Are There Differences in the Physical Fitness Characteristics of Recruits from Smaller and Larger Law Enforcement Agencies at the Start of Academy?

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ABSTRACT

INTRODUCTION: Law enforcements agencies (LEAs) around the world typically have their recruits complete academy training in order to prepare them for law enforcement duties. LEA academy training classes can include recruits hired by the hosting large agency (HA), as well as recruits hired by smaller agencies (referred to as participating agencies; PA). Ideally, recruits should have adequate levels of physical fitness before starting academy, since higher levels of fitness increases their likelihood of academy training completion. However, HA that need to fill more positions may have recruits with a wider range of fitness levels. Smaller PA may be more selective in their hiring as they do not have as many available positions. **PURPOSE:** The purpose of this study was to compare the physical characteristics and fitness of incoming law enforcement recruits from a HA and PA prior to academy. **METHODS:** Retrospective analyses were conducted on 11 academy classes, with a total of 841 recruits (684 males, 157 females). This included a total of 742 recruits from the HA (602 males, 140 females) and 99 recruits from PA (82 males, 17 females). Recruit characteristics were recorded, including age, height, and body mass. A series of physical fitness tests were administered in the week preceding academy training. The fitness tests included: push-ups and sit-ups completed in 60 s; vertical jump; medicine ball throw with a 2-kg ball (2MBT); 75-yard pursuit run (75PR), and the multi-stage fitness test (MSFT). A univariate analysis of variance ($p < 0.05$), with sex as the covariate, was conducted to determine the difference between recruits. **RESULTS:** There was a significant difference in push-ups ($p = 0.034$) and sit-ups ($p < 0.001$) between HA and PA, with recruits from the PA performing significantly more repetitions in the push-up (42.18 ± 15.33 vs. 45.40 ± 13.22 repetitions) and sit-up (35.70 ± 9.80 vs. 39.82 ± 8.04 repetitions) tests. There were no significant differences between HA and PA recruits in age, height, body mass, or any of the other fitness tests. **CONCLUSIONS:** The differences in the muscular endurance tests may provide some indication of the larger variation within the hiring pool to fill vacant positions for the HA in this study, which leads 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 HA and PA recruits, LEA staff should recognize that differences that may exist in recruits from different agencies prior to training. **PRACTICAL APPLICATIONS:** This analysis revealed the possibility of PA being more selective in their hiring process, as their recruits demonstrated superior muscular endurance. Due to select fitness differences between the HA and PA recruits, LEA staff should recognize that differences may exist in recruits from different agencies prior to training. Proper programming considerations should be taken for those considering applying and joining a smaller PA versus a HA. 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

- Law enforcements agencies (LEAs) around the world typically have their recruits complete academy training in order to prepare them for law enforcement duties. From 2011 to 2013, a total of 664 state and local law enforcement academies provided basic training to entry-level office recruits in the U.S.[4]

- Larger law enforcement agencies (LEAs) will hold academy training classes which include recruits hired from both the large, hosting agency (HA) as well as recruits hired by smaller agencies (referred to as participating agencies; PA). This is because PAs may not have the funds or resources to run their own academies.

- The need for the HA to fill more positions for their academy training class, likely due to higher staffing that needs to adequately service the size of their respective jurisdiction area, may lead to accepting recruits with wider ranges of fitness levels compared to those recruits from PA. Thus, HA may be less selective in the recruits they accept compared to PA.

- Ideally, recruits should have adequate levels of physical fitness before starting academy, since higher levels of fitness increases their likelihood of academy training completion[1,5]. Research has previously shown there were limited differences in physical fitness performance across different cohorts of successful candidates who attended LEA training.[2,3] Since the level of physical fitness for new candidates attending LEA training was similar across cohorts attending, the question still lies if recruits from HA or PA come in at significantly different physical fitness levels before successfully completing LEA training within incoming cohorts.

- The purpose of this study was to compare the physical characteristics and fitness of incoming law enforcement recruits from a HA and PA prior to academy.

METHODS

- Retrospective analyses were conducted on 11 academy classes, with a total of 841 recruits (684 males, 157 females). This included a total of 742 recruits from the HA (602 males, 140 females) and 99 recruits from PA (82 males, 17 females).

- Recruit characteristics were recorded, including age, height, and body mass. A series of physical fitness tests were administered in the week preceding academy training.

- The fitness tests included: push-ups and sit-ups completed in 60 s; vertical jump; medicine ball throw with a 2-kg ball (2MBT); 75-yard pursuit run (75PR), and the multi-stage fitness test (MSFT).

- A univariate analysis of variance ($p < 0.05$), with sex as the covariate, was conducted to determine the difference between HA and PA recruits.

RESULTS

- There was a significant difference in push-ups and sit-ups between HA and PA, with recruits from the PA performing significantly more repetitions in the push-up and sit-up tests. Updated statistical analysis also indicated significant differences in height and body mass.

- There were no significant differences between HA and PA recruits in age, or any of the other fitness tests.

Table 1: Descriptive data (mean ± SD) for HA and PA recruits with respective p values.

	HA (n = 742)	PA (n = 99)	p value
Age (years)	27.31 ± 6.40	26.96 ± 4.80	0.861
Height (cm)	172.01 ± 10.63	174.23 ± 9.66*	<0.001
Body Mass (kg)	80.48 ± 14.00	79.47 ± 19.21*	<0.001
Push-Ups (no.)	42.18 ± 15.33	45.40 ± 13.22*	0.034
Sit-Ups (no.)	35.70 ± 9.80	39.82 ± 8.04*	<0.001
Vertical Jump Height (cm)	58.05 ± 17.07	60.26 ± 18.08	0.257
2MBT (cm)	5.93 ± 1.33	5.97 ± 1.25	0.987
75PR (s)	17.25 ± 2.81	16.86 ± 1.61	0.190
MSFT (shuttles)	51.09 ± 18.22	54.33 ± 17.77	0.492

* Significantly ($p < 0.05$) different from HA recruits.

CONCLUSION

- The differences in the muscular endurance tests may provide some indication of the larger variation within the hiring pool to fill vacant positions for the HA in this study, which led 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 by the results from this study.

- The significant difference in push-ups and sit-ups is notable. Recruits may score notably better in these due to these being very common physical fitness tests amongst LEA.

- The lack of significant difference in the number of MSFT shuttles performed between recruits from HA and PA, may suggest recruits applying to both larger and smaller agencies are aware of aerobic fitness being a staple component of testing in the hiring process for many agencies.

- The difference in body mass between HA and PA could potentially demonstrate better body composition in PA recruits, which in turn has also shown its importance by its effects on physical fitness tests such as the ones used in this study. However, further research on specific body composition (i.e. differences in lean body and fat mass between HA and PA recruits) is needed to validate this.

- The main limitation in this study was the fact that there were more recruits from LA compared to PA, although this was expected due to PA usually having less positions available in the academy.

- Nonetheless, due to select fitness differences between HA and PA recruits, LEA staff should recognize the variations that may exist in recruits from different agencies prior to training. Staff should ideally program physical training specific to the fitness and abilities of individual recruits.

PRACTICAL APPLICATIONS

- This analysis revealed the possibility of PA being more selective in their hiring process, as their recruits demonstrated superior muscular endurance as measured by push-ups and sit-ups.

- Due to select fitness differences between the HA and PA recruits, LEA staff should recognize that differences may exist in recruits from different agencies prior to training. Proper programming considerations should be taken all recruits due to the likely range on fitness capabilities of in academy classes.

- 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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