENTCOM headquarters, so she kept herself in top physical shape. Now on orders to 1<sup>st</sup> Battalion, 4<sup>th</sup> Marines in Camp Pendleton, CA, she anticipated being an Infantry Rifle Platoon Sergeant and leading Marines in combat. Her JCFT score was 1<sup>st</sup> Class and she anticipated the same for the JCRT. The daunting physical standards of her future billet never scared her, but only motivated her to push harder. She arrived this temperate April morning in

Tampa ready to dominate the test, if not also in the process dominating the other participants beside her. The three service members continued to ready themselves for the same test, but with job specific standards which they all agreed with. The only other thing CPT Gates was thinking about was when he could have his next Mountain Dew.

### **Conclusion**

What does the analysis of all the military services fitness evaluators and a civilian evaluation of circus performers have to do with the future of Joint Force Fitness? The Department of Defense needs to adopt the Army's Occupational Physical Assessment Test as the standard in determining occupational specialties of initial enlistees across the services. The reason the OPAT is so valuable is because it adequately measures first term enlistees' ability to perform job specific tasks. If each service implemented the OPAT and assigned a certain standard for each job, then there would be greater potential for success of enlistees at respective boot camps. Additionally, the DoD should make the Army Combat Readiness Test and Marine Corps Combat Fitness Test as the evaluators of physical and combat readiness of service members within the Joint force. These two tests have proven to be the best barometers of overall levels of physical and combat readiness so far developed by the DoD. Once established as the metrics for physical readiness and combat fitness, the DoD needs to delegate to the services the responsibility to determine what the standards are per service.

Each service should then tailor their standards regardless of age or gender and focus solely on occupational specialty. The importance of an individual's ability to perform their job to standard cannot be understated and is far more important than their age or gender. Moreover, the services should determine whether the combat fitness test is even a requirement based on

occupational specialty. There are plenty of service members working in occupational specialties which, though they will deploy, will never be physically challenged in a combat environment, certainly not to the extent of service members in combat-arms. At a minimum, every service member should be evaluated for combat readiness prior to deploy to a combat zone, but the standard should be commensurate with their occupational specialty and activities within a given theater. Again, though the OPAT, ACRT, and CFT will be the tests directed by the DoD, the services will make the standards scalable by occupational specialty in order to ensure each service feels their members are adequately prepared for deployment.

There are two potential fears in the implementation of this program. One, cultural and sub-cultural reactions might breed service-member to service-member antipathy. Inter-service rivalry may be fueled further by different standards against the same assessments. Intra-service contempt may develop if service members with rigorous fitness requirements look down upon those with a lower standard. Two, not every service member will bear a military appearance or reflect the mantra “every Marine a rifleman.”

What permits this extensive overhaul in military culture as a whole? The argument is threefold. First, the sliding scale of physical fitness requirements could potentially improve recruiting and retention of low-density, non-combat arms occupational specialties. If the US Military hopes to fight the five-domain battle with those best qualified to fight, then in order to retain the best and brightest, some leeway may need to be given toward the physical fitness standards of non-combat occupational specialties. This leads to the second point which speaks to the definition of “military appearance.” The commonly held belief of what “military appearance” entails stems from a bygone area when wars were fought by Soldiers, Sailors, Airmen, and Marines who had to be physically close to destroy the enemy. The desire to maintain a “military

appearance” was not just asking for service members to look good in uniform, it was a product of the fact that due to the nature of war, they looked good in uniform naturally. The future of warfare, as previously illustrated, does not require a complete force who resembles this model. Instead, the future of the military is more of a hodgepodge of niche capabilities, with varying levels of fitness, necessary to fight and win the future conflicts of the nation. The last aspect is the fact that occupational specialty, which can be further segregated into billet specific assignments, is far more important than the age, gender, and body weight of any given person. The OPAT and ACRT measure an individual’s ability to perform the tasks required. With the integration of females into combat roles, there is no better time than now to flatten the physical and combat readiness requirements of a previous era and exchange them for one focused on mission accomplishment regardless of a service member’s age, gender, or body composition.

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<sup>1</sup> US Department of Labor, The Employment Situation – January 2018, February 2, 2018, 1.

<sup>2</sup> Mission: Readiness: Military Leaders for Kids. “Ready, Willing, And Unable to Serve.” Washington, D.C. 2009, 1.

<sup>3</sup> Whitfield B. East, *A Historical Review and Analysis of Army Physical Readiness Training and Assessment*, (Fort Leavenworth, KS: Combat Studies Institute Press, 2013), 63.

<sup>4</sup> *Ibid*, 63-64

<sup>5</sup> *Ibid*, 64.

<sup>6</sup> *Ibid*, 71.

<sup>7</sup> *Ibid*, 86.

<sup>8</sup> *Ibid*, 90.

<sup>9</sup> *Ibid*.

<sup>10</sup> US Department of Defense, *DoD Physical Fitness and Body Fat Program*, Directive 1308.1, June 30, 2004, 2.

<sup>11</sup> *Ibid*.

<sup>12</sup> *Ibid*.

<sup>13</sup> *Ibid*.

<sup>14</sup> *Ibid*, 4.

<sup>15</sup> *Ibid*, 3.

<sup>16</sup> US Department of Defense, *Joint DoD Committee on Fitness*, Directive 1308.2. February 4, 2005, 2.

<sup>17</sup> *Ibid*.

<sup>18</sup> US Department of Defense, *DoD Physical Fitness and Body Fat Programs Procedures*, Instruction 1308.3. November 5, 2002, 3.

<sup>19</sup> *Ibid*.

<sup>20</sup> *Ibid*, 5.

<sup>21</sup> *Ibid*, 6.

<sup>22</sup> *Ibid*.

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- <sup>23</sup> Ibid, 9.
- <sup>24</sup> Ibid 10.
- <sup>25</sup> Ibid, 9.
- <sup>26</sup> Department of the Army Headquarters. *Army Physical Readiness Training*, FM 7-22, C1, Washington, DC: Headquarters, Department of the Army, May 3, 2013, xvi.
- <sup>27</sup> Ibid, 1-1.
- <sup>28</sup> Ibid.
- <sup>29</sup> Ibid.
- <sup>30</sup> Ibid, 1-5.
- <sup>31</sup> Ibid, 2-5.
- <sup>32</sup> Ibid, A-1.
- <sup>33</sup> Ibid A-6,-8,-10.
- <sup>34</sup> Office of the Chief of Naval Operations, *Physical Readiness Program*, OPNAV Instruction 6110.1J, July 11, 2011, 2.
- <sup>35</sup> Office of the Chief of Naval Operations, *Physical Readiness Test (PRT)*, Naval Guide 5, January 2016, 4.
- <sup>36</sup> Ibid.
- <sup>37</sup> Office of the Chief of Naval Operations, *Physical Readiness Program*, OPNAV Instruction 6110.1J, July 11, 2011, Enclosure 1.
- <sup>38</sup> Office of the Chief of Naval Operations, *Physical Readiness Test (PRT)*, Naval Guide 5, January 2016, 4.
- <sup>39</sup> Secretary of the US Air Force, *Personnel Fitness Program*, AF Instruction 36-2905, October 21, 2013, 24.
- <sup>40</sup> Ibid, 7,
- <sup>41</sup> Ibid, 33.
- <sup>42</sup> Ibid, 26.
- <sup>43</sup> Ibid, 54.
- <sup>44</sup> Ibid, 64.
- <sup>45</sup> Ibid.
- <sup>46</sup> Commandant of the Marine Corps, *Marine Corps Physical Fitness Program*, MCO 6100.13 W/CH 2, January 30, 2015, 1-1.
- <sup>47</sup> Ibid.
- <sup>48</sup> Ibid, 1-4.
- <sup>49</sup> Ibid, 3-1.
- <sup>50</sup> Ibid, 1-3.
- <sup>51</sup> Ibid.
- <sup>52</sup> Ibid, 2-1.
- <sup>53</sup> Ibid, 3-1
- <sup>54</sup> Ibid.
- <sup>55</sup> Ibid.
- <sup>56</sup> Department of the Army, RAW Handbook, 72.
- <sup>57</sup> Ibid.
- <sup>58</sup> Ibid, 69.
- <sup>59</sup> Sean Kimmons, “With six events, new Army Combat Readiness Test aims to replace APFT, cut injuries”, Army News Service, September 18, 2017.
- <sup>60</sup> Ibid.
- <sup>61</sup> Mallory Roussel, “The Science Behind the Occupational Physical Assessment Test”, Force 2025 and Beyond, February 23, 2017.
- <sup>62</sup> Ibid.
- <sup>63</sup> Ibid.

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<sup>64</sup> Bryan Burnstein and Russell J. Steele, “Reliability of Fitness Tests Using Methods and Time Periods Common in Sport and Occupational Management”, *Journal of Athletic Training* 46, 505.

<sup>65</sup> *Ibid*, 506.

<sup>66</sup> *Ibid*, 505.

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