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Running Speed, Power, and Aerobic Fitness relate to Work Sample Test Battery Performance in Deputy Sheriff Recruits

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ABSTRACT

Many law enforcement recruits complete a state-specific physical test before graduating from their respective academies. In California, this is known as the Work Sample Test Battery (WSTB). The WSTB is comprised of tests resembling job-related tasks. For instance, the WSTB simulates situations in which an officer must chase a suspect; climb over a barrier; drag a victim, and avoid an unoccupied car to safety.

Some agencies also conduct an assessment to measure physical fitness; one example is the Validated Physical Abilities Tests (VPAT+). The VPAT+ was developed to measure recruits’ power as well as their individual physical fitness characteristics (e.g. strength, aerobic power). The VPAT+ comprises five tests: vertical jump (VJ), running distance (R), pull (P), push (M), and drag (D).

The VPAT+ and WSTB were completed in the last weeks of a 22-week academy training program. The VPAT+ was comprised of: a vertical jump (VJ) and seated 2 kg medicine ball throw (M), which measured upper and lower body power, respectively; a 75-yard pursuit (PS), which was a simulated foot pursuit involving sprinting and direction changes; and the multi-stage fitness test (MSFT), which measured cardio-respiratory fitness. The WSTB comprised five tests completed for each recruit: agility run around a 99-yard obstacle course (BD), 32-foot body drag (BD) with a 165-lb dummy; climb over a six-foot chain link fence (CL) and climb over the barrier (OC), which require both lower body and high-intensity anaerobic performance in those tests. Superior MSFT performance related to the OC and BD tasks, which highlight high-intensity running, whereas low power anaerobic performance correlated with the BD and OC, which provide some indication of the value of upper body power in occupational tasks. However, no VPAT+ tests related to the BD. The BD is a strength-intensity test, so it is not measured in volunteers who would be candidates for specific tasks.

RESULTS

Table 1 displays the correlation data. A greater VJ related to faster 990C, CL, SW, and 500R scores. Greater MRT distance correlated to quicker 990C and CL performance. Faster 75PDR performance was associated with a faster 990C, CL, SW, and 500R. A higher number of MSFT shuttles correlated to faster 990C and 500R. No VPAT+ tests related to the BD.

Table 1. Correlation matrix showing relationships between VPAT+ and WSTB performance.

METHODS

INTRODUCTION

Many law enforcement recruits complete a state-specific physical test before graduating from their respective academies. In California, this is known as the Work Sample Test Battery (WSTB). The WSTB is comprised of tests resembling job-related tasks. For instance, the WSTB simulates situations in which an officer must chase a suspect; climb over a barrier; drag a victim, and avoid an unoccupied car to safety.

Some agencies also conduct an assessment to measure physical fitness; one example is the Validated Physical Abilities Tests (VPAT+). The VPAT+ was developed to measure recruits’ power, high-intensity running ability, and general fitness. Dawes et al.1 has linked the physical qualities of power and high-intensity running to increased performance in law enforcement-specific physical ability tests. As the VPAT+ has more power-based and high-intensity running tests than the WSTB, it may be a better indicator of future job performance, as officers frequently need to move quickly over and around barriers while pursuing fleeing suspects, amongst other anaerobically-based tasks.

The purpose of this study was to document the relationships between VPAT+ and WSTB performance in deputy sheriff recruits.

CONCLUSIONS

The VJ and 75PDR related to the running and barrier-clearing WSTB tests, which may display the need for lower-body power and high-intensity anaerobic performance in these tasks. Furthermore, these findings align with Dawes et al.1, who highlighted the need for these attributes in law enforcement officers. Superior MSFT performance related to the OC and 500R times, which highlight high-intensity running capacity needs for law enforcement; not only score highly on physical testing, but this could crossover to job-specific tasks such as suspect pursuit.2 Better MRT scores correlated with the 990C and CL, which provide some indication of the need for upper-body power in occupational tasks, especially when an officer must pull themselves up and over a barrier. Previous research by Locke et al.3 has indicated the potential value of upper-body power for law enforcement officers. No VPAT+ tests related to the BD. The BD is strength-intensive, which is an attribute that need not usually tested in recruits. The use of strength testing in recruits should be reviewed, as this quality related to job-specific tests.

References:


Figure 1: Set-up of the 75-yard Pursuit Run. Figure 2: Running direction of the 75-yard Pursuit Run. Figure 3: 99-yard Obstacle Course Run.