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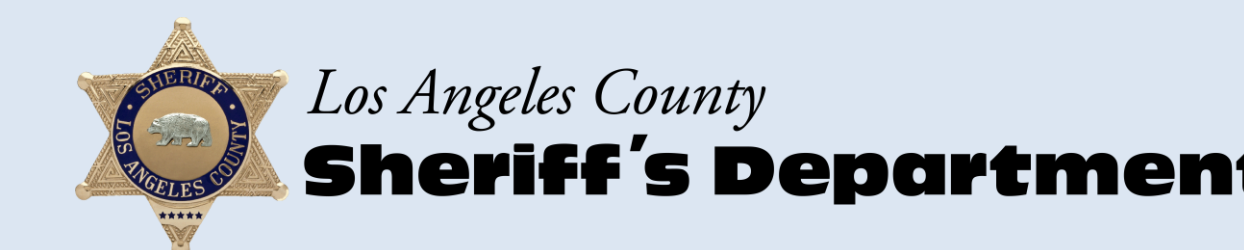
Difference in Physical Characteristics and Fitness of Recruits from Smaller Versus Larger Law Enforcement Agencies

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ABSTRACT

Larger law enforcement agencies (LEAs) will often hold academy training classes that include recruits hired by the large agency (LA), and recruits hired by smaller agencies (referred to as participating agencies; PA). Ideally, recruits should have adequate levels of physical fitness prior to academy as higher levels of fitness increase their likelihood of completing academy training. However, LA that need to fill more positions may have recruits with a wider range of fitness levels. The purpose of this study was to compare the physical characteristics and fitness of incoming law enforcement recruits from a LA and PA prior to academy. Retrospective analysis was conducted on eight academy classes, with a total of 581 recruits (481 males, 100 females). Physical characteristics measured were: age (LA = 27.47 ± 6.55 years; PA = 27.13 ± 4.79 years), height (LA = 172.54 ± 11.13 cm; PA = 175.77 ± 8.22 cm), and body mass (LA = 80.45 ± 13.51 kg; PA = 81.34 ± 20.57 kg). The fitness tests included: push-ups and sit-ups completed in 60 s; vertical jump (VJ); medicine ball throw with a 2-kg ball (MBT); 75-yard pursuit run (75PR), and multi-stage fitness test shuttles (MSFT). A univariate analysis of variance ($p < 0.05$), with sex as the covariate, was conducted to determine the difference between LA (n = 510) and PA (n = 70) recruits. There was a significant difference in push-ups and sit-ups between LA and PA, with recruits from the PA performing significantly more repetitions in the push-up (47 ± 13 vs. 42 ± 15) and sit-up (41 ± 9 vs. 35 ± 9) tests. There were no significant differences between LA and PA recruits in the other tests. The differences in the strength endurance tests may be indicative of the larger variation within a greater hiring pool to fill vacant positions for the LA in this study, leading to a greater range of fitness levels in their recruits. PA could also be more selective in their hiring if there are more applicants than positions, although this cannot be confirmed from this study. Nonetheless, due to select fitness differences between LA and PA recruits, LEA staff should recognize that differences that may exist in recruits from different agencies prior to training. Future analysis is needed to determine where any fitness differences that may exist between agencies prior to academy is influenced by training advice provided by the agency, or more selective hiring practices.

INTRODUCTION

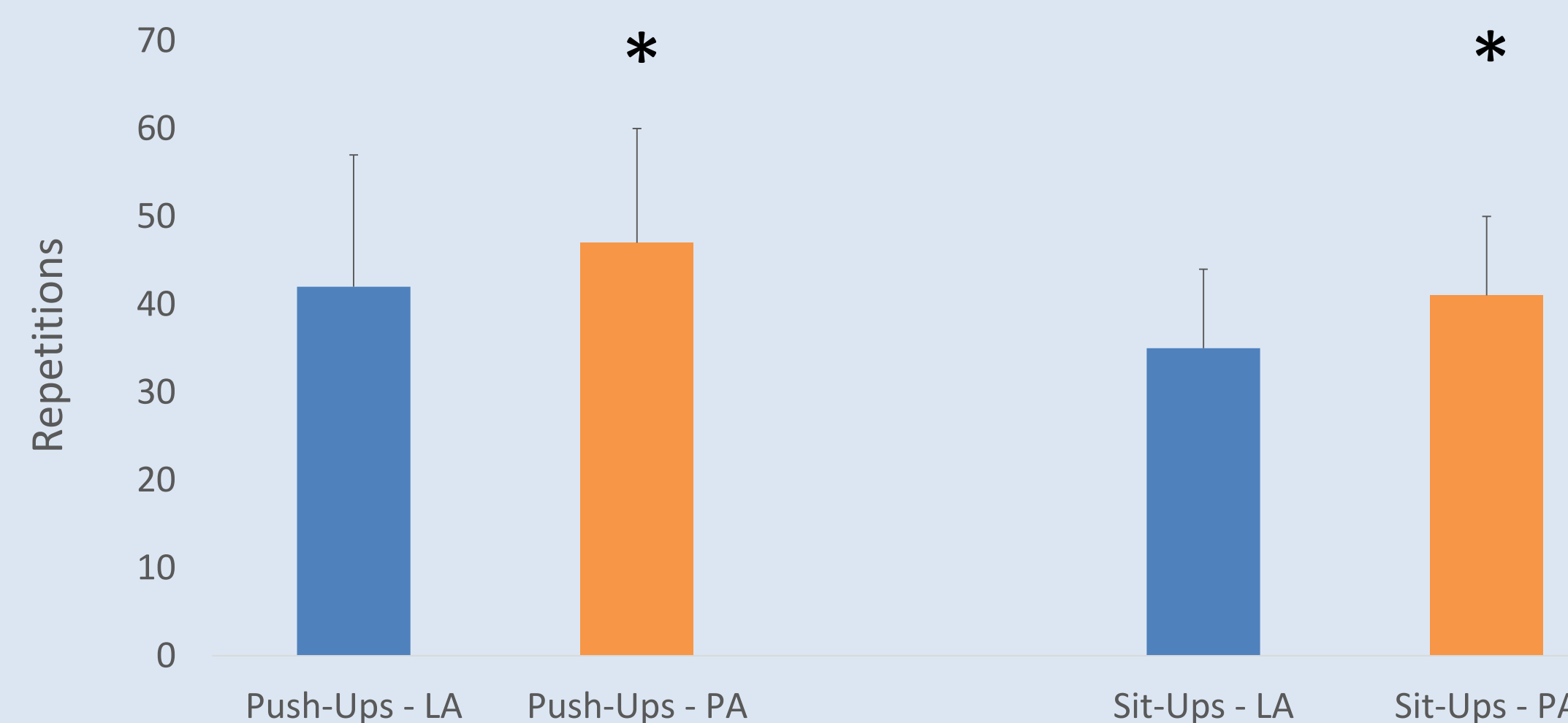
- Larger law enforcement agencies (LEAs) will often hold academy training classes that include recruits hired by the large agency (LA), and recruits hired by smaller agencies (referred to as participating agencies; PA).
- Ideally, recruits should have adequate levels of physical fitness prior to academy as higher levels of fitness increase their likelihood of completing academy training. Dawes et. al.² has suggested the best predictors of physical ability test performance are the 20-m multi-stage fitness test (MSFT), 60-s push-up and sit-up scores, and vertical-jump (VJ) height. The need for LA to fill more positions for their academy training class may lead to having recruits with a wider range of fitness level, when compared to those recruits from PA. Thus, they may be less selective in the recruits they accept compared to PA.
- Lockie et al.³ has previously shown that there were no significant differences in physical fitness performance across different cohorts of successful candidates who attended LEA training. Since the level of physical fitness for new candidates attending LEA training was similar across cohorts attending,³ the question still lies that within incoming cohorts, do recruits from LA or PA come in at significantly different physical fitness levels before successfully completing LEA training.
- The purpose of this study was to compare the physical characteristics and fitness of incoming law enforcement recruits from a LA and PA prior to academy.

METHODS

- Retrospective analysis was conducted on eight different academy classes, with a total of 581 recruits (481 males, 100 females). The physical characteristics measured were: age (LA = 27.47 ± 6.55 years; PA = 27.13 ± 4.79 years), height (LA = 172.54 ± 11.13 cm; PA = 175.77 ± 8.22 cm), and body mass (LA = 80.45 ± 13.51 kg; PA = 81.34 ± 20.57 kg).
- Fitness testing occurred in the week preceding academy. The fitness tests included: push-ups and sit-ups completed in 60 s; VJ; medicine ball throw with a 2-kg ball (MBT); 75-yard pursuit run (75PR), and MSFT shuttles.
- A univariate analysis of variance ($p < 0.05$), with sex as the covariate, was conducted to determine the difference between LA (n = 510) and PA (n = 70) recruits.

RESULTS

- Figure 1 displays the data for the number of push-up and sit-up repetitions completed by the LA and PA recruits. There was a significant difference in push-ups between LA and PA, with recruits from the PA performing significantly more repetitions in the push-up tests.
- There was also a significant difference in sit-ups between LA and PA, with recruits from the PA also performing more repetitions for sit-ups completed in sit-up tests.
- There were no significant differences between LA and PA recruits in the other fitness tests conducted, and these data are shown in Table 2.



* Significantly ($p < 0.05$) different from the LA.

Figure 1. Descriptive data (mean ± SD) in Push-Ups and Sit-Ups for LA vs PA.

Table 1. Descriptive data (mean ± SD) for VJ, MBT, 75PR, and MSFT for LA vs PA.

	VJ (cm)		MBT (m)		75PR (s)		MSFT (shuttles)	
	LA	PA	LA	PA	LA	PA	LA	PA
Mean	59.97	63.86	9.45	5.99	17.29	16.85	52.48	52.43
S.D.	18.14	18.97	47.06	1.22	3.31	1.79	18.18	15.81

CONCLUSIONS

- The differences in the strength endurance tests may be indicative of the larger variation within a greater hiring pool to fill vacant positions for the LA in this study, leading to a greater range of fitness levels in their recruits.
- The Cooper Institute suggests the number of push-ups and sit-ups performed in 60 s is predictive of performing job tasks in most cases. Muscular endurance in the upper body and core are well measured in these two fitness tests.¹ It is possible that PA recruits could perform job tasks relating to muscular endurance at a higher level than recruits from LA.
- This analysis reveals the possibility PA could be more selective in their hiring process if there are more applicants than positions, although this cannot be confirmed from this study.
- Nonetheless, due to select fitness differences between LA and PA recruits, LEA staff should recognize that differences that may exist in recruits from different agencies prior to training.
- Future analysis is needed to determine where any fitness differences that may exist between agencies prior to academy is influenced by training advice provided by the agency, or more selective hiring practices.



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