

Pre-entry Physical Fitness Tests of the Irish and UK Police

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Abstract

Introduction: Policing in both Ireland and the UK is currently evolving. Following reviews, changes have been made in the police forces in their respective jurisdictions. The purpose of this review is to assess the relevance of the pre-entry fitness test employed by police forces in Ireland and the UK.

Methods: A search of online databases was performed to identify research papers that commented on police fitness, or various aspects of the physical fitness tests that are currently carried out by the police forces in the Irish and UK jurisdictions. The physical fitness tests themselves were examined and it was determined whether they were relevant for the selection of candidates on two criteria, i) are the tests occupationally relevant and ii) are they non- discriminatory.

Results: The fitness tests of both the Irish and UK police are relevant to candidate selection. Although other aspects of a candidate's physical fitness could be assessed in the English, Scottish and Welsh police forces, the standard 15m Multistage Fitness Test (MSFT) assess the candidates cardiorespiratory fitness. The test utilised by the Police Service of Northern Ireland is occupational valid and serves to assess more physical attributes of the candidate. The tests of A Garda Síochána are the most comprehensive of the tests examined. They assess a varied range of physical attributes of candidates. All of the tests examined were deemed to be non- discriminatory.

Conclusion: Physical fitness assessments of police forces should be reviewed on a continual basis to ensure that they are relevant to modern policing. The English, Scottish and Welsh police could review their physical tests with the scope of re-introducing an assessment of muscular endurance.

Keywords: *Physical Fitness Tests; Multistage Fitness Test (MSFT); Irish; UK Police*

Introduction

Policing in Ireland and the UK is currently undergoing significant changes. Both the publication of the Independent Review of Police Officer and Staff Remuneration and Conditions [1] in the UK and the report of the Garda Síochána Inspectorate [2] identify that the physical well-being of police officers is a necessity in the role they perform. To determine if a candidate is physically capable of performing their duties as a police officer, different jurisdictions take different approaches. In the research conducted by Kirchengast [3] of 32 countries listed, 15 countries have no minimum height or weight requirement. Kirchengast [3] commented that no minimum height standard was not based on any scientific studies. The countries that have no such standard, which include Ireland and the UK, assess candidates'

physical ability by conducting pre-entry physical fitness tests. The physical fitness tests of the police forces in Ireland and the UK are not similar and have changed in the recent past. Aspects of these physical fitness tests however have been studied and validated in the past. The physical fitness tests will be examined and any research into aspects of the tests will be analysed. The tests will then be evaluated in light of this research to see if they are relevant to the selection of candidates for a modern policing role.

Methods

The research on this topic indicates that many factors need to be considered when it comes to physical testing of police recruits. The two main considerations were identified by Birzer and Craig [4] as ensuring that an officer that is selected is capable of performing the duties required of him and also that the physical fitness test that is used is not discriminatory. In this review, the pre-entry physical fitness testing for new recruits to the police forces of Ireland and the UK have been examined as to their relevance for the selection of new candidates. Details of the fitness tests were acquired from A Garda Síochána, the PSNI and the English, Welsh and Scottish police forces. The tests were examined and evaluated according to research on the exercises that form the physical fitness tests.

Inclusion criteria

Research documents needed to focus on evaluating the tests performed and needed to have similar protocols. Research articles were selected that were published from 1986 onwards due to some jurisdictions internationally using fitness tests that are more than 30 years old.

Identification of studies that met the inclusion criteria

Research studies were identified via a search of eight electronic databases (Google Scholar, Emeraldinsight, ResearchGate, Springer, ProQuest, PubMed, Taylor and Francis and ScienceDirect) using search terms that were decided on at the outset of the review. These search terms included physical fitness tests, police fitness, 20m shuttle, 20m multi, 15m shuttle and 15m multi.

Analysis of studies

The studies were examined, and the findings determined in them were analysed to see if they were relevant to the tests employed by the Irish and UK police forces. Reports from both jurisdictions were also examined and the tests employed were compared with the recommendations of the reports. Finally, the varying tests used by each jurisdiction were compared with one another. The test was considered relevant to modern policing or not if they met the two requirements as outlined by Birzer, *et al* [4].

Results

The physical fitness test in England, Scotland and Wales for recruit officers consists of a 15m Multi-Stage Fitness Test (MSFT) shuttle run or bleep test. The test is gender neutral and all candidates must reach a minimum of 5:4 to pass the test [5]. This level estimates a predicted VO_2 max of $35 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ as validated by Loughborough University [6]. This tests relevance to the role of policing in this jurisdiction is questionable. This test is referred to as the Job-Related Fitness Test (JRFT) [5]. It takes into consideration the cardiorespiratory fitness of the candidate, however there appears to be a lack of assessment of the muscular power or endurance of the candidate.

The physical fitness test of the Police Service of Northern Ireland (PSNI), the Police Service Recruitment 2015/2016 Physical Competence Assessment (PAC) is an 8 stage obstacle course which must be completed 3 times in 3 minutes 54 seconds or under [7]. This test is relevant to modern policing as it is gender neutral and it assesses various physical abilities of the candidate which they may come across during their duty.

Of the three separate tests, a Garda Síochána employs the most diverse assessments on candidates. Candidates are required to undergo two tests, each containing two distinct aspects. The candidate's cardiorespiratory fitness and muscular endurance is assessed in one test

while other abilities such as balance, climbing and struggle ability are assessed in the other. This provides a comprehensive assessment of the candidate's physical ability and cardiorespiratory fitness.

Discussion

The physical fitness tests that were examined as part of this review covered police forces that are overseen by three different Police Advisory Boards in the UK; England and Wales, Scotland and Northern Ireland [1] and A Garda Síochána Inspectorate in Ireland [8]. These jurisdictions are in close proximity to one another, yet they employ very different physical fitness tests to identify potential recruits. The trend in the UK appears to be moving towards a focus on cardiorespiratory fitness in potential recruits rather than strength as all police forces in the UK have removed the assessment of muscular strength and endurance from their tests. The reasoning behind this appears to stem from assessing if the fitness tests are discriminatory in design.

PSNI

The PSNI are unique among the UK police forces as they employ an obstacle course to assess a candidate's physical fitness. This test has been highlighted as being more stringent and has been recommended to replace the fitness test for police recruitment in England and Wales from September 2018 onwards [1]. The PSNI Physical Competence Assessment (PCA) has changed since these recommendations in 2012 due to reviews following the identification of female candidates failing the push/pull aspect of the assessment [9]. This is despite a review of the PCA conducted in July 2013 which concluded that the push/pull element was a valid assessment [10]. The PSNI PCA has evolved from a gender-neutral timed obstacle course (GeNTOC) that was designed by the force's previous embodiment, the Royal Ulster Constabulary [11]. In their research into the GeNTOC Jackson, *et al.* [11] discovered that out of 1701 candidates, 1304 successfully completed the assessment over a random sample of five years of testing. Of the 1304 that completed the assessment, 65% (845) were male [11]. Of the remaining 374 that completed all three laps of the GeNTOC but failed due to being outside the maximum time allowed for completion, 83% (310) were female [11]. 25 participants failed to complete all three laps of the GeNTOC assessment. Jackson, *et al.* [11] also noted that females made significantly more errors on the "body drag" obstacle ($P < 0.01$) and on the "weave" ($P < 0.001$) aspect of the course. The need for review of each aspect of this course before the recommendations to employ it in all police forces of the UK comes into being has been highlighted by Blacker, Wilkinson, Rayson and Richmond [12]. Although there are documents available and an online video which shows a person undertaking the PCA, details regarding the test, such as the weight of the kettle bells to be carried in the "lift and carry" section of the assessment is not available.

England, Scotland and Wales

The methods of physical fitness testing of police recruits in England, Scotland and Wales revolve around the standardised JRFT or MSFT. The JRFT standard has been set at 5:4 to be reached as the minimum for participants. Police Scotland use the MSFT which has the same protocols as the JRFT. Police Scotland identify that it is the employer's responsibility to ensure their officers are fit and capable to perform their duty [13]. Although the test solely assesses a candidate's cardiovascular fitness, Police Scotland [13] have acknowledged that other fitness elements could be assessed, such as flexibility, speed and muscular endurance. Police Scotland [13] identify that cardiovascular fitness is of particular job relevance. To prepare candidates for the assessment Police Scotland [14] offer advice and a programme for training. This is of benefit to the candidate as they can prepare for the physical fitness test.

The English and Welsh police forces must meet the criteria of the JRFT [5]. This test is a 15m MSFT which was designed in 1995 for the Metropolitan Police Service [15]. This test however has been implemented in England and Wales for continuous testing of police officers throughout their career [5]. The test is easy to administer and requires a sports hall with that can incorporate a 15m test to be conducted in it. The level required for police candidates to reach in order to pass the test is 5:4 [5]. This equates to a VO_{2max} of $35 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ [6] which is considerably lower than the VO_{2max} of $42 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ is required of UK fire fighters [16]. The duties that fire fighters perform

are not comparable to those of a police officer however. The instruction for the recruitment of candidates is to deliver the test to the 5:4 standard only [5]. This seems to imply that when a candidate is being recruited that their overall fitness will not be assessed, but actually if they are physically competent to meet the standard. If a candidate were to complete the test to the 5:4 standard yet it was their maximal effort, would that candidate be deemed to meet the standard?

As the JRFT is used for both incumbent police officers and candidates there is an alternative test available. In November 2016 the Chester Treadmill Police Walk Test (CTPWT) was accepted by the College of Policing Professional Committee as a validated alternative test [5]. Both the 20m MSFT and the 15m MSFT have been identified as potentially causing issues for people with musculo-skeletal injuries [15,16]. As a result of this the CTPWT was designed. On medical grounds an officer can undertake this alternative test. The test is designed to elicit an oxygen cost of $35 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ when the treadmill is operating at a speed of $6 \text{ km}\cdot\text{hr}^{-1}$ for 8^{10} minutes with an incremental increase in gradient by 3% every 2 minutes [15]. It does not appear however that this alternative test is available to candidates who wish to become police officers.

A Garda Síochána

The tests employed by A Garda Síochána are unique among the jurisdictions examined. Of the police forces studied, A Garda Síochána test their applicants under many different physical attributes. The 20m MSFT is employed by A Garda Síochána to assess the cardiorespiratory fitness of the candidate. The 20m MSFT has been noted as being a good predictor of maximal oxygen consumption [17]. There are discrepancies in the test however and it must be noted that depending on the individual being tested, their economy in running may be different or they may be better at turning than others [18]. This can promote a training aspect for this test. Candidates must achieve different scores on the test depending on age and gender. The minimum standards required are set out in table 1.

Age	Male	Female
18-25	Level 8.8	Level 7.6
25-35	Level 8.1	Level 6.6
36-45	Level 6.6	Level 5.4

Table 1: Standards Required to Pass 20 m MSFT for a Garda Síochána (A Garda Síochána 2017).

The lowest level achievable to pass is for females and is 5.4 which equates to $31 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ [19]. The highest value for females is $38.5 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ and the highest value for males is $42.4 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$. The lowest value for males is $35 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$. This value is in line with that of the Police Scotland MSFT and the English and Welsh JRFT however it is the lowest standard for male applicants who are 36 years or older. The age limit for applying to become a member of A Garda Síochána is 35 years. The predicted VO_2 max candidates who wish to join must be $42.4 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ or $40 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ [19].

Following this aspect of testing, the candidate must perform a minimum number of sit-ups in one minute and then a minimum number of push-ups with no time limit. Once more this aspect of the test is gender and age specific. The values for the sit-up and push-up test are outlined in table 2.

Age	Male Sit-up (one minute)	Male Push-up	Female Sit-up (one minute)	Female Push-up
18-25	35	25	30	20
26-35	32	22	27	18
36-45	29	N/A	25	N/A

Table 2: Minimum standards for Sit-up and Push-up test (A Garda Síochána 2017).

The sit-up and push-up tests are designed to assess the candidate's muscular endurance. Although this is not documented it is referenced to in an instructional video for candidates available to the public. The necessity for performing the sit-up and push-up test is questionable, however. Bonneau and Brown [20] comment that there is no good reason to believe that the number of pushups a person can perform is related to their ability to carry out police work. The reason for testing the muscular endurance of a candidate must have an occupational reason and cannot simply be arbitrary. There are no values for minimum standards available for the push-up test for candidates in the 36 - 45 years of age bracket. No explanation is provided in a public forum as to why this is yet candidates in this bracket must still perform and reach a minimum standard in the sit-up test.

Following completion of the 20m MSFT and the sit-up and push-up test candidates are afforded the opportunity of a rest before moving on to the next set of assessments. The candidate must now undergo a PCT. The PCT is an obstacle course consisting of eight separate obstacles. The course must be completed three times and within a 3 minute 20 second timeframe [21]. Each obstacle is detailed on the Garda website and like the PSNI there is an instructional video available to the public to view. The PCT is designed to test physical aspects such as agility and balance. It simulates a chase in a real-life environment. The test has occupational relevance and obstacles such as running upstairs at speed, climbing over obstacles such as a gate and dragging a weight are duties that police officers perform on a regular basis [22]. In that same study police officers reported that lifting and carrying, pushing and dragging and pulling were the top three most frequent specific physical abilities in their job [22]. In this study 225 completed surveys from Houston, Texas were analysed. The majority of those surveyed were 80% male and 20% female.

What is interesting to note is that female officers were more likely than their male counterparts to report that pulling or dragging was either common or very common ($p = 0.005$) [22]. This aspect is important as following the PCT the candidates must then complete a push-pull test on an isometric machine. The amount of force required varies dependent on how the candidate does in the PCT. If the candidate completes the PCT in 3 minutes or under then compensation is made on the push/pull part of the test, the candidate will only be required to push and pull 22.5 kg. If the candidate completes the test post 3 minutes, then the candidate is required to push and pull 25 kg. The push/pull aspect of the test is also job specific. It is designed to replicate a struggle following the simulated chase of the PCT. This not only assesses the amount of force the candidate can generate in a struggle but also the adaptability of the candidate and the ability to perform under stress. Taking into consideration the amount of attributes that are being tested and their relate-ability to occupational duties the candidate must perform if they become a police Aicer, Aarda Síochána's physical fitness tests are well designed and accountable. The PCT and push/pull aspect of the test is gender neutral. This is of importance when taking into consideration the research of Starting, Bakker, Dijkstra, Lemmink and Groothoff [23] who discuss the concept of "same job, same standard".

Conclusion

This review has outlined the different approaches to physical fitness testing adopted by police forces in England, Ireland, Northern-Ireland and Wales. What is of note is the trend in the UK jurisdictions to move away from strength-based assessments, particularly in England, Scotland and Wales. While the PSNI have removed the push/pull element of the PAC, their obstacle course still incorporates some weight carrying and a "body drag" element. Following the recommendations made in the Independent Review of Police Officer and Staff Remuneration and Conditions [1] of introducing an obstacle course physical fitness test similar to that employed by the PSNI to all police forces in the UK, further research needs to be undertaken into the PSNI PAC to evaluate if this test is appropriate. The PSNI PAC has changed significantly since 2012 with the time limit for completion of the course being extended from 3 minutes and 43 seconds to 3 minutes and 54 seconds and also with the removal of the push/pull element of the assessment. It is promising to see that a recommendation has been made in this regard however as with the demanding nature of modern policing an assessment of cardiorespiratory fitness alone is not sufficient to assess if a police officer is capable performing their day to day duties.

The assessments employed by A Garda Síochána are comprehensive and deemed to be of equal importance, failing one aspect means failure of the entire physical fitness test. Cardiorespiratory fitness is tested along with muscle endurance while balance, agility and adaptability are tested alongside a simulated struggle. This provides a well-rounded physical fitness assessment which is comparable to other modern police forces around the world. Questions need to be asked however in relation to the age and gender specific aspects of the tests. It is accepted that “norming” of test standards occurs due to the physiological differences between men and women. The standards and type of push-up varies also with A Garda Síochána, where the female standard is lower than males and may also be completed using the modified push-up.

There are three key reasons that are apparent when it comes to discussing the necessity of police fitness testing. The employer has a duty to hire staff that are capable of performing the tasks required in accordance with their employment. Police work involves team work and this can be especially important when faced with a confrontational situation. It is of great importance that colleagues know that the people they are working with are up to a standard of fitness. Finally, physical fitness testing of police officers is important to imbue the public of the communities in which the police forces work with confidence in their ability. Members of the public must be reassured that the police officers serving them are fit enough to help and aid them when needs be. Sorensen, Smolander, Louhevaara, Korhonen and Oja [24] found that the selection of heavier and taller men for police training guarantees a level of physical capacity. This is no longer appropriate in the modern world as the abilities of an individual cannot be assessed solely on their height and weight.

What is apparent is that physical fitness testing must be well researched and validated as being relevant to the role each police officer will perform. The test must also be non-discriminatory and be robust enough to stand up to such challenges. Whether this involves having a gender neutral time of completion or standard which does not adversely affect one group of people be it on grounds of gender or on age or whether this obstacle is overcome by “norming” the standards. This decision is one to be made by each individual police force [25].

Conflicts of Interest

The author is currently a member of A Garda Síochána with the rank of Garda.

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