



Identifying and characterising the physical demands for an Australian specialist policing unit



Aaron Silk^a, Robbie Savage^b, Brianna Larsen^{a,d,*}, Brad Aisbett^c

^a School of Exercise and Nutrition Sciences, Deakin University, Melbourne, Victoria, Australia

^b Human Performance Science, Melbourne, Victoria, Australia

^c Institute for Physical Activity & Nutrition Research, Deakin University, Australia

^d Griffith Sports Physiology, School of Allied Health Sciences, Griffith University, Gold Coast, Australia

ARTICLE INFO

Keywords:

Job task analysis

Police

Physical employment tests

Criterion tasks

ABSTRACT

Many police organisations incorporate specialist policing roles where incumbents are tasked with providing operational response capabilities above and beyond the general duties policing role. The current research utilised subjective job task analysis methods to identify and characterise the physically demanding, frequently occurring, and operationally important tasks, as well as the dominant fitness component for each task, inherent to specialist policing roles in an Australian policing organisation. This was achieved through engagement with subject matter experts and online survey responses from specialist police incumbents. In total, 11 criterion tasks were identified, which covered a range of physical capacities including muscular strength, muscular endurance, and aerobic power. The most physically demanding tasks included those with an arrest component, requiring high muscular strength and power capacities. Having identified the criterion tasks, three operational scenarios were constructed, which incorporated each of the 11 tasks in different operational contexts. The criterion tasks and composite scenarios will allow practitioners within specialised police units to develop evidence-based strategies, including physical selection procedures and physical training programs, specific to the demands of their work.

1. Introduction

Global trends indicate that various forms of crime have remained steady in the past decade, with some forms of criminal activity actually increasing (UN, 2015). As crime evolves and diversifies, policing organisations need to become more adaptable, and officers trained to respond to new and unique challenges. One element of this challenge is remaining physically capable of dealing with the types of physical challenges inherent to police work. It has long been recognised that policing roles entail unique physical movements such as wrestling and restraining, induced by crowd and offender intervention, resolution of physical disputes, and victim rescues (Charles, 1982). However it is also well documented that policing roles can be characterised as highly sedentary (Lonsway, 2003), often with prolonged periods of inactivity. On the basis of such fluctuations in physical demands, policing roles have been described as low-intensity, interspersed with relatively short periods of high-intensity activity (Andersen et al., 2001; Mol and Visser, 2004). The current state of knowledge regarding the physical demands of police work largely originates from research that has profiled the physical demands of general duty police officers, (Charles, 1982), or

analysis of the task demands inherent to specific job roles (Mol and Visser, 2004). Where general duties officers are responsible for the prevention of crime and maintenance of the law, specialist policing units (SPUs) provide operational response capabilities above and beyond the general duties policing role, often in high-threat situations. In Victoria, Australia, there exists one such SPU (VicPol, 2015). The unit provides a rapid-response capability and comprises officers who are highly trained and proficient in weapons and tactics. Consequently, in addition to the baseline physical capabilities necessary for general duty roles, SPU personnel may require advanced physical conditioning to work safely and productively in hostile environments.

Developing a robust and comprehensive understanding of occupational roles requires the completion of a job task analysis, which identifies the physical capacities inherent to the tasks performed by incumbent personnel (Payne and Harvey, 2010; Rayson, 2000). Such analyses can be undertaken using subjective or objective methods (Larsen and Aisbett, 2012), with subjective analysis being common practice in emergency response or safety-critical roles, where objective measures may be otherwise unattainable (Tipton et al., 2012). In such contexts, the experiences of incumbent personnel, supervisors, and

* Corresponding author. Gold Coast campus, Griffith University, QLD 4222, Australia.
E-mail address: b.larsen@griffith.edu.au (B. Larsen).

other and subject matter experts (SME) are harvested to identify and characterise discrete tasks (Tipton et al., 2012). Their characterisation usually includes perceived physical demand, frequency of completion, operational importance, and a predominant fitness component (Larsen and Aisbett, 2012). Thereafter they are distilled into the most demanding or important tasks (Larsen and Aisbett, 2012), often referred to as ‘criterion’ tasks, which are thought to capture the inherent requirements of the occupation (Tipton et al., 2012). Once a job task analysis has been performed at the task-level, it is also important for researchers and organisations to combine the tasks into a relevant operational sequence for training and testing purposes. Development of these scenarios also reflects the fact that job tasks are unlikely to occur in isolation during a shift.

Where validated job task analysis procedures have been documented amongst North American and European police officers (Bonneau and Brown, 1995; Farenholtz and Rhodes, 1990; Gledhill, 2001; Mol and Visser, 2004), there is a paucity of research detailing the inherent job demands of Australia police officers. Furthermore, there is little published research outlining the job demands of SPUs in any international jurisdiction. Currently, information exists on SPUs functioning in Canada (McGill et al., 2013) and the United States (Pryor et al., 2014), however such research relates to the physical fitness profiles of incumbents and does not describe the job demands explicitly. Given the scarcity of research detailing the specific physical demands of Australian policing officers and SPUs in general, the aim of the current study was to conduct a job task analysis on an Australian SPU using established subjective job task analysis methods. Identifying the inherent physical demands for this SPU will provide an important foundation for specialist policing units to implement strategies relating to the physical performance of operational personnel, including physical training, physical selection procedures, injury management, and return to work policy.

2. Materials and methods

This paper describes a subjective job task analysis, incorporating a series of consultative and collaborative techniques between investigators and SPU personnel to establish criterion tasks and representative operational scenarios. It is important that a number of SME are employed during subjective analysis stages, to ensure individual responses are aggregated as a way of overcoming any individual bias in the job description (Landy and Vasey, 1991). Our research employed four discrete stages, run in sequence, as described in the remainder of this section (2.1–2.4). Similar to the four stages of job task analysis conducted by Patterson et al. (2008), the current research employed elements of literature review, SME consultation, and subjective feedback mechanisms. Participants in the current research included a combination of SPU SME and incumbent officers, with each cohort involved at various stages of the experimental protocol. The SME cohort was put together based on advice received by Victoria Police. All SME were currently active in SPU field operations. These panel members were stratified according to experience, with three members accruing one to three years' SPU experience, two members with three to five years' experience, and two panel members with more than five years' experience. This stratified approach aligns with recommendations made in our earlier work (Larsen and Aisbett, 2012) that perceptions of task frequency vary with experience and therefore small SME committees should represent a range of experience levels. All experimental procedures were approved by the Deakin University Human Research Ethics Committee, the Victoria Police Research Coordinating Committee, and the Victoria Police Human Research Ethics Committee prior to the commencement of the research.

2.1. Review of the literature

The initial stage of the job task analysis required investigators to

develop a comprehensive understanding of SPU operational duties, through review of the organisational literature. Literature in this context is defined as policy documentation, standard operating procedures, training manuals, and any other supporting documentation that provided knowledge on SPU roles, responsibilities, tasks, training strategies, and equipment usage (Larsen and Aisbett, 2012). This approach reflects similar preliminary actions adopted by Arvey and Landon (1992), who reviewed organisational documentation in the development of physical activity categories for general duty police officers in the US. The review of literature led to the development of a job task inventory, which listed all operational tasks. Upon construction of the job task inventory, investigators engaged with each member of the SME panel to independently assess the inventory and provide feedback to enable task categorisation and inform task validity.

2.2. Synthesis of Job Task Inventory

Following the review of the literature and development of the job task inventory, a workshop was undertaken between investigators and the SME panel. The purpose of the workshop was to synthesize the current list of job tasks into a list of common and physically demanding tasks that would subsequently be included in an online survey, through consultation between investigators and SME. The SME panel was provided with a ‘workbook’ of all of the job tasks identified in the literature review, and were asked to individually rank these tasks in terms of frequency and physical demand. They provided their individual responses to the research team who collated these results. The group results were then presented in an SME panel session where task frequency and demand ratings could be finalised, debated, and resolved. The two-stage (individual assessment, followed by group discussion) process parallels the multi-round consultation used in the Delphi technique recommended as best practice for small group job task analyses research (Larsen and Aisbett, 2012).

2.3. Online survey

Upon synthesis of the job task inventory, investigators developed an online survey to be distributed to the entire SPU incumbent workforce. The survey included the newly established list of frequently performed and physically demanding tasks, and underwent extensive pilot testing and re-testing with SME members (who did not participate in the survey stage of the research) to maximise comprehension and response clarity. Subsequently, the survey was disseminated amongst the SPU workforce via a Deakin University survey platform. For each job task included in the survey, the job task was briefly described (see Table 3) and respondents were asked to respond to four distinct categories: (i) task frequency, (ii) physical demand, (iii) operational importance, and (iv) fitness components (response options are shown in Table 1). Thus, each question in the survey was structured in the same way; only the task itself changed. The terminology for each response has been adopted from previous job task analyses surveys (Jamnik et al., 2010a,b; Larsen and Aisbett, 2012). The definition for each fitness component (Baechle and Earle, 2008), along with a working example (Appendix A), was included to enhance participant understanding. For the task frequency category, respondents were further asked to delineate between what they do operationally and their training requirements. The inclusion of the ‘training’ context was used to capture tasks that may be performed infrequently ‘on the job’ but are a necessity to maintain operational proficiency (e.g. effectively employing a firearm; Larsen and Aisbett, 2012).

Owing to the categorical nature of the questions, responses were presented as mode data, indicating the most frequent response for each category within the survey (Larsen and Aisbett, 2012). If a survey respondent reported having not performed a task (in both operations and training), any response relating to physical demand and fitness component from that respondent was disregarded. Analysis of the data

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