



Toward a Culture of Fitness in Law Enforcement: An Examination of the State of Fitness and Nutrition in Texas Police Departments

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Introduction

Law enforcement is a dangerous and stressful profession (Ortmeirer and Meese, 2010; Tanigoshi et al., 2008). The job of a law enforcement officer has often been compared to that of a combat soldier, where long periods of inactivity are interrupted with brief periods of high intensity action such as chasing a suspect on foot or in a high speed pursuit, dealing with aggressive and noncompliant citizens or having to use various forms of nonlethal and lethal force to enact an arrest or neutralize a dangerous person. These adrenaline spikes experienced by police officers have been shown to have deleterious health effects (Hess et al., 2013, Violanti et al., 2017). All these variable culminate in a professional climate that impairs and damages physical, psychological and emotional well-being far beyond that of their civilian counterparts (Tanigoshi et al., 2008). The structural nature of police work also contributes to poor physical and mental health. Long periods of inactivity lead to boredom which is sometimes countered with consuming excessive and unhealthy food. Moreover, shift work disrupts not only sleep patterns, but also lends itself to having to find dining options available at odd hours, usually in the form of fast food, convenience store offerings or diners. Working unconventional hours also impacts an officer's ability to find the motivation and time to engage in physical fitness activities. The result of these less than optimal circumstances

has been shown to diminish reaction time, increase undesirable risk taking behaviors and contribute to performance error (Anderson et al., 2001; Mroz, 2008; Swensen et al., 2008). More broadly, the danger, stress and structure of police work certainly has the potential to diminish the overall health and effectiveness of a police officer.

In an effort to counter the well documented mental and physical problems associated with a career in law enforcement, some police departments have enacted wellness programs. While wellness programs are not uniformly administered throughout the country, they are generally understood to involve multiple components including psychological counseling, substance abuse prevention and intervention protocols, access to spirituality advisement, nutritional guidance and physical fitness programs (Clark-Miller and Brady, 2013; Kuhns, et al., 2015; Tanigoshi, 2008; Willis, 2010).

Literature Review

The implementation of wellness programs in any profession has been linked to positive mental and physical health outcomes. For example, Berry, Mirabito and Baun (2010) found that wellness programs in corporate America not only had the impact of employees losing weight and lowering their cholesterol levels but also decreasing the incidence and progression of depression. Similarly, Anshel and Kang (2007) report that wellness programs that focused on nutrition and exercise guidance lead to participants lowering their overall body fat percentages, increasing their strength and a marked improvement in cardiovascular capacity. Given that the physical burdens inherent to police work can be substantial, along with the documented stressors that result in elevated rates of mental illness, substance abuse and suicide, it would seem apparent that *every* police department in the United States would have ample and rigorously implemented wellness program. Unfortunately, that is not the case; In the aggregate American law enforcement lacks wide-ranging wellness programs and implements with them with various degrees of comprehensiveness and effectiveness (Mattos, 2010). While the monetary constraints of enacting an inclusive wellness program may be a valid inhibitor, departments certainly have the resources and ability to prioritize what is arguably the most prominent and important pieces of the wellness equation: Nutrition and physical fitness.

The need to focus on the physical fitness of a police officer is manifest, as it has both direct and indirect benefits to the law enforcement officer, the department they work for and the community at large. Most obviously, the duties of a police officer will inevitably involve some task which requires above average strength, agility and endurance. A patrol officer must be prepared to sprint after a criminal suspect who is motivated to escape, climb fences or walls in that pursuit, pull or carry victims from the scene of an

accident or engage in hand to hand combat with an aggressive assailant. Yet, research indicates that American police officers are below average and less fit than one half of the general population (Collingswood et al., 2004; Quigley, 2008). At best, self-report and measured levels of fitness (including assessment of general health, dietary habits, height and weight, blood pressure, cholesterol and physical activity) show similar rates to the general population (Spitler et al., 2004; Mumford et al., 2015). While it can be argued that the aforementioned intensive physical feats an officer may perform are few and far between, the effects of poor physical health are incontrovertible. On the individual level, American police officers (when compared to other professions) suffer one of the highest rates of diabetes and heart disease, conditions which are directly linked to poor health (Ebling, 2002). Quigley (2008) reports that the risk of police officers with ten or more years of service having a heart attack is doubled that of the general population and being unfit is directly correlated with chronic back problems. Fiedler (2011: 8) asserts that poor nutrition and a lack of exercise leads to “obesity, cardiovascular disease, gastrointestinal disorders, sleep apnea and other sleep disorders and type 2 diabetes.” The impact of poor physical fitness has organizational implications, as well. Specifically, the cost of an unfit officer is substantial. Given that police officers are more prone to heart disease, an in service heart attack can cost a department anywhere from \$400-\$750 thousand dollars. More generally, most workman’s compensation claims are tied to officers being overweight and out of shape (Quigley, 2008). Absenteeism and officer downtime are positively correlated with a poor physical condition as are early retirements, which incur the further expense for new recruitment and training (Collingswood et al., 2004). Guffey, Larson and Lasley (2015) found that officers who are overweight not only demonstrate poorer performance but also incur more injuries (costing a department more money) and, generally, disability payments due to injuries are substantially reduced when a department has more fit officers (Quigley, 2008). Organizational morale also suffers as a function of stress and a lack of fitness (Westphal and Openshaw, 2009). On the community level, physically unfit officers can damage the public perception of the department in the form of officers not being respected, resulting in citizens being more likely to challenge an officer. Additionally, officers who lack physical fitness have been shown to be less effective when backing up their fellow officers, hence compromising community safety (Mroz, 2008). All told, an officer who is overweight and does not maintain a reasonable level of physical fitness is a liability to themselves, their department and the community they serve.

The benefits of physical fitness and weight management are well documented. Generally speaking, a physically fit officer is simply better at performing the arduous

physical tasks sometimes associated with the profession (Ebling, 2002; Fiedler, 2011). In terms of personal health, there is an enormous difference in mortality rates when comparing fit and unfit officers. Quigley (2008), as cited in Fielder (2011) states:

Keeping officers physically fit is also cost effective in its ability to prevent illness or worse. 'Expending at least 2,000 calories a week in physical activity reduces an individual's risk of dying of any cause by 28 percent. Mortality rates for unfit men were estimated at 64 per 10,000 persons. However, that number drops to 18.6 per 10,000 persons when looking at those that are most fit. Being physically fit translates into fewer sick days, disabilities and injuries – thereby reducing health care costs.'

Beyond this obvious personal benefit, physical fitness has a direct, positive impact on the psychological problems associated with police work, namely stress, depression and anxiety experienced by an officer. In one of the earliest studies that examined the connection between fitness and mental health, Norvell and Belles (1993) reported that fit cops are much less prone to anxiety, hostility and depression. Likewise, Krainik (2003) found an inverse relationship between physical fitness and mental issues; specifically, an increase in physical fitness lead to a decrease in stress and anxiety (along with an officer projecting a more positive public image). Lagaestad (2011) also found that fitness reduces stress along with imbuing an officer with a greater confidence in their ability to perform critical tasks, particularly in the realm of dealing with physical conflict. Nutrition surfaces is a critical variable in this mental health equation, as following a realistic and sound nutritional plan not only resulted in fewer injuries and but also resulted in less stress and decreased depression (Chapola, 2002; Fiedler, 2011; IACP, 2009). Other personal health benefits associated with working out and eating right include improved sleep and overall wellness, more job satisfaction, improvement in mood, and a decrease in anxiety, hostility and aggressiveness (Norvell, et al., 1993; Parks and Steelman, 2008; Swensen et al., 2008).

Organizationally, the benefits of physically fit officers are substantial. Officers who exercise regularly not only show tangible improvements in their own health, but also have lower rates of absenteeism and turnover (Boyce and Hiatt, 1992). Similarly, Nabeel et al., (2007) found that fitness is good predictor of incurring injury and experiencing debilitating pain and physically fit officers get injured less, particularly by way of musculoskeletal injuries and overall back pain. Coupling physical fitness and an effective nutritional plan not only results in less down time but also in increased productivity, an organizational benefit both in terms of paying out less for injuries and promoting greater safety through proactive, aggressive police work (Quigley, 2008). On the community

level, studies show that a fit officer is a more effective officer. Predictably, officers who are not well conditioned and are overweight do not perform well when engage in critical physical tasks associated with law enforcement (running, jump, pushing, pulling, etc.) thus compromising their ability to protect their communities (Chapola, 2002). Public perception of the police is also affected by officers who are fat and out of shape. Mroz (2008) reports that less fit officers negatively impact the amount of respect an officer garners in his or her community while officers projecting physical fitness are more likely to be respected and seen as role models. Moreover, citizens view physically fit officers more positively as they deem them to be more capable public servants and defenders (Chapola, 2002). This is more than just a perception, as fit officers are more likely to be successful in a use of force encounter (Mroz, 2008).

Given the overwhelming evidence that physically fit officers perform better, get hurt less, have lower absenteeism and less down time, retire later, have better morale and job satisfaction, and experience fewer mental health issues, it would seem apparent that every police department in America would stress physical fitness and wellness. But that is not the case. In fact, most departments do not have a well thought out wellness program nor do they have comprehensive nutritional and fitness guidance and programs (Quigley, 2008). As one half of the police population is in below average condition (or, at best, average condition), it imperative to understand how and why police officers fall so far from the physical standards which translate into more optimal personal health benefits and professional longevity and success.

Methodology

In September 2019, we distributed an electronic survey to all Texas law enforcement agencies seeking information on their policies and procedures related to officer fitness and wellness. The overarching goal of the project was to learn more about how Texas law enforcement agencies are thinking about and responding from a policy perspective to contemporary perspectives on officer wellness as recent research on police fitness, mental health, and overall wellness has revealed significant challenges for an occupation that regularly experiences high levels of stress, fatigue, intentional assaults, and suicide (Ortmeirer and Meese, 2010; Tanigoshi et al., 2008). Our hope is that the results from the survey will allow agencies to benchmark their own wellness policies and programs against others in the state and to consider ways, where feasible, to invest in improving the fitness, wellness, and resiliency of their officers.

There are approximately 1150 law enforcement agencies in the State of Texas that range in size from a single officer to more than 5,000 sworn. We developed a survey

designed to tap into a number of agency-level policy and programmatic dimensions related to officer fitness, wellness, and mental health. After receiving approval from the UTSA Institutional Review Board, we distributed the survey via email using a Qualtrics link to all Texas law enforcement agency heads. The email and accompanying survey instructions requested the agency head (e.g. chief, sheriff, director) to complete the survey or forward it to an appropriate person in the agency who could knowledgeably provide the information we sought. After the initial survey distribution, we sent two reminder emails approximately two weeks apart and closed the survey to new responses at the end of October 2019. We received 238 valid responses for an overall response rate of 21 percent.

As noted above, agency size varied from 1 to 5,258 sworn officers. The mean number of sworn officers across responding agencies was 101 and the median was 20. Across all survey questions, there was only a moderate amount of missing data. Missing data percentages ranged from 0 for many questions to 32.3% for a single question. More commonly, the percentage of data missing from questions ranged from 10-16%. While we do not claim these data represent all Texas law enforcement agencies, they do provide a fairly robust snapshot of agency policies, procedures, and programs related to officer fitness and wellness. To our knowledge, they are the only data of this type available for the State of Texas.

Analysis

Table 1: Variable Frequencies and Missing Data

	<i>N</i>	<i>Percent Missing</i>	<i>Valid N*</i>	<i>Percent**</i>
Agency Type	238	0%	238	--
Municipal/town	--	--	172	72.3%
State LE agency	--	--	9	3.8%
Other	--	--	57	23.9%
Fitness Trainer Available	238	0%	238	--
Yes	--	--	23	9.7%
No	--	--	215	90.3%
Out-of-pocket expense	23	0%	23	--
Yes	--	--	1	4.3%
No	--	--	22	95.7%
Pre-Emp. Fitness Test	238	1.7%	234	--
Yes	--	--	113	48.3%
No	--	--	121	51.7%
Elements	113	0%	113	--
Push-ups	--	--	46	19.6%

Sit-ups	--	--	45	19.2%
Pull-ups/flexed arm hang	--	--	2	.8%
Timed run	--	--	62	26.5%
Dummy carry/drag	--	--	34	14.5%
Scale wall	--	--	27	11.5%
Vertical jump	--	--	13	5.5%
Obstacle course	--	--	30	12.8%
Hand/grip strength	--	--	10	4.3%
Flexibility	--	--	14	6.0%
Height/weight	--	--	17	7.3%
Body fat/BMI	--	--	9	3.8%
Other	--	--	48	20.5%
Pre-Emp. Fit Standards Vary By	234	1.7%	234	--
Gender	--	--	46	19.7%
Age	--	--	44	18.8%
Disability	--	--	4	17.1%
Other	--	--	15	6.4%
No variance	--	--	61	26.1%
Length Basic Academy (weeks)	238	11.3%	211	--
6-10	--	--	16	7.6%
11-16	--	--	32	15.2%
17-23	--	--	69	32.7%
24-30	--	--	67	31.8%
>30	--	--	27	12.8%
Acad. Fit Training Mandatory	238	9.7%	215	
Yes	--	--	175	81.4%
No	--	--	40	18.6%
Hours per week	238	30.3%	166	--
1-3	--	--	55	33.1%
4-6	--	--	85	51.2%
7-10	--	--	19	11.4%
>10	--	--	7	4.2%

	<i>N</i>	<i>Percent Missing</i>	<i>Valid N*</i>	<i>Percent**</i>
Fit Test for Acad. Graduation	238	14.7%	203	
None	--	--	76	37.4%
Push-ups	--	--	91	44.8%
Sit-ups	--	--	91	44.8%
Pull-ups	--	--	28	13.8%
Timed run	--	--	92	45.3%
Dummy carry/drag	--	--	30	14.8%
Scale wall	--	--	25	12.3%

Vertical jump	--	--	20	9.9%
Obstacle course	--	--	35	17.2%
Hand/grip strength	--	--	9	4.4%
Flexibility	--	--	20	9.9%
Height/weight	--	--	32	15.8%
Body fat/BMI	--	--	24	11.8%
Other	--	--	28	13.8%
Acad. Fit Standards Vary By	203	0%	203	
Gender	--	--	45	22%
Age	--	--	40	19.7%
Disability	--	--	9	4.4%
Other	--	--	11	5.4%
No variance	--	--	51	25.1%
Fit Test for In-Service Officers	238	11.8%	212	
Yes	--	--	68	32.4%
No	--	--	142	67.6%
In-Service Fit Test	68	0%	68	--
Mandatory	--	--	46	67.7%
Voluntary	--	--	22	32.3%
Mandatory Fit Standards Vary By	68	32.3%	46	
Assignment	--	--	2	4.3%
Rank	--	--	3	6.5%
Officer disability	--	--	14	30.4%
No variance	--	--	27	58.7%
Reasons for No In-Service Fitness	142	0%	142	
Test				
Not a priority of agency head	--	--	23	16.2%
Lawsuit/litigation concerns	--	--	36	25.4%
Labor/union concerns	--	--	23	16.2%
Cost	--	--	56	39.4%
Other	--	--	52	36.7%
Frequency of In-Service Fit Tests	69	0%	69	
Twice per year	--	--	25	36.2%
Annually	--	--	34	49.3%
Other	--	--	10	14.5%
In-Service Fit Test Elements	68	0%	68	
Push-ups	--	--	29	42.7%
Sit-ups	--	--	26	38.2%
Pull-ups	--	--	5	7.1%
Timed run	--	--	32	47.1%
Dummy carry/drag	--	--	8	11.8%

Scale wall	--	--	5	7.4%
Vertical jump	--	--	6	8.8%
Obstacle course	--	--	7	10.3%
Hand/grip strength	--	--	2	2.9%
Flexibility	--	--	8	11.8%
Height/weight	--	--	10	14.7%
Body fat/BMI	--	--	6	8.8%
Other	--	--	46	67.7%
In-Service Fit Standards Vary By	68	0%	68	
Gender	--	--	40	58.8%
Age	--	--	35	51.5%
Disability	--	--	2	2.9%
Other	--	--	15	22%
No variance			25	36.8%
Outside Consult. Used for Dev. of Fit Policies/Standards	68	0%	68	
Yes	--	--	43	63.2%
No	--	--	25	36.8%
Incentives for Passage of Fit Test	68	0%	68	
Vacation/comp time	--	--	31	45.6%
Salary incentive	--	--	9	13.2%
Gym membership/reimburse	--	--	6	8.8%
Time on-duty to exercise	--	--	22	32.4%
Other	--	--	6	8.8%
Penalties for Fit Test Failure	68	0%	68	
Nutrition counseling	--	--	11	16.2%
Exercise program	--	--	14	20.6%
Transfers/promotions prohibited	--	--	16	23.5%
Suspension/demotion	--	--	4	5.9%
Termination	--	--	9	13.2%
Other	--	--	16	23.5%

Table 1 summarizes the variables captured, missing data, and response percentages for each question. Results are nearly split as to whether departments utilized a pre-employment fitness test as a condition of hire as 48% of departments reported using pre-employment fitness tests while 52% did not. Overwhelmingly, though, police departments in Texas (81%) mandate physical fitness training in the academy, while 19% had no such requirement.

The most often- used fitness test was a timed run (26.5%), followed closely by some “Other” type of fitness measure not named on the survey. The majority of these “Other” events were timed rowing machine tests (20.5%). Pushups (19.6%) and sit-ups (19.2%)

were the next most frequently utilized pre-employment fitness measures. It is interesting to note that the most frequently used fitness events are also the most conventional measures of fitness that have been historically used to assess physical conditioning. The next most populous grouping of tests were more contemporary measures of fitness including the dummy carry/drag (14.5%), an obstacle course (12.8%) and a wall scale (11.5%) test. The least often used measures reported were height/weight of an applicant (7.3%), flexibility (6%), vertical jump (4.3%), body mass index (BMI)/body fat calculation (3.8%), and pull-ups (0.8%).

Variation in fitness standards as a function of gender, age, disability or some other reason were also examined in terms of how they impacted pre-employment fitness standards and academy fitness standards. The results are essentially similar, with one exception: Pre-employment fitness standards varied by gender in 19.7% of agencies surveyed; similarly, 22% of agencies reported that their academy fitness standards varied by gender. Approximately, 19% of agencies reported variation in their pre-employment fitness standards or academy fitness standards by age. Pre-employment fitness standards varied for some "Other" reason among 6.4% of reporting agencies (most often by candidate weight), while academy fitness standards varied by a similar percentage (5.4%). Pre-employment fitness standards exhibited no variance 26.1% of the time; similarly, there was no academy fitness standards variation for 25.1% of reporting departments. Disability showed the greatest difference in variance, with pre-employment standards varying by 17.1% as opposed to academy fitness standards varying by 4.4%.

In terms of whether reporting agencies have an in-service fitness test available to officers and whether or not that test is mandatory, sixty-eight percent of the departments did not have a fitness test a certified officer could take while 32% of departments did have some type of test. For those departments with an in-service test officers were mandated to take that test in 68% of the cases, while 32% of the departments did not require participation.

The prevalence of fitness events for those departments that have an in-service fitness test available was also measured, with the most common in-service fitness test event being some "Other" physical assessment, most often a timed rowing test (68%). For those events listed on the survey, the most popular tests were a timed run (47.1%), pushups (42.7%) and sit-ups (38.2%). Those events were distantly followed by a height/weight assessment (14.7%), a flexibility test (11.8%), dummy drag (11.8%) and an obstacle course (10.3%). The last grouping of events which were least common included a body fat or BMI assessment (8.8%), vertical jump (8.8%), wall scale (7.4%), pull-ups (7.1%) and a grip strength test (2.9%).

Results of whether incentives used by departments to motivate officers to pass an in-service fitness test showed almost half (45.5%) of responding departments offered vacation or compensatory time as a reward. This was followed by on-duty exercise time (32.4%), a salary incentive (13.2%), a free gym membership (8.8%) or some “Other” incentive not enumerated on the survey (8.8%). The adjacent figure depicts the consequences for in-service fitness test failure among agencies where fitness tests are mandatory. The two most common penalties included a hold on promotions or transfers (23.5%) and some “Other” consequence, most often a restriction on off-duty employment. This was followed by mandating an exercise program for underperforming officers (20.6%), nutritional counseling (16.2%), job termination (13.2%), and either suspension or demotion in rank (5.9%). Last, the majority of agencies did not employ an outside fitness consultant (63%) while 37% of agencies utilized one.

Table 2: Mandatory Physical Fitness by Academy length

	<i>Mandatory Physical Fitness</i>		
	<i>Yes</i>	<i>No</i>	<i>Total</i>
Length of Academy			
6-10 weeks	5 (2.9%)	11 (29.7%)	16 (7.7%)
11-16 weeks	24 (14%)	7 (18.9%)	31 (14.8%)
17-23 weeks	60 (34.9%)	9 (24.3%)	69 (33%)
24-30 weeks	57 (33.1%)	9 (24.3%)	66 (31.6%)
Greater than 30 weeks	26 (15.1%)	1 (2.7%)	27 (12.9%)
Total	172 (100%)	37 (100%)	209 (100%)

Table 2 presents a bivariate analysis of the impact of mandatory academy fitness regimes on academy length. While the over 80% of the departments surveyed had a mandatory academy fitness programs, it is significant to note that agencies with that did not have mandatory physical fitness were more likely to be shorter in length while mandatory academy fitness clearly tended toward a longer academy length. This finding suggests that shorter academies may not provide enough time for fitness training.

Table 3 provides further analysis of this dynamic by crosstabulating academy length by the number of hours spent on physical fitness in the academy. The vast majority (more than 80%) of all agencies report that time spent on physical fitness tends to be

Table 3: Length of Academy by Hours Spent on Physical Fitness at the Academy

	<i>Length of the Academy</i>					<i>Total</i>
	<i>6-10 weeks</i>	<i>11-16 weeks</i>	<i>17-23 weeks</i>	<i>24-30 weeks</i>	<i>Greater than 30 weeks</i>	
Hours spent on Physical Fitness at the Academy						
1-3 hour	3 (60%)	9 (37.5%)	14 (23.7%)	20 (36.4%)	8 (36.4%)	54 (32.7%)
4-6 hours	2 (40%)	11 (45.8%)	38 (64.4%)	28 (50.9%)	6 (27.3%)	85 (51.5%)
7-10 hours	0 (0%)	2 (8.3%)	5 (8.5%)	6 (10.9%)	6 (27.3%)	19 (11.5%)
More than 10 hours	0 (0%)	2 (8.5%)	2 (3.4%)	1 (1.8%)	2 (9.1%)	7 (4.2%)
Total	5 (100%)	24 (100%)	59 (100%)	55 (100%)	22 (100%)	165 (100%)

relatively short in duration, with 32.7% of all academies spending one to three hours on physical training and 51.5% spending four to six hours. Significantly, though, academies that lasted more the ten weeks all showed an increase in the number of hours devoted to physical fitness training.

Table 4: Voluntary or mandatory in-service fitness assessment by successful passage of fitness test for academy graduation

	<i>Voluntary of mandatory in-service fitness assessment</i>		
	<i>Yes</i>	<i>No</i>	<i>Total</i>
Successful passage of fitness test for academy graduation			
Yes	40 (62.5%)	77 (60.2%)	117 (60.9%)
No	24 (37.5%)	51 (39.8%)	75 (39.1%)
Total	64 (100%)	128 (100%)	192 (100%)

Table 4 tests the relationship between voluntary or mandatory in-service fitness assessments by the successful passage of fitness tests for academy graduation. Here, the results showed no significant differences as case percentages were nearly identical, indicating that agencies that utilize academies with mandatory fitness tests for graduation are not more likely to have mandatory in-service fitness requirements. Yet it is significant to note that approximately 67% of reporting agencies had neither

voluntary nor mandatory in-service fitness testing, of course begging question as to why that is the case.

Table 5: Type of agency by reason that has prevented the agency from adopting fitness standards for in-service officers

	<i>Type of agency</i>			
	<i>Municipal/ town Police Department</i>	<i>State law enforcement agency</i>	<i>Other</i>	<i>Total</i>
Reason that has prevented the agency from adopting fitness standards for in-service officers				
Not a priority for Chief/Sheriff/Agency Head	14 (11%)	0 (0%)	9 (16%)	23 (12%)
Concerns about law suits/litigation	23 (18%)	2 (20%)	11 (20%)	36 (19%)
Concerns about labor union or officers' objections	16 (13%)	2 (20%)	5 (10%)	23 (12%)
Concerns about costs involved	42 (34%)	3 (30%)	11 (20%)	56 (30%)
Some other concern	30 (24%)	3 (30%)	19 (35%)	52 (27%)
Total	125 (100%)	10 (100%)	55 (100%)	190 (100%)

Table 5 pursues that question by examining the breakdown of type of agency by the reason that has prevented the agency from adopting fitness standards for in-service officers. Of the 190 municipal, state or other type of law enforcement agency that provided an answer, 12% claimed that in-service physical testing was not a priority for the Chief or department head, 19% reported concerns about law suits or litigation that could result, 12% expressed concerns about objections from either labor unions or veteran officers, 30% cited cost as prohibitive and 27% cited some other concern not enumerated on the survey.

Table 6: Voluntary or mandatory in-service fitness assessment by employment of a nutritionist

<i>Voluntary or mandatory in-service fitness assessment by employment of a nutritionist</i>			
	<i>Yes</i>	<i>No</i>	<i>Total</i>
Does the agency employ a nutritionist?			
Yes	5 (7.5%)	9 (6.4%)	14 (6.8%)
No	62 (92.5%)	131 (93.6%)	193 (93.2%)
Total	67 (100%)	140 (100%)	207 (100%)

Table 6 examines the impact of voluntary or mandatory in-service fitness assessments on the employment of a nutritionist. Here, the results were almost identical as about 93% of all agencies do not have a paid nutritionist on staff, regardless of whether not an in-service physical testing requirement was in place.

Table 7: Voluntary or mandatory in-service fitness assessment by free nutrition counseling

<i>Voluntary or mandatory in-service fitness assessment</i>			
	<i>Yes</i>	<i>No</i>	<i>Total</i>
Free nutrition counseling			
Yes	39 (75%)	96 (82.1%)	135 (79.9%)
No	13 (25%)	21 (17.9%)	34 (20.1%)
Total	52 (100%)	117 (100%)	169 (100%)

Table 7 explores whether voluntary or mandatory in-service fitness testing has an effect out-of-pocket costs to any officer for nutritional counseling. Interestingly, while over 90% of reporting agencies did not employ a nutritionist (see Table 6) nearly 80% of all departments claimed that free nutritional guidance was available to their officers regardless of whether or not an in-service fitness test was required.

Discussion

This limited study highlights several items for consideration and future research. First, it is curious that given the stated emphasis on physical fitness in law enforcement, over half of the agencies surveyed did not have a pre-employment fitness test. Future research should explore whether there are differences in cadet performance in academies, especially academy failures or remedial fitness training, between agencies that require a pre-employment fitness test and those that do not.

The most common events reported on pre-employment fitness tests and on in-service fitness test were historically the most conventional measures of fitness (timed run, pushups and sit-ups) that have always been used. In this era of “functional fitness,” some of the less commonly reported events (obstacle course, wall scale, dummy carry, etc.) may be better measures of what officers are actually expected to do on the job. Especially for agencies that continue to utilize traditional fitness measures, the linkage between job tasks and the fitness measures designed to represent those tasks should be empirically-based rather than historical or anecdotal. While the survey did not directly ask about timed rowing tests, 20 percent of responding agencies indicated they used

these types of tests at the pre-employment stage, and two thirds reported using them as part of an in-service fitness requirement. While a rowing test certainly can measure overall cardio fitness (Metcalf, Castle, & Brewer, 2013) one wonders whether cardio output events or activities more closely related to actual on-the-job tasks might be better suited for law enforcement officers, most of whom do not regularly row boats on the job.

We note that nearly 20 percent of agencies report utilizing academies that do not have mandatory physical fitness requirements. That is a potentially troubling finding when nearly 50% of the policing population is out of shape (Collingswood et al., 2004; Quigley, 2008).

Without exposure to fitness training while in the primary training phase for the job, and without being held to a reasonable, job-related standard of fitness before graduating from that training, how will new officers learn the importance of physical fitness to the job of a law enforcement officer? By its nature, law enforcement requires at least some degree of physical fitness proficiency. By not exposing officers to a practical and efficient fitness regime, candidates can be left unprepared for the physical rigors of the job. Moreover, a lack of physical fitness has been associated with more frequent injuries, increased use of sick time, disability, and chronic health problems, all of which incur significant (and perhaps avoidable) costs to a department (Nabeel et al., 2007; Quigley, 2008). For some officers, fitness may one day mean the difference between work and worker's compensation or even between life and death.

Moreover, departments that do not have mandatory fitness standards in place should examine their reasons for that decision and consider the costs and benefits of an in-service fitness requirement. Again, the benefits of physical fitness are well documented in terms of reducing health problems, increasing career longevity, and improving professional effectiveness. Departments should do all they can to promote and encourage fitness in their ranks, and holding officers to a fitness standard could certainly aid in accomplishing that goal.

While the majority of departments with in-service fitness policies and standards utilized an outside fitness consultant (63.2%) to assist them, any department could implement a basic fitness program at relatively low cost by taking advantage of officers who have knowledge of modern fitness approaches and who would be willing (perhaps with a minor incentive) to assist the agency with developing a fitness program. Even a voluntary program is better than no program at all. The same is true of nutritional information, proper eating, and/or weight loss. The use of incentives (rather than punishments) to motivate officers to achieve a certain fitness level or desirable weight is the first step in building an ethos of fitness within an agency.

Conclusion

Physical fitness is an integral part of the early stages of a police officer's career. Almost all departments in the United States use physical fitness testing as a criteria for advancing through the application process to be selected as a recruit and as a mandatory part of academy training (Bissett et al., 2012; Kriegsman, 2012; Reaves, 2009; Shell, 2005). Physical fitness tests are largely driven by the *Thomas v. City of Evanston (1985)* decision, which essentially holds that the content of physical fitness tests must not be discriminatory in that they contain valid measures of what a police officer is expected to do in the line of duty. In the wake of that decision, departments now administer tests which meet that standard and mirror the actual physical feats that are typically expected of an officer during the course of their career (Anderson, et al., 2001; Bakker et al., 2010). An applicant must be in good shape to move forward in the competitive selection process and the police academy tends to elevate their fitness levels. Newly minted officers enter the profession (post-academy) in excellent shape but this state of fitness is generally short-lived as variety of factors come together to undo this desirable condition (Shell, 2002). Indeed, Boyce and Hiatt (1992) found that during the pre-academy to post-academy interval, police trainees experienced significant gains in their physical fitness but within one year of academy graduation, there was noticeable loss of cardiovascular ability and an increase in blood pressure. While the specific reasons officers fall out of shape is not thoroughly explored, Kriegsman (2012) suggests one obvious cause is that physical fitness testing is not mandatory in most departments as legal issues arise when a department attempts to mandate physical fitness standards. Coupled with that, many departments fail to provide meaningful incentives for officers to take voluntary physical fitness tests and pass at an acceptable level. Additionally, numerous departments do not provide workout equipment that is easily accessible nor do they provide on duty time for an officer to exercise (Mroz, 2008). Officers' attitudes about physical fitness vary; Leal (2006) reports officers generally agree that being physically fit is beneficial on the street, particularly as it relates to their ability to handle a use of force incident. Yet, while most officers tend to rate physical fitness as an important part of their job, they do not agree with mandatory testing. This resistance is at least partially driven by the fact that officers feel that the items which comprise a typical physical fitness test are not applicable to the physical feats they actually have to perform during the course of their duties. This disconnect between the test and what they think is important in real life could account for the fact that approximately twenty five percent of surveyed officers reported they could not pass a standard physical fitness test (Bissett et al., 2012).

Taken together, these findings are troubling and underscore the fact that new inroads must be made in the design and implementation of wellness programs in general and fitness and nutritional programs in particular. First and foremost, wellness must be prioritized and stressed during the course of an officer's entire career and not just at the initial stages (McDonough, 2011). An essential part of producing wellness is providing officers with the tools and support they need to achieve a healthy weight and state of fitness. When police officers have access to professional nutritional advice and fitness guidance and equipment, positive outcomes follow, to include an improvement in cardiovascular capability, increased strength, lowered blood pressure, decreased weight and body mass, lowered body fat, lowered cholesterol and fewer injuries (Briley et al., 1992; CALEA, 2010; Guffey et al., 2015). These benefits extend beyond the health and increased abilities of the individual officer to the organization. When departments emphasize physical fitness it ends of costing them less in terms of overtime to counter absenteeism and payouts for workman's compensation claims (Berry et al., 2010, CALEA, 2010).

Implementation of fitness programs that produce tangible results is, of course, the paramount consideration. What is clear at this point is that departments can no longer rely on officers being self-motivated to achieve physical fitness as that approach has objectively failed (Krainik, 2003). Ideally, police organizations at the state and local level could mandate physical fitness standards as a condition of retention (IACP, 2009). But with that approach comes the almost certain possibility of legal challenges which a departments may not have the time, money or will to fight. Perhaps the most promising avenue is to provide meaningful incentives to officers to take and pass a physical fitness test on a regular basis. This idea has been met with some success. For example, when the Chicago Police Department started offering a cash bonus of \$250 to take and pass a physical fitness test, participation soared (Krainik, 2003). Alternatively, when the St. Paul, MN Police Department started using the results of a non-mandatory physical fitness test as a factor in achieving promotion and selection for competitive assignments such as SWAT, there was also increased participation (Panos, 2010). Access and time to work out is another critical consideration. Departments should seriously consider building time into an officer's duty schedule to exercise. What this might cost in terms of lost time on patrol is more than countered by the enormous monetary gains that come with less down time due to sickness and injuries associated with less than optimal fitness. If a department can provide fitness equipment on site, it should, as this would facilitate working out and remove any excuse an officer might have for not making it to the gym. If a department cannot afford its own equipment, it should partner with a

local fitness facility and provide its officers with free or reduced memberships. In order to counter the perception that traditional workout routines are not applicable to what a street cop does, departments can shift their focus to more functional fitness routines, such as CrossFit (Kuhn et al., 2015). But what is most important is that the organization develops a *culture of fitness*. This means that the ethos of being a physically fit police officer permeates the entire department and is viewed not only as a critical element of mission success but also part and parcel of what it means to be a police officer in a given department. Developing a culture of fitness starts with the organizational leadership, where the Chief and all subordinate commanders and supervisors model fitness standards in terms of dedication to exercise, proper nutrition and weight management (Malmin, 2012). For too long, American law enforcement has ignored or downplayed the role of fitness in its ability to effectively police their communities. What we know about fitness in the realm of policing is clear: Fit cops are better cops. And while the extant research has produced tangible findings, much more remains to be learned about the role of nutrition and fitness in law enforcement (Guffey et al., 2015; Tanigoshi et al., 2008).

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