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Work sample test battery performance in law enforcement recruits

Lockie, Robert G.; Beitzel, M.; Orr, Rob Marc; Stierli, Michael; Dulla, Joe; Dawes, James

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Change in Work Sample Test Battery Performance in Law Enforcement Recruits during Academy: A Comparison of Two Classes

Dr. Robert Lockie, Maria Beitzel, Dr. Robin Orr, Sgt.
Michael Stierli, Lt. Joseph Dulla and Dr. Jay Dawes

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NSW Police Force



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Introduction

- Law enforcement recruits are required to complete academy training
 - Establish expected patterns of behavior, values, attitudes (Berg, 1990)
 - Teach necessary procedures required for job
 - Ensure physical development to tolerate rigors of job (Cocke et al., 2016; Crawley et al., 2016; Orr et al., 2016)
- Several month process → up to 6 months

Work Sample Test Battery (WSTB)

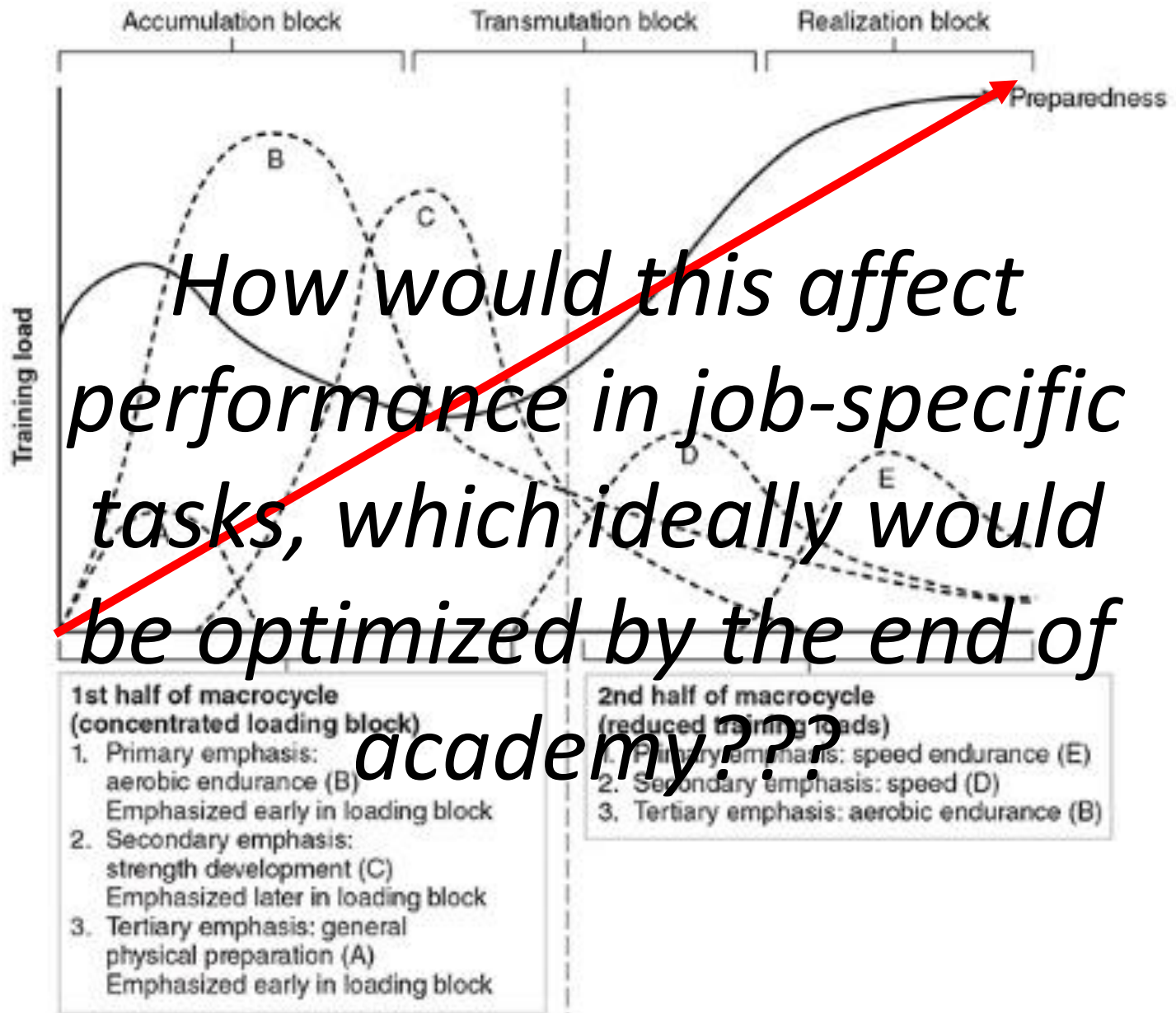
- State-mandated physical tests that are related to essential job tasks
- Can vary from state-to-state
- State of California Commission on Peace Officer Standards and Training
 - Agility run around a 99-yard obstacle course
 - Body drag with a 165-pound dummy
 - Climb over a six-foot chain link fence
 - Climb over a six-foot solid wall
 - 500-yard run



Influence of Physical Training

- Physical training could greatly affect performance in tests such as the WSTB
- ‘One-size-fits-all’ model very prevalent (Orr et al., 2016)
- Job tasks are generally the same for officers regardless of factors like sex and age → therefore, everyone should be able to do the same tasks
 - People are different!
 - Dawes et al. (2017), Lockie et al. (2018), Lockie et al. (in press)
- State requirements





How would this affect performance in job-specific tasks, which ideally would be optimized by the end of academy???

Purpose of the Study

- To determine changes in the WSTB performed by recruits from two classes from one law enforcement agency (LEA)
- To ascertain whether there were differences in WSTB performance between the two classes

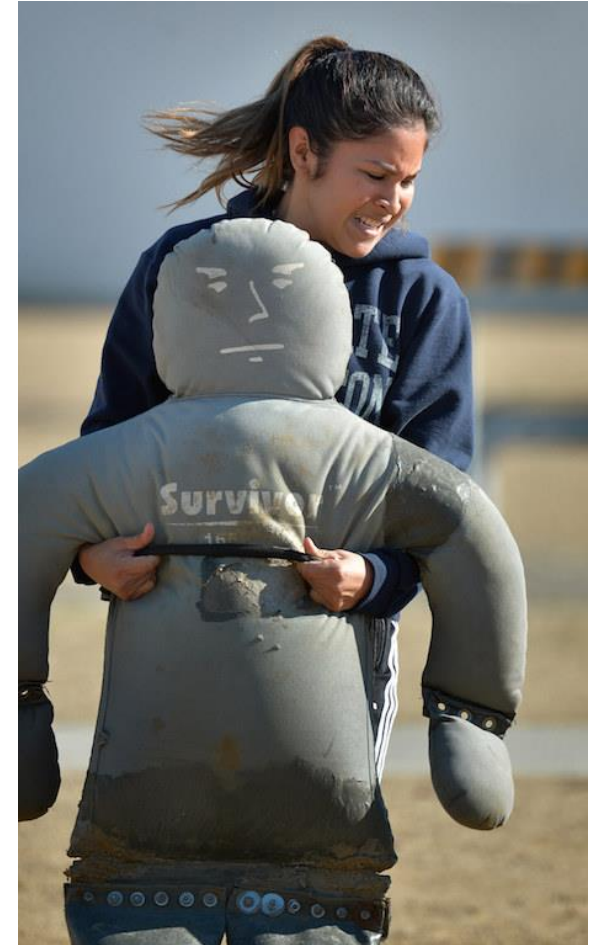


Methods

- Retrospective analysis on two academy classes from one LEA that completed a 22-week training program was conducted
 - Class 1: 69 recruits (27.23 ± 5.26 years; 1.77 ± 0.09 m; 82.89 ± 11.32 kg)
 - Class 2: 59 recruits (25.92 ± 4.18 years; 1.77 ± 0.08 m; 80.46 ± 11.44 kg)
- LEA training staff conducted pre- (approximately halfway through academy) and post-testing (end of academy) according to state standards

WSTB

- Agility run around a 99-yard obstacle course
- Body drag with a 165-pound dummy
- Climb over a six-foot chain link fence
- Climb over a six-foot solid wall
- 500-yard run



99-yard Obstacle Course



165-lb Dummy Drag



6-Foot Fence Climbs



Statistical Analysis

- Data combined for males and females in each class
 - All recruits must attain same minimum standards regardless of sex or age
- Multiple mixed factorial ANOVAs were used to calculate mean differences between classes on pre- and post-tests for the WSTB
- Significance set as $p < 0.05$ for all analyses

Results

	Class 1		Class 2	
	Pre	Post	Pre	Post
99-yd Obstacle Course (s)	19.53 ± 1.66	19.25 ± 1.33	18.95 ± 1.47	18.80 ± 1.41
Body Drag (s)	6.72 ± 1.20	5.51 ± 0.94	4.91 ± 1.17	4.59 ± 0.95
Chain Link Fence Climb (s)	8.57 ± 1.75	8.02 ± 1.10	6.77 ± 1.04	7.26 ± 1.04
Solid Wall Climb (s)	8.68 ± 2.23	7.71 ± 0.88	7.31 ± 1.64	7.68 ± 1.52
500-yard Run (s)	91.45 ± 8.29	88.61 ± 6.77	90.30 ± 8.44	90.55 ± 8.65

Results

	Class 1		Class 2	
	Pre	Post	Pre	Post
99-yd Obstacle Course (s)	19.53 ± 1.66*	19.25 ± 1.33	18.95 ± 1.47	18.80 ± 1.41
Body Drag (s)	6.72 ± 1.20*	5.51 ± 0.94*	4.91 ± 1.17	4.59 ± 0.95
Chain Link Fence Climb (s)	8.57 ± 1.75*	8.02 ± 1.10*	6.77 ± 1.04	7.26 ± 1.04
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500-yard Run (s)	91.45 ± 8.29	88.61 ± 6.77	90.30 ± 8.44	90.55 ± 8.65

* Significantly ($p < 0.01$) different from Class 2.

Results

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500-yard Run (s)	91.45 ± 8.29	88.61 ± 6.77*	90.30 ± 8.44	90.55 ± 8.65

* Significantly ($p < 0.01$) different from pre-test.

Conclusions

- Different LEA academy classes will feature recruits with range of fitness and skill levels
 - Could affect ability of recruits to complete job-specific tasks i.e. WSTB
- Class 2 were generally superior in pre-test WSTB compared to Class 1
- Following pre-test, Class 1 recruits were able to improve most aspects of WSTB
- Academy training conducive to improving WSTB performance for Class 1 recruits, either via changes in fitness or skill

Conclusions

- Class 2 recruits → training that followed WSTB pre-testing may have been less than optimal
 - No significant change in SW and 500R, CL performance was slower
 - Potential concern if WSTB is used as indicator of job performance

HOWEVER

- What is the priority of the LEA?



Conclusions

	Passing Standard	Class 1	Class 2
99-yard Obstacle Course (s)	22	19.25 ± 1.33	18.80 ± 1.41
Body Drag (s)	12	5.51 ± 0.94	4.59 ± 0.95
Chain Link Fence Climb (s)	10	8.02 ± 1.10	7.26 ± 1.04
Solid Wall Climb (s)	13	7.71 ± 0.88	7.68 ± 1.52
500-yard Run (s)	105	88.61 ± 6.77	90.55 ± 8.65

- All recruits from this study graduated
- If priority is graduating as many recruits as possible, need for 'best' performance at end of academy is reduced

Practical Applications

- LEA staff should ideally tailor physical training specific to each class to enhance fitness and skill performance as assessed by tests such as the WSTB
- LEA training staff should attempt to periodize training to optimize WSTB performance by end of academy
 - Especially true if these tests are considered representative of job tasks specific to law enforcement
- Dependent on priorities of LEA command staff

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Thank you for your attention...



Email: rlockie@fullerton.edu

Twitter: [@DrBobLockie](https://twitter.com/DrBobLockie)