

# Police Recruit Training Programmes: A Systematic Map of Research Literature

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**Abstract** This article presents a map and summary of the landscape of a systematic search of the police recruit training literature. Following the process of searching, screening, and coding both published and grey literature, a total of 109 studies met our inclusion criteria. Thematic analysis of the 109 studies led to the emergence of six broad themes and associated subthemes. The two most prevalent themes focused on ‘examining academic and/or field training’ and ‘examining a specific aspect of the training programme’, each containing 36 studies. Most of the studies were based in the USA, ( $n = 67$ ). Grey literature such as dissertations, theses, and reports made up nearly half of all included studies ( $n = 51$ ) and published journal articles made up the bulk of the remaining studies ( $n = 50$ ). Furthermore, 56 studies (50%) used a quantitative design, 36 studies (33%) adopted mixed methods, and 19 studies (17%) employed a qualitative approach. The 109 studies were double-blind quality appraised using recognized quality appraisal tools and revealed a wide variation in the nature and quality of studies. Overall, the strength of the evidence was fragile; only 13 studies (12%) were of a ‘strong’ quality, 55 studies (50%) were ‘weak’, and the rest (41, i.e. 38%) were of ‘moderate’ quality. The article concludes with recommendations for guiding future research in police recruit training.

## Introduction

This article presents the first systematic map of the literature to date on police recruit training. Mapping out the ‘landscape’ of a topic area is often the first step in the synthesis of a literature that is directed by a broad research question (Gough *et al.*, 2012, p. 30). It is a way to help identify research trends and the nature of available evidence (Schucan Bird *et al.*, 2016). Our research was undertaken in support of the introduction of the Police Education Qualifications Framework (PEQF) in the UK. The map presented here informed discussions with stakeholders, which in turn helped identify specific themes that were

subjected to deeper thematic analysis and synthesis (Belur *et al.*, 2020). The map itself is a useful summary of the knowledge base of police recruit training and, in particular, identifies the knowledge gaps.

Recommendations for improvements in police education and training date back to Vollmer (1936). Following on, the President’s Commission on Law Enforcement and Administration of Justice (1967, pp. 109–110) in the USA suggested, ‘the ultimate aim of all police departments should be that all personnel with general enforcement powers have baccalaureate degrees’. Since then, some evidence supporting the contention that officers with college

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degrees perform better in many areas has emerged (Jones, 2016; Paoline *et al.*, 2015; Roberg and Bonn, 2004), including use of force (Paoline and Terrill, 2007; Rydberg and Terrill, 2010). On the other hand, the evidence that an undergraduate degree has a discernible positive impact on police officer effectiveness, attitudes, and performance is ambiguous at best (Shernock, 1992; Wimshurst and Ransley, 2007). Evidence also indicates that higher education either gained pre-employment or via post-employment degrees, 'provide(s) a deeper knowledge base than traditional training programmes' and assist the development of a reflective practitioner (Blakemore and Simpson, 2010, p. 40).

Following the 'Review of Police Leadership and Training' that recommended various changes to police training (Neyroud, 2011), the UK College of Policing (CoP) is undertaking a programme of work to design the PEQF. The PEQF is 'intended to support the development of policing as a profession through the provision of a coherent national approach to recognising and raising educational standards in policing' (College of Policing, 2016, n.p.), and to enable officers to obtain publicly recognized qualifications at the relevant education level. Thus, until as recently as 2016, a minimum requirement of a bachelor's degree has not been mandatory for all entry-level officers in England and Wales, although many countries offer degrees through police colleges or academies (e.g. Sweden, Norway, and Germany).

Nonetheless, advocating professionalization of the police is a recurring theme in police training literature (Beckman, 1976; Cordner and Shain, 2011; Hilal *et al.*, 2013; Interpol, 2012; Lauritz *et al.*, 2013). The term 'professionalization' implies transitioning to becoming a profession by fulfilling a host of requirements of a profession, including acquiring tertiary academic qualifications to undertake the police role and creating a body of research to underpin policing strategies (Brown *et al.*, 2018; Green and Gates, 2014; Paterson, 2011).

It is noteworthy that a uniform training programme for police recruit training does not exist

in the UK, or indeed even the USA. Until the PEQF is implemented, there is a national training curriculum known as Initial Police Learning and Development Programme (IPLDP) for England and Wales (College of Policing, 2018), requiring forces to train new recruits to specific standards, but the structure, length, and method of training differ across forces. Factors affecting variations in recruit training across police organizations can be partly attributed to the difference in structure and size of the 43 forces in England and Wales and the thousands of forces across the USA, and partly to the organizational attitude towards training and the availability of resources and funding thereof (Telep, 2017). Further, there is a lack of adequate and accessible research on police training, as a recent evaluation of the available 'evidence base' in policing, including that on training and education, reveals that it is patchy and prone to methodological weaknesses (Telep, 2016). Given these circumstances, forces in England and Wales opted to train officers as they saw fit (Belur *et al.*, 2018) with notable variations across different forces.

It is important here to acknowledge the distinction between 'training' and 'education'. Training focuses on imparting hard skills, such as use of firearms, driving, and first aid; whereas education focuses on development of softer skills with emphasis on critical thinking and problem-solving.

There is recognition that the current training curricula and programmes are not adequate to support the requirements of recruit police officers in modern societies, as the context of their work changes. Further, the economic downturn has meant decreasing resources and growing emphasis on adopting an evidence-based approach to public policy more generally (particularly in England and Wales). Combined, this means that any reforms in training ought to be grounded in the evidence of 'what works' to equip recruit officers to face the challenges of modern policing (Cordner and Shain, 2016).

The CoP recognized that any reform or change in training would be best served if grounded in the

evidence of ‘what works’ to equip recruit officers to become more professional. Consequently, this research aims to answer the question: ‘What can we learn from the evidence on police recruit training that can inform the development of a graduate level training programme in the UK?’ Towards that end, this systematic map is the first attempt to collate existing evidence on police recruit training internationally. The following section discusses the methodology, including the search strategy, inclusion criteria, and the quality appraisal (QA) of the selected studies. A thematic discussion of the included studies is presented in the ‘Findings’ section. Finally, the conclusion highlights some gaps in the current literature and indicates areas for future research.

## Methodology

The search strategy used in this study involved keyword searches of 11 relevant electronic databases,<sup>1</sup> including grey literature<sup>2</sup> and dissertation databases, additional hand searches,<sup>3</sup> searches of publications by relevant government, research, and professional agencies conducted by an information specialist. Literature searches were conducted during May and June 2017.

The search terms centred on three concepts and three related groups of terms<sup>4</sup>: the first related to policing; the second, to training; with the third, specifically focused on initial recruit training.

<sup>1</sup> The following databases were searched using a list of pre-determined search terms: Criminal Justice Abstracts, PsycINFO, Scopus, ProQuest Criminal Justice Database, Global Policing Database, Sociological Abstracts, Education Database, ERIC (Education Resources Information Centre), ProQuest Theses and Dissertations, Social Policy and Practice, and CINCH.

<sup>2</sup> Grey literature refers to publications produced outside of commercial academic outlets. These include reports, dissertations, conference abstracts, and policy documents.

<sup>3</sup> WorldCat, Criminal Justice Abstracts, National Criminal Justice Reference Service, Google, and Rutgers University Criminal Justice Gray Literature Database were hand searched by an information specialist, with some overlapping with electronic keyword searches.

<sup>4</sup> Our search syntax was: ((police or policing or ‘law enforcement’ OR constab\* OR sheriff OR detective) AND (train\* OR educat\* OR academy OR institute OR college)) OR AB ((police or policing or ‘law enforcement’ OR constab\* OR sheriff OR detective) N5 (train\* OR educat\* OR academy OR institute OR college)) OR KW (( police or policing or ‘law enforcement’ OR constab\* OR sheriff OR detective) AND (train\* OR educat\* OR academy OR institute OR college)).

<sup>5</sup> Inspired by the European Police College (CEPOL Glossary, 2005) definitions on police training in general.

## Inclusion criteria

The following inclusion criteria were applied when screening records for eligibility in this review.

The study must:

1. Relate to an entry-level training programme for new police recruits.
2. Police here refer to ‘sworn’ officers or public police as an executive arm of the government providing a service at the local, county, state, or federal level.
  - (a) ‘Entry level’ here implies essential to be certified as capable of being deployed in public facing roles or operating independently.
  - (b) Training is defined broadly as ‘a planned and systematic effort to modify or develop knowledge/skill/attitude through learning experience’.<sup>5</sup>
  - (c) Report the findings of an empirical research project on police recruit training. The data reported could be quantitative or qualitative in nature.
3. Cover substantive content on police training. By this we mean it should report, at a minimum, on either the structure, content, or duration of the curriculum, the pedagogy, and/or assessment and evaluation methods.
4. Be available in English.

No restrictions were placed on research designs so long as they met points (1)–(4) above.

## Screening process

After duplicate citations were removed, studies were screened on title and abstract to remove those that were, based on our inclusion criteria, obviously ineligible. Inclusion at this stage was biased towards being more inclusive in cases where the abstract was either unclear or hinted at the study being relevant for our purpose. Full-text screening was conducted and the inclusion criteria applied to remove studies that were ineligible. Given the large number of studies that met the inclusion criteria, we then decided to apply the exclusion criteria, thus eliminating studies published pre-2000 in order to focus on the more recent evidence.

## Inter-rater reliability, data extraction, and sense-checking

Studies were screened and coded by a team of three researchers and inter-rater reliability (IRR) tests were conducted at three points at the screening on title and abstract stage: pre-screening, half way through the screening process, and post-screening. This helped to check whether coding behaviour was consistent across the team and the code book was refined each time. Initial agreement rates for the three exercises (52, 68, and 87%) indicated that despite clear inclusion criteria, screening involved a great deal of subjectivity, especially since abstracts were often ambiguous or provided inadequate information to make an informed decision. Additionally, the three members of the team had different levels of expertise in the field and in conducting systematic reviews, which can affect decision-making (Belur *et al.*, 2020). After each IRR test, team members revisited the studies they had already coded in line with the decisions made at the IRR reconciliation meetings and made appropriate changes. However, the final agreement figure of

87% was considered adequate, particularly as decisions made by the less experienced members of the team erred on the side of inclusivity.

Full studies were coded and data extracted to capture key information about various aspects of training, including content, design, delivery, and evaluation or assessment, as well as trainer and trainee satisfaction levels by all three members of the team. Sense checking exercises were conducted, which involved each researcher discussing studies that they were unsure or conflicted about, at regular intervals during screening of full texts and decisions were taken by consensus. Further, team meetings were conducted once a week to discuss coding decisions and clarifying concepts, throughout the coding process.

## QA of studies

QA of the evidence that forms the basis of recommendations is considered critical if findings from systematic reviews are to inform practice and policy (Munn *et al.*, 2014). This study utilized three established QA tools, one for each of the research design types: qualitative, mixed methods, and quantitative. These included the CASP (2017) Qualitative Checklist, the Mixed Methods Appraisal Tool (MMAT) (Pluye *et al.*, 2011), and Effective Public Health Practice Project (2017) (EPHPP) Quality Assessment Tool for quantitative studies. To group studies according to their strength, a slightly amended scoring system was implemented for use with both the CASP and MMAT tools.<sup>6</sup> Studies were double-blind quality appraised and final scores were arrived through discussion involving all three members of the team.

To facilitate the appraisal process using the three tools above, a bespoke instrument was created, using functionality in Microsoft Excel, to

<sup>6</sup> In the original scoring system for both tools, 'yes' answers received two points and 'no' and 'can't tell' answers received zero points. Scoring for the CASP tool was amended to allow robust studies to rate higher than studies, which technically met the minimum criteria to answer each question. Thus, from question 5 onwards scoring for 'yes' answer was changed in favour of 'yes, substantive' (giving two points) and 'yes, mentions' (giving one point).

standardize the data input and logic rules to automate the ultimate quality scores.<sup>7</sup>

## Findings

Figure 1 illustrates the process from initial searches to the final set of 109 studies.<sup>8</sup> Due to resource constraints, when screening on full texts resulted in a set of 304 relevant studies, a decision was made in consultation with project partners and the CoP to focus on more recent studies, based on the notion that since police training is changing and evolving, evidence from more recent studies might be of greater relevance, was made. The millennial year was chosen as an arbitrary cut-off point at this stage on police recruit training that is included in this map.

## Demographics

Some studies took place across multiple locations: for example, Wooden and Nixon (2014) carried out a study across Australia, Canada, and China. Consequently, data were collected in 115 locations across all studies (Table 1). Of these, 109 (91%) originated from Anglo-based countries.

With respect to publication types, journal articles accounted for almost half of the studies (46%,  $n = 50$ ), with grey literature such as dissertations, theses, and reports comprising a similar proportion (47%,  $n = 51$ ). Books and conference papers made up the remainder (7%, with  $n = 4$  for each, respectively). Eighteen documents (17%) were sourced through the Police National Library in hard copy, which highlights the importance of not solely depending on the convenience of online sources.

Of the 109 studies, 54 studies (50%) collected quantitative data, 36 studies (33%) employed a mixed-method design, resulting in quantitative and qualitative data, and 19 studies (17%)

produced qualitative data. Each of the included studies was double-blind quality appraised, and studies were given quality ratings based on the above-mentioned three QA tools.<sup>9</sup> When the quality ratings were cross-referenced with study design, a striking finding was that most of the quantitative studies were classified as 'weak'; significantly more so compared to mixed methods or qualitative studies. This, though, can be explained by the QA tool used, as there were only seven (13%) of the included quantitative studies that fit the 'gold standard' design of randomized control trial. Other research designs were quasi-experimental (7%,  $n = 4$ ); before and after studies (33%,  $n = 18$ ), post-intervention measures (26%,  $n = 14$ ), and 'other' (20%,  $n = 11$ ).

## Systematic map

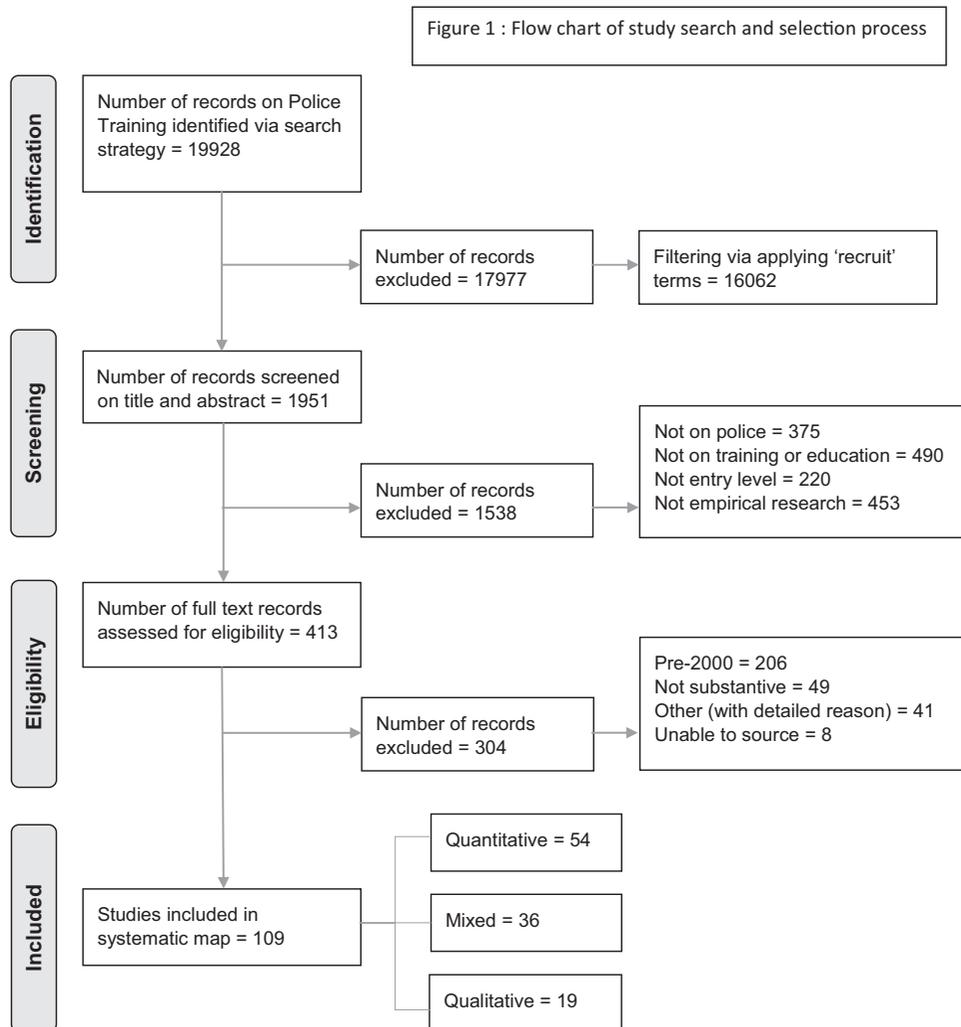
The evidence on police training was grouped according to five themes (Figure 2): (i) examining academic and/or field training; (ii) examining part of a training programme; (iii) how recruits learn; (iv) new learning/teaching tools; and (v) recruit attitudes. These themes were generated inductively, guided by the aims of the study specified by the study authors. The specific themes emerged from their recurrence in the literature and from the perspective of what might be most useful for informing future training programmes. Two studies fell outside these themes; Kringen (2014) sought to identify barriers to women entering the policing profession, and Meier *et al.* (2016) compared attrition of police officers to peer evaluations during academy training.

*Examining academic and/or field training ( $n = 36$ ).* The focus of the studies in this group was examining or evaluating either the academic component of the recruit training programme (e.g. the curriculum), the field training component (e.g.

<sup>7</sup> This instrument is available from the corresponding author on request.

<sup>8</sup> Please refer to Appendix A for a full list of studies and associated quality ratings and to Appendix B for a geographic map depicting study locations.

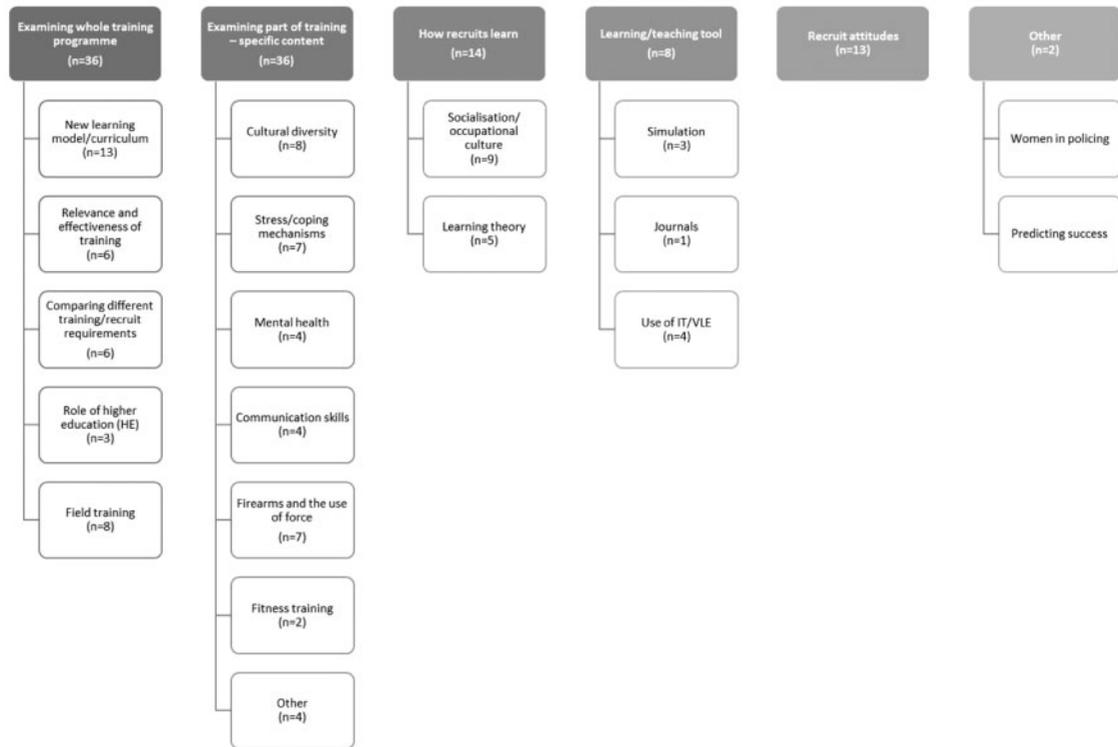
<sup>9</sup> Full details are available on request from the corresponding author.



**Figure 1:** Flow chart of study search and selection process.

the tutor phase), or the entire training programme (both academic and field components). Overall QA revealed that 4 studies were deemed strong (with 2 studies apiece using qualitative and mixed methods), 16 studies were moderate (with 1 study using quantitative methods, 2 using qualitative methods, and the remainder using mixed methods), and 16 studies were of weak quality (12 studies using quantitative methods, 2 using qualitative methods, and 2 studies using mixed methods).

Five studies focused on the evaluation of curriculum design and/or change in curriculum, comparing an old (traditional, lecture-based) learning model or curriculum to a new model (Chappell, 2008; Hess, 2014; Poradzisz, 2004; Vander Kooi, 2006; Wong, 2014). Generally positive findings were reported that new models (community focused and/or problem based) were in some way more effective in developing recruits compared to the traditional models.



**Figure 2:** Map of study themes.

Teaching approaches featured strongly within the studies examining the academic content and delivery in training programmes. For example, student-centred approaches such as problem-based learning<sup>10</sup> (PBL) were examined across a range of settings, with mixed findings on the perceptions of its effectiveness by both recruits and police trainers (King Stargel, 2010; Lettic, 2016; Vander Kooi, 2006). However, Shipton's (2011) study does highlight that eliciting opinions about teaching approaches could be influenced by whether closed or open questions are asked. With respect to outcomes, Vander Kooi (2006) found that recruits learning through a PBL-based approach possessed thought processes more aligned with community

policing strategies than students taught using traditional methods.

Several studies examined the direct impact of field training officers (FTOs) on recruits. These studies generally centred on the role of the FTOs, with Novakowski (2003) finding that recruit satisfaction with field training was entwined with how positively they interacted with their FTO. Getty *et al.* (2016) found FTOs had a statistically significant effect on allegations of misconduct subsequently levied against their trainees. Hence, they concluded that 'bad apples' or poorly trained tutors may have a harmful influence on their trainees. Weber (2012, p. 73) concludes that FTOs are what 'makes or breaks the success of the academy training

<sup>10</sup> 'Problem-based learning employs an experiential activity-based format designed to take advantage of an adult learner's level of cognitive development . . . Problem-based learning promotes collaboration, builds teamwork skills, and develops leadership abilities through cooperative work-group experiences' (Glenn *et al.*, 2003, p. 55 cited in King Stargel, 2010).

program'. Some of these findings may be partly explained by Green's (2001) finding that both tutor constables and probationers were over-worked, which affected the quality of training provided and internalized, respectively.

The lack of coherence between academy-based classroom material and subsequent field training was indicated by three studies. Chappell's (2007) study on community policing suggests one reason for the incongruence might be the lack of community police training for the FTOs themselves. Similarly, Campbell (2014, p. 77) raised concerns over trainers not having appropriate training to deliver new material adequately, 'especially in problem-based learning'—a recurring theme through a lot of the literature on police training. Furthermore, academy or classroom-based training was often dismissed by FTOs, as was pre-training policing experience of recruits (Hundersmarck, 2004; 2009).

Some studies compared whether training was provided prior to employment or post-employment (Campbell, 2014; Heslop, 2013a,b). These found some evidence that a variety of entry routes, including where trainees pay for their own education, can be a viable option for prospective police officers. As Chappell (2008) notes, officers with previous educational qualifications were more likely to be successful in the academy or during training, supporting Campbell's (2014) recommendation to provide supporting courses to students to help them adjust to learning in a college environment, thus emphasizing the importance of academic performance.

Seggie (2011) and Stanislas (2013) both found that training did not effectively link knowledge with practice, which may be why recruits had greater appreciation for input that was related to the core practical and operational aspects of police work. The gap between knowledge and practice was understandable, given most recruits going through training had little or no experience of police work, and therefore they were unable to accurately judge the relevance of all their training. Stanislas (2013) emphasized that it was the responsibility of the

training provider to successfully help recruits to understand how theory and knowledge taught in the academy relate to field practice.

A number of studies evaluated the facilities and resources required to deliver effective training programmes. For example, Drummond (2010) found that there were higher retention rates, higher self-efficacy ratings, and better teaching style ratings amongst a university-based cohort compared to a law enforcement academy cohort. The implication being that the training location may have some impact on retention and satisfaction rates. Two studies concluded that it was important recruits had adequate facilities to encourage competency and professional development to produce police officers of the standard required to deal with the reality of the policing environment (Foley, 2014; Seggie, 2011).

Therefore, the literature indicates, for more progressive or community policing-based police forces and services, a model that is focused on academic achievement through PBL might be the most appropriate training approach. Furthermore, choice of motivated FTOs and training to ensure they are equipped to deliver teaching material were also prominent findings. Finally, the evidence highlights the importance of ensuring the training structure and content effectively links theory or classroom-based training with the operational experience of policing.

*Examining part of a training programme (n = 36).* The foci of these studies were on specific areas of training and examined or evaluated the impact of specialized training or a particular aspect thereof. QA indicated 4 studies rated as strong (all using qualitative methods), 9 as moderate (3 studies using quantitative methods, 1 study using qualitative methods, and the remainder using mixed methods), and 23 being of weak quality (20 studies of which used quantitative methods, 1 used qualitative methods, and 2 used mixed methods). We first present training imparting 'hard' skills that were assessed, before

moving on to delivery of 'soft skills' training that were evaluated.

Seven studies focused on firearms training, or learning to use force, within recruit programmes. For example, Davies (2015; 2017) found simulations effective in ensuring that recruits built a repertoire of experiences to draw upon for future shoot/do not shoot scenarios, and allowed recruits to appreciate the complexity of these situations. Conversely, Broomé (2011) found that the simulation exercises examined fell short of simulating the psychological impacts of real-life police shootings. Another technique used in shoot/do not shoot training was situational awareness training that 'enhances the capacity to make timely and effective decisions' (Saus *et al.*, 2006, p. 4). Two studies also found that use of force was taught across a range of subjects during the recruit programme, i.e. not just within firearms training (Lande, 2010; Rostker *et al.*, 2008).

The two studies on fitness training both found that it is important that programmes ensured sustained fitness rather than a constant improvement in fitness. This was because Crawley *et al.* (2016) found that there was no further improvement in recruits' fitness after the initial period of 8 weeks, and Orr *et al.* (2016) found similar results in an Australian setting.

Cultural diversity training was covered by nine studies. While some studies found that recruits developed their understanding of equality and diversity as a result of academy training in the short term (Bruns *et al.*, 2005; Clapham, 2009; Miles-Johnson and Pickering, 2017; Schlosser *et al.*, 2015), others identified problematic results and found that training was inadequate (McMorris, 2001; Miles-Johnson *et al.*, 2016; Schlosser, 2011; 2013; Zimny, 2015). For example, McMorris (2001) found that police recruits stereotyped racial minorities as being more likely to commit violent crimes, post-training. Miles-Johnson *et al.* (2016) found that training about prejudice-motivated crime made recruits less likely to be able to identify this

type of crime. Schlosser (2011; 2013) and Zimny (2015) both found that levels of racial colour-blindness amongst recruits did not significantly decrease after attending training. On another dimension of discrimination, Bruns *et al.* (2005) examined whether victim blame attribution, ambivalent sexism, age, education, and experience played a role in domestic violence training effectiveness. They found only a significant interaction between knowledge and ambivalent sexism, and argued ambivalent sexism should be considered a possible impediment to learning. Some examples of successful training mechanisms or suggestions for improvement from other studies within this sub-theme were community placements, interactions with people from diverse groups, and more sustained and integrated diversity training throughout academy curriculum (Clapham, 2009; Miles-Johnson and Pickering, 2017; Miles-Johnson *et al.*, 2016).

Communication skills were the subject of four studies. Two studies examined training programmes that aimed to produce officers with effective communication skills to serve their specific communities and found mixed results (Rosenbaum and Lawrence, 2012; Schuck and Rosenbaum, 2011). Hartwig *et al.* (2006) and Dando *et al.* (2009) investigated recruits' abilities in interviewing civilians after receiving a particular training programme that focused on improving communication and found that although witness interview training did not produce the desired effect, deception training had a positive impact on recruits' deception detection abilities.

Recruits' abilities to recognize mental health symptoms were the focus of four studies (Barrett, 2014; Council of State Governments Justice Center, 2017; Kaur, 2017; Young, 2015). All studies reported positive findings regarding recruits' ability to recognize mental health symptoms following the training.

Seven studies focused on training for coping with stress, which could be grouped into two types—those that examined interventions to help improve

coping and reduce stress (Arnetz *et al.*, 2013; Devilly and Varker, 2013; Jeter *et al.*, 2013; Page *et al.*, 2016; Shochet *et al.*, 2011), and those that assessed how recruits coped with stress and confidence levels during their initial training (McCarty and Lawrence, 2016; Patterson, 2016). Three studies reported positive short-term findings from interventions and one study reported benefits maintained after 2 years. The reasons for these were not explored in greater detail.

Thus, the evidence indicates mixed findings for training focused on specific topics such as diversity training or recognizing mental health symptoms. However, studies had no or little description of how the training was intended to bring about desired behaviours in recruits and lacked deeper explanations for why some programmes and topics might have had more successful outcomes than others, which constitutes a gap in the literature.

**How recruits learn ( $n = 14$ ).** This theme focused on how recruits learned to become a police officer, either through learning theories or organizational culture. As such, studies in this theme fell into one of two sub-themes: socialization/occupational culture (9 studies) or learning theory (5 studies). Regarding quality, three were classified as strong (2 studies used qualitative methods, and 1 used mixed methods), 10 were moderate (7 studies used qualitative methods with the remainder using mixed methods), and 1 was weak (using quantitative methods).

One of the main findings from the studies on socialization was that learning was impeded if the training environment in the academy was at odds with the demands of operational field conditions. This was especially true of paramilitary-structured academies, which did not align well with the principles of community policing and problem-solving that require collaboration and partnership work (Chan *et al.*, 2003; Chappell and Lanza-Kaduce, 2010; Conti, 2011). There existed a simultaneous

formal and informal curriculum, the former prescribed by the academy and the latter where 'real' policing is taught (Chappell and Lanza-Kaduce, 2010). Related to this, it was commonly found that students were highly receptive to 'war stories'—that is, informal stories that highlight an 'exciting' or 'heroic' example of on-duty experience—however, the examples were most often in direct contrast to the style of policing being taught in the curriculum, i.e. community focused (Chappell and Lanza-Kaduce, 2010; Conti, 2011; Foley, 2014; Hendricks, 2014). Both Conti (2000) and Haarr (2001) noted that academies could institutionalize recruits, in both positive and negative ways, the negative aspects are reinforced if either the informal culture or the field training does not reinforce classroom training.

Several studies examined the question of 'how police recruits learn' using learning theory, in particular andragogy<sup>11</sup> (McCay, 2011) and PBL (mentioned previously, Shipton, 2009); both which were found to be effective in developing the skills appropriate to policing. These often emphasized that it is important that recruit training moves beyond a paramilitary sense of instilling physical skills and operational competence, to acknowledge and emphasize and the importance of learning to 'become' a police officer (Heslop, 2011). Structured learning, through scaffolding, with appropriate levels of guidance and feedback (Hendricks, 2014; Shipton, 2009) and collective reflection (Rantatalo and Karp, 2016) were identified as important processes in recruit learning. Therefore, the literature suggests police academies should work towards connecting the formal and informal culture and socialization of recruits with the principles of community policing and problem-solving. Furthermore, socialization both within the academy and during the field training appears to have an impact on police recruits.

**New learning/teaching tool ( $n = 8$ ).** The focus of this theme was specific tools that facilitated learning or teaching during recruit training. This

included the use of information technology (IT) or virtual learning environments (VLEs) (four studies), simulation-based training (three studies), and the use of journals (one study). Within this theme, three studies were deemed of moderate quality (all using mixed methods), and five were considered weak (four of which used quantitative methods and one study used mixed methods).

The studies examining the impact of incorporating IT/VLE in police training found that the use of IT aided enhancements of the tested training area; however, areas for improvement included the importance of making these technologies user-friendly, realistic, and correctly implemented for the best results. Specific training topics that were studied were communication skills (Bosse and Gerritsen, 2017), forensic examination skills (Drakou and Lanitis, 2016), investigation skills (Davies and Nixon, 2010), and visual performance skills (Lieberman and Horth, 2006).

As mentioned in section '*Examining part of a training programme (n = 36)*', simulation-based training in recruit training featured in the sample of studies. A simulation in the training environment is an activity 'to provide an experiential context for learning that offers participants a tangible, reality based experience' (LaLonde, 2004, p. 20). Studies found that simulations can be a highly effective learning tool for police recruits, although adequate training and the appropriateness of assessment techniques were stressed (Holbrook and Cennamo, 2014; Paquette and Bélanger, 2015).

**Recruit attitudes (n = 13).** The focus of this theme was examining recruit attitudes during training, over the course of the training, or as a direct result of the training. Regarding quality, one was appraised as being strong (using mixed methods), three were moderate (one using quantitative methods and two using mixed methods), and nine were weak (all using quantitative methods) studies.

Broadly speaking, studies in this theme found very little or no impact on recruit attitudes as a result of training or, in some cases, a negative impact on recruit attitudes (Mather, 2012; Steyn and De Vries, 2007). Recruits that began their training with positive attitudes about why they joined the profession, the role of police, or high levels of integrity tended to remain stable over the training period (Alain and Baril, 2005; Andersen, 2006; Blumberg *et al.*, 2016; Hoshell, 2009; Porter and Alpert, 2017). However, several studies found evidence of disillusionment when recruits began operational police work and faced a conflict between their initial idealism and the realities of the organization (Alain and Baril, 2005; Andersen, 2006; Verma, 2001). Reasons offered for this attitudinal decline were that recruits were probably less able to 'make a difference' than initially believed (Andersen, 2006), they may change their views of non-legalistic practices (Fekjær *et al.*, 2014), and that there were limited opportunities for career advancement (Alain and Baril, 2005).

Overall, evidence indicates that training intended to influence recruit attitudes towards the profession is less successful than is desirable, given that developing the correct attitude towards their role so as to meet expectations of recruits when they work in the field is an important aspect of police training.

## Discussion

Police recruit training has traditionally employed 'behaviourist instructional methodologies' based on the premise that learning occurs primarily through the reinforcement of desired responses (Birzer, 2003; Birzer and Tannehill, 2001). Physical activities, such as firearms training, mechanics of arrest, and driving, are taught and tested through the behaviourist approach, as changes in recruit behaviour are highly specific and observable (Chappell, 2008). This allows trainers to conveniently assess progress in performance towards required standards (Birzer and Tannehill, 2001).

However, the need for graduate-level training, as envisaged by the PEQF, is an acknowledgement that modern policing faces increasing complexity, which requires officers to respond to difficult and fast-changing challenges of a diverse society in more flexible ways. It, thus, places greater emphasis on the development of critical-thinking and problem-solving skills, as well as softer skills such as better communication and collaboration (Huey *et al.*, 2017).

The gamut of evidence on recruit police training spans across a number of themes and specific topics that emerged from this review, with some topics being more researched than others. Recurring themes included: the importance of understanding how recruits learn, incorporating andragogy into curricula, the limitations of the paramilitary model of police training, police socialization and occupational culture, integrating theory and practice, and the role of the tutor constable or FTO. Evaluation studies also identified a number of specific areas of recruit training that have attracted further research and inquiry, including cultural diversity training, mental health training, communications training, stress-related training, and the use of force. Substantial differences have been observed between the proportion of time spent on training officers, focusing on hard skills and their operational practice, and time devoted to developing softer skills. Areas such as communication, negotiation, multi-agency working, and problem-solving have reportedly been neglected within traditional training programmes (Lauritz *et al.*, 2013).

The nature of the research reviewed in this map was highly varied, with a larger proportion of quantitative (50%) and mixed-method studies (33%) than expected, as opposed to qualitative (17%). The nature of the studies and what was measured in each were notably different (Appendix A). Overall the quality of the evidence was fragile, with half of the included studies (50%) receiving a 'weak' score in the QA. For example, a number of studies reported a single post-intervention measure ( $n = 15$ , 14%), with no comparable control group.

Thus, our findings are only as robust as the quality of evidence that it is based on and we accept that as a limitation of the study.

One of the most striking findings emerging from the review was the lack of an agreed upon conception of what the training was aiming to achieve, i.e. what is the ideal of a professional police officer. In fact, much of the empirical evidence surveyed did not attempt to define the desired outcome of training in terms of officer capabilities and professional behaviour, but were more focused on interim outcomes in terms of change in attitude or understanding over the training period or individual satisfaction with parts of or the whole training programme.

Thus, in terms of contributing to the design and content of future training programmes, the current evidence supports some broad-brush conclusions about innovative training approaches, such as PBL or community-oriented models of training that have proven to be more 'effective' than traditional or paramilitary training models. The evidence reveals that perhaps focusing on training the trainers in these new models of training, and adopting appropriate teaching tools suited for particular learner needs, might be effective when designing new training programmes. Further, the lack of evidence in this review on the integration of theory and practice delivered in the classroom and via field training that currently exists in police training is considered to be a crucial knowledge gap, especially if the training is to be uplifted to a graduate-level entry programme, as envisaged in the UK. Based on evidence from other professions that have a graduate-level entry course, the integration of theory and practice requires field trainers and academic educators to collaborate both from a philosophical perspective (in having a shared vision of the expected outcome, i.e. what a professional police officer should look like), and an education perspective (co-designing the course and associated assessments) (Belur *et al.*, 2018).

Finally, it is evident that evaluation studies in this field have done little more than conclude training

effectiveness based on officer knowledge (via tests or assessments) or officer perceptions about usefulness (or otherwise) of training. The evidence also indicates that assessments themselves are not used particularly creatively, either formatively (assessments for learning) or summatively, for testing the effectiveness of training (assessments of learning). Future training programmes might be well advised to explore creative design and use of assessments to a fuller degree.

Thus, this overview of police recruit training reveals that the nature of available evidence is patchy at best, and covers a number of themes but does not explore in depth the nuances of why training does or does not work and is surprisingly lacking in any discussion of a theory of change underpinning training programmes. Thus, in terms of answering our research question: what can we learn from the existing evidence that will inform the development of a graduate-level training programme in the UK? This review contributes more in terms of identifying the gaps regarding what we currently do not know, but ought to, about recruit training than identifying what definitely works or does not work and why. This in itself is an important finding for those involved in police training research.

## Limitations

One of the biggest limitations of the study is the quality of evidence that informs it. Appendix A indicated that a majority of the studies are poor and moderate qualities. Thus, the conclusions drawn from them are tenuous at best. Secondly, the admittedly arbitrary cut-off date of 2000 as an inclusion criterion might have eliminated studies that might contain more useful evidence, which has not been captured by this map. Thirdly, we recognize that there is a considerable literature on police training in other languages, but the abilities of the research team restricted our search to English language studies. Finally, although this is an attempt to systematically review the evidence, there

is some element of subjectivity involved in the screening and coding process as they are decision-making by individuals, which can often be affected by a number of factors (Belur *et al.*, 2020). As the less-than-perfect agreement in the IRR process indicated, there exists a margin of error in the selection and coding of studies, which meant that perhaps some relevant studies were excluded or nuances of study findings might have been missed.

## Direction for future research

Our research indicates that the literature on police recruit training is fragmented and varies in terms of the study focus, methodological rigour, and outcomes measured. This systematic map clearly indicates that there is considerable room for improvement regarding the quality of empirical evidence in this area if the evidence base is to be generalizable beyond the limited context of individual studies. The map was useful in identifying areas where some evidence exists, albeit not always of reliable quality, but was more helpful in identifying areas where there are considerable gaps in our knowledge about what works in police recruit training. The lack of good evaluation studies employing robust methodology was marked. Thus, any attempts to ground the design and development of graduate recruit training programmes in evidence would be well served if accompanied not only by a clearly articulated theory of change that identifies interim outcomes and long-term impact, but also a robust process and outcome evaluation strategy.

In conclusion, we recommend that future research into police recruit training programmes would benefit from the following:

- (a) Explicitly defining the end goal of the training programme.
- (b) Explicitly articulating the theory and mechanisms underpinning the training; specifically link mechanisms to outcomes in order to identify whether something ‘works’ or not.

- (c) Paying special attention to the implementation and programme fidelity of training programmes being evaluated.
- (d) Conducting a cost–benefit analysis, especially while comparing new and old programmes.
- (e) Finally, the evidence indicates the need for conducting methodologically rigorous evaluations of existing and new training programmes, especially in the context of the reconceptualized recruit training and education approach envisaged by the PEQF in the UK.

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## References

(Studies included in the map are marked with an asterisk.)

- \*Alain, M. and Baril, C. (2005). ‘Crime Prevention, Crime Repression, and Policing: Attitudes of Police Recruits Towards Their Role in Crime Control.’ *International Journal of Comparative and Applied Criminal Justice* 29(2): 123–148.
- \*Andersen, E. L. (2006). *Perceptions, Attitudes, and Career Orientations of Recruit Police Officers*. Master’s thesis, Simon Fraser University.
- \*Arnetz, B. B., Arble, E., Backman, L., Lynch, A., and Lublin, A. (2013). ‘Assessment of a Prevention Program for Work-Related Stress among Urban Police Officers.’ *International Archives of Occupational and Environmental Health* 86(1): 79–88.
- \*Barrett, D. (2014). *The Impact of Training on Law Enforcement Recruits’ Attitudes Toward Persons with Mental Illness*. Ph.D. thesis, Walden University.

- Beckman, E. (1976). ‘Police Education and Training: Where Are We? Where Are We Going?.’ *Journal of Criminal Justice* 4(4): 315–322.
- Belur, J., Tompson, L., Thornton, A., and Simon, M. (2018). ‘Interrater Reliability in Systematic Review Methodology: Exploring Variability in Coder Decision-Making.’ *Sociological Research and Methodology*.
- Belur, J., Agnew-Pauley, W., McGinley, B., and Tompson, L. (2020). ‘A Systematic Review of Police Recruit Training Programmes’. *Policing* 14(1): 76–90.
- Belur, J., Agnew-Pauley, W., and Tompson, L. (2018). ‘Designing a Graduate Entry Route for Police Recruits: Lessons from a Rapid Evidence Assessment of Other Professions.’ *Police Practice and Research* 1–18.
- Belur, J., Agnew-Pauley, W., and McGinley, B. (2018). ‘Organisational Readiness for Degree Holders Entry Programme.’ In Hough, M. and Stanko, B. (eds), *Developing an Evidence Based Police Degree-Holder Entry Programme: Final Report*. London: MOPAC, pp. 46–57.
- Birzer, M. L. (2003). ‘The Theory of Andragogy Applied to Police Training.’ *Policing: An International Journal of Police Strategies & Management* 26(1): 29–42.
- Birzer, M. L. and Tannehill, R. (2001). ‘A More Effective Training Approach for Contemporary Policing.’ *Police Quarterly* 4(2): 233–252.
- Blakemore, B. and Simpson, K. (2010). ‘A Comparison of the Effectiveness of Pre- and Post-Employment Modes of Higher Education for Student Police Officers.’ *The Police Journal* 83(1): 29–41.
- \*Blumberg, D. M., Giromini, L., and Jacobson, L. B. (2016). ‘Impact of Police Academy Training on Recruits’ Integrity.’ *Police Quarterly* 19(1): 63–86.
- \*Bosse, T. and Gerritsen, C. (2017). *Towards Serious Gaming for Communication Training - A Pilot Study With Police Academy Students*. Paper presented at the 8th International Conference on Intelligent Technologies for Interactive Entertainment, Utrecht, the Netherlands, 28–30 June 2016.
- \*Bouras, J. (2002). *A Conceptual Curriculum Model for Basic and Field Law Enforcement Training in North Carolina*. PhD Thesis, North Carolina State University (United States).
- \*Broomé, R. E. (2011). ‘An Empathetic Psychological Perspective of Police Deadly Force Training.’ *Journal of Phenomenological Psychology* 42(2): 137–156.
- Brown, J., Belur, J., Tompson, L. et al. (2018). ‘Extending the Remit of Evidence-Based Policing.’ *International Journal of Police Science & Management* 20(1): 35–51.
- \*Bruns, D., Russell, B., Bruni, J., and Fuller, J. (2005). ‘Domestic Violence Training: Are Sexism and Victim Blame Mediators in Training Effectiveness?.’ *The Canadian Journal of Police & Security Services* 3(3): 161–174.

- \*Campbell, S. G. (2014). *An Exploratory Study of the Perceptions of Hired and Non-hired Recruits' Police Academy Experiences*. Ph.D. thesis, Capella University.
- CEPOL Glossary (2005). European Police College, Governing Board, 13–14 September.
- \*Chan, J. B. L., Devery, C., and Doran, S. (2003). *Fair Cop: Learning the Art of Policing*. Toronto; Buffalo; London: University of Toronto Press
- \*Chappell, A. T. (2007). 'Community Policing: Is Field Training the Missing Link?.' *Policing: An International Journal of Police Strategies & Management* 30(3): 498–517.
- \*Chappell, A. T. (2008). 'Police Academy Training: Comparing across Curricula.' *Policing: An International Journal of Police Strategies & Management* 31(1): 36–56.
- \*Chappell, A. T. and Lanza-Kaduce, L. (2010). 'Police Academy Socialization: Understanding the Lessons Learned in a Paramilitary-Bureaucratic Organization.' *Journal of Contemporary Ethnography* 39(2): 187–214.
- \*Charles, M. T. (2000). *Police Training: Breaking all the Rules. Implementing the Adult Education Model into Police Training*. Charles C Thomas Publisher.
- \*Clapham, S. L. (2009). *Knowledge and Understanding of Equality and Diversity: Are Hampshire Constabulary Student Police Officers Up to the Standard*. Master's thesis, University of Southampton.
- College of Policing (2016). Proposals for Qualifications in Policing. [www.college.police.uk/News/College-news/Pages/peqf\\_consultation.aspx](http://www.college.police.uk/News/College-news/Pages/peqf_consultation.aspx) (accessed 11 December 2017).
- College of Policing (2018). 'Initial Police Learning.' <http://www.college.police.uk/What-we-do/Learning/Curriculum/Initial-learning/pages/initial-learning.aspx> (accessed 12 January 2018).
- \*Conti, N. (2000). *Creating the Thin Blue Line: Twenty-One Weeks of Police Socialization*. Ph.D. thesis, University of Pittsburgh.
- \*Conti, N. (2011). 'Weak Links and Warrior Hearts: A Framework for Judging Self and Others in Police Training.' *Police Practice & Research* 12(5): 410–423.
- \*Conti, N. and Doreian, P. (2014). 'From Here on Out, We're all Blue: Interaction Order, Social Infrastructure, and Race in Police Socialization.' *Police Quarterly*, 17(4): 414–447.
- Cordner, G. and Shain, C. (2016). 'The Changing Landscape of Police Education and Training'. In Kratoski, P. and Edlebacher, M. (eds), *Collaborative Policing: Police, Academics, Professionals, and Communities Working Together for Education, Training, and Program Implementation*. Boca Raton, FL: CRC Press, pp. 51–62.
- Cordner, G. and Shain, C. (2011). 'The Changing Landscape of Police Education and Training.' *Police Practice and Research* 12(4): 281–285.
- \*Council of State Governments Justice Center (2017). 'The Variability in Law Enforcement State Standards: A 42-State Survey on Mental Health and Crisis De-escalation Training.' <https://csjusticecenter.org/wp-content/uploads/2017/02/JC-LE-Survey.pdf> (accessed 02 April 2019).
- \*Crawley, A. A., Sherman, R. A., Crawley, W. R., and Cosio-Lima, L. M. (2016). 'Physical Fitness of Police Academy Cadets: Baseline Characteristics and Changes During a 16-Week Academy.' *Journal of Strength and Conditioning Research* 30(5): 1416–1424.
- \*Crime and Misconduct Commission (2010). *The Ethical Perceptions and Attitudes of Queensland Police Service Recruits and First Year Constables 1995–2008*. Brisbane, Queensland: Crime and Misconduct Commission, Available online at: <http://www.cmc.qld.gov.au/data/portal/00000005/content/25310001288920372445.pdf>.
- Critical Appraisal Skills Programme (2017). 'CASP Qualitative Checklist.' [http://docs.wixstatic.com/ugd/dded87\\_25658615020e427da194a325e7773d42.pdf](http://docs.wixstatic.com/ugd/dded87_25658615020e427da194a325e7773d42.pdf) (accessed 11 December 2017).
- \*Cuvelier, S. J., Jia, D. and Jin, C. (2015). 'Chinese Police Cadets' Attitudes Toward Police Roles Revisited.' *Policing*, 38(2): 250–264.
- \*Dando, C., Wilcock, R., and Milne, R. (2009). 'Cognitive Interview: Novice Police Officers' Witness/Victim Interviewing Practices.' *Psychology, Crime & Law* 15(8): 679–696.
- \*Davies, A. (2015). 'The Hidden Advantage in Shoot/Don't Shoot Simulation Exercises for Police Recruit Training.' *Salus Journal* 3(1): 16–30.
- \*Davies, A. and Nixon, J. (2010). *Making It Real - From The Street to the Online Classroom in Police Education: What Is the Impact on Student Learning?*. Paper presented at the Ascilite Conference, Sydney, 5–8 December 2010.
- \*Davies, A. (2017). 'Shoot/Do Not shoot - What Are the Influences? The Police Recruit Perspective.' *Policing & Society* 27(5): 494–507.
- \*De Schrijver, A. and Maesschalck, J. (2015). 'The Development of Moral Reasoning Skills in Police Recruits.' *Policing*, 38(1): 102–116.
- \*Deverge, C. A. (2016). *Police Education and Training: A Comparative Analysis of Law Enforcement Preparation in the United States and Canada*. Master's thesis, The University of Southern Mississippi (United States).
- \*Devilly, G. J. and Varker, T. (2013). *The Prevention of Trauma Reactions in Police Officers: Decreasing Reliance on Drugs and Alcohol*. Canberra: National Drug Law Enforcement Research Fund. <http://www.ndlerf.gov.au/sites/default/files/publication-documents/monographs/monograph47.pdf> (accessed 02 April 2019).
- \*Drakou, M. and Lanitis, A. (2016). *On the Development and Evaluation of a Serious Game for Forensic Examination*

- Training. Paper presented at the 18th Mediterranean Electronical Conference*, Cyprus, 18–20 April 2016.
- \*Drummond, F. J. (2010). *Criminal Justice Education: Investigation of Retention, Self-Efficacy, and Teaching Style in College Based versus Law Enforcement Academies*. Ph.D. thesis, Capella University.
- Effective Public Health Practice Project (2017). 'Quality Assessment Tool for Quantitative Studies.' [http://www.ehphp.ca/PDF/Quality%20Assessment%20Tool\\_2010\\_2.pdf](http://www.ehphp.ca/PDF/Quality%20Assessment%20Tool_2010_2.pdf) (accessed 02 April 2019).
- \*Fekjær, S. B., Petersson, O., and Thomassen, G. (2014). 'From Legalist to Dirty Harry: Police Recruits' Attitudes Towards Non-legalistic Police Practice.' *European Journal of Criminology* 11(6): 745–759.
- \*Foley, J. S. M. (2014). 'Training for Success?: An Analysis of the Irish Garda Siochana Trainee Programmes from 1922 to Present Day'. Ph.D. thesis, University of Portsmouth.
- \*Gawlinski, G. C. (2009). 'Supporting the use of Journal Entries within the Calgary Police Service Recruit Training Program'. Master's thesis, Royal Roads University (Canada).
- \*Getty, R. M., Worrall, J. L., and Morris, R. G. (2016). 'How Far from the Tree Does the Apple Fall? Field Training Officers, Their Trainees, and Allegations of Misconduct.' *Crime and Delinquency* 62(6): 821–839.
- Glenn, R. W., Panitch, B. R., Barnes-Proby, D., et al. (2003). *Training the 21st century police officer: Redefining police professionalism for the Los Angeles Police Department*. Los Angeles: RAND Corporation.
- Gough, D., Oliver, S., and Thomas, J. (2012). *An Introduction to Systematic Reviews*. London: Sage Publications Ltd.
- \*Green, R. C. D. (2001). *Comparative Study of the Effectiveness of Three of the Probationer Training Units Within Hertfordshire Constabulary*. Master's thesis, University of Hull.
- Green, T. and Gates, A. (2014). 'Understanding the Process of Professionalisation in the Police Organisation.' *The Police Journal* 87(2): 75–91.
- \*Grieco, J. (2016). *Attitudinal Dimensions and Openness to Evidence-based Policing: Perspectives of Academy Recruits*. PhD thesis, George Mason University (United States).
- \*Haarr, R. N. (2001). 'The Making of a Community Policing Officer: The Impact of Basic Training and Occupational Socialization on Police Recruits.' *Police Quarterly* 4(4): 402–433.
- \*Hartwig, M., Granhag, P. A., Strömwall, L. A., and Kronkvist, O. (2006). 'Strategic Use of Evidence During Police Interviews: When Training to Detect Deception Works.' *Law and Human Behavior* 30(5): 603–619.
- \*Hendricks, M. R. (2014). *Gauging Alignment Between School and Work: An Activity Theory Analysis of Police Report Writing Instruction*. Ph.D. thesis, The University of Texas at El Paso.
- \*Heslop, R. (2011a). 'Reproducing Police Culture in a British University: Findings from an Exploratory Case Study of Police Foundation Degrees.' *Police Practice & Research* 12(4): 298–312.
- \*Heslop, R. (2011b). 'Community Engagement and Learning as "Becoming": Findings from a Study of British Police Recruit Training.' *Policing & Society* 21(3): 327–342.
- \*Heslop, R. (2013a). *Comparison of Police Pre-employment Training and Education in the UK and USA. Paper presented at the 4th Annual Conference of the Higher Education Forum for Police Learning and Development (POLCON 4)*, Canterbury Christ Church University, Canterbury, UK, 3–4 September 2013.
- \*Heslop, R. (2013b). *Police Pre-employment Training the United States of America: (A Study Conducted under the Auspices of a Fulbright Police Research Scholarship)*. Wakefield: West Yorkshire Police Training and Development Centre, <http://www.richardheslop.net/PDFs/Heslop%20Fulbright%20USA%20Police%20Training%20Report.pdf>.
- \*Hess, E. M. (2014). *Developing Communications Skills for 21st Century Policing: Evaluating the LAPD Academy's New Recruit Basic Course*. Ph.D. thesis, Fuller Theological Seminary.
- Hilal, S., Densley, J., and Zhao, R. (2013). 'Cops in College: Police Officers' Perceptions on Formal Education.' *Journal of Criminal Justice Education* 24(4): 461–477.
- \*Holbrook, H. A. and Cennamo, K. S. (2014). 'Effects of High-Fidelity Virtual Training Simulators on Learners' Self-Efficacy.' *International Journal of Gaming and Computer-Mediated Simulations* 6(2): 38–52.
- \*Hoshell, G. E. (2009). *A Study of the Perceptions and Attitudes of Recruits and Veteran Officers in Relation to Police Motivation and Retention*. Ph.D. thesis, Capella University.
- Huey, L., Kalyal, H., and Peladeau, H. (2017). 'Preparing Police Recruits of the Future: An Educational Needs Assessment.' *Sociology Publications* 37. <http://ir.lib.uwo.ca/sociologypub/37>.
- \*Hundersmarck, S. (2004). *Sixteen Weeks and a Year: The Generalization of Knowledge and Identity Between the Police Academy and Police Field Training*. Ph.D. thesis, Michigan State University.
- \*Hundersmarck, S. (2009). 'Police Recruit Training Facilitating Learning Between the Academy and Field Training.' *FBI Law Enforcement Bulletin* 78(8): 26–31.
- Interpol (2012). *International Police Training Journal* [https://www.interpol.int/content/download/13099/91429/version/2/file/Ejournal\\_issue03\\_2012.pdf](https://www.interpol.int/content/download/13099/91429/version/2/file/Ejournal_issue03_2012.pdf) (accessed 11 December 2017).
- \*Jeter, P. E., Cronin, S., and Khalsa, S. B. S. (2013). 'Evaluation of the Benefits of a Kripalu Yoga Program

- for Police Academy Trainees: A Pilot Study.' *International Journal of Yoga Therapy* 23(1): 24–30.
- Jones, M. (2016). 'Creating the "Thinking Police Officer": Exploring Motivations and Professional Impact of Part-Time Higher Education.' *Policing: A Journal of Policy and Practice* 10(3): 232–240.
- \*Jordan, E. B. (2014). *Comparison of Entry-level Police Officers and Training Instructors' Perceptions of the Training Environment as it Relates to the Transferability of Training*. PhD thesis, Capella University (United States).
- \*Kaur, S. (2017). *Mental Illness and Interrogation: How Police Officers' Confidence Measures Up*. Ph.D. thesis, The Chicago School of Professional Psychology.
- \*King Stargel, T. M. (2010). *The Perceived Value of Problem-Based Learning at a Police Training Academy*. Ph.D. thesis, Seattle University.
- \*Kringen, A. L. (2014). *Understanding Barriers That Affect Recruiting and Retaining Female Police Officers: A Mixed Method Approach*. Ph.D. thesis, Texas State University.
- \*LaLonde, M. W. (2004). *Assessment in Police Recruit Training Simulations*. Master's thesis, Royal Roads University.
- \*Lande, B. J. (2010). *Bodies of Force: The Social Organization of Force, Suffering, and Honor in Policing*. Ph.D. thesis, University of California.
- Lauritz, L. E., Astrom, E., Nyman, C., and Klingvall, M. (2013). 'Police Students' Learning Preferences, Suitable Responses from the Learning Environment.' *Policing* 7(2): 195–203.
- \*Lettig, S. (2016). *Problem Based Learning (PBL) in Police Training: An Evaluation of the Recruit Experience*. Ph.D. thesis, Capella University.
- \*Lieberman, J. and Horth, L. (2006). 'Use of the EYEPOR Vision Training System to Enhance the Visual Performance of Police Recruits a Pilot Study.' *Journal of Behavioral Optometry* 17(4): 87–92.
- \*Mather, P. (2012). *An Examination of the Effectiveness of Initial Training for New Police Recruits in Promoting Appropriate Attitudes and Behaviour for Twenty First Century Policing*. Ph.D. thesis, University of Newcastle Upon Tyne.
- \*McCarty, W. P. and Lawrence, D. S. (2016). 'Coping, Confidence and Change Within the Academy a Longitudinal Look at Police Recruits.' *Police Practice and Research* 17(3): 263–278.
- \*McCay, D. A. (2011). *They Are Old Enough to Carry Guns, Should We Teach Them like Children? The Application of Adult Learning Strategies in Police Training*. Ph.D. thesis, Purdue University.
- \*McMorris, M. A. (2001). *Perceptions of Criminality: Michigan Police Recruits Rank Likely Criminal Types. Year 2000 Exploratory Study*. Ph.D. thesis, Capella University.
- \*Meier, A. M., Arentsen, T. J., Pannell, L., and Putman, K. M. (2016). 'Attrition of Police Officers as Predicted by Peer Evaluations During Academy Training.' *Policing and Society* 1–10.
- \*Miles-Johnson, T., and Pickering, S. (2017). 'Police Recruits and Perceptions of Trust in Diverse Groups.' *Police Practice and Research* 1–18.
- \*Miles-Johnson, T., Mazerolle, L., Pickering, S., and Smith, P. (2016). 'Police Perceptions of Prejudice: How Police Awareness Training Influences the Capacity of Police to Assess Prejudiced Motivated Crime.' *Policing and Society* 1–16.
- \*Morrow, J. L. (2008). *Creating the Blue Code: Identity, Gender and \*Class in a Police Training Environment*. PhD thesis, University of Colorado (United States).
- Munn, Z., Porritt, K., Lockwood, C., Aromataris, E., and Pearson, A. (2014). 'Establishing Confidence in the Output of Qualitative Research Synthesis: The ConQual Approach.' *BMC Medical Research Methodology* 14(1): 108–115.
- \*Nevers, K. A. (2014). *The Impact of Background and Demographic Differences on Selection Standards and Academy Performance*. PhD thesis, University of Florida (United States).
- Neyroud, P. W. (2011). *Review of Police Leadership and Training*. London: Home Office.
- \*Novakowski, M. (2003). *Exploring Field Training Within British Columbia's Independent Police Agencies: It's the Singer, Not the Song*. Master's thesis, Royal Roads University.
- \*Orr, R. M., Ford, K., and Stierli, M. (2016). 'Implementation of an Ability-Based Training Program in Police Force Recruits.' *Journal of Strength and Conditioning Research* 30(10): 2781–2787.
- \*Page, J. W., Asken, M. J., Zwemer, C. F., and Guido, M. (2016). 'Brief Mental Skills Training Improves Memory and Performance in High Stress Police Cadet Training.' *Journal of Police and Criminal Psychology* 31(2): 122–126.
- Paoline, E. A. III and Terrill, W. (2007). 'Police Education, Experience, and the Use of Force.' *Criminal Justice and Behavior* 34(2): 179–196.
- Paoline, E. A. III, Terrill, W., and Rossler, M. T. (2015). 'Higher Education, College Degree Major, and Police Occupational Attitudes.' *Journal of Criminal Justice Education* 26(1): 49–73.
- \*Paquette, E. and Bélanger, D. C. (2015). 'Does Simulator Sickness Impair Learning Decision Making While Driving a Police Vehicle? (Le mal du simulateur: un frein à l'apprentissage de la prise de décision en conduite d'un véhicule de police? )'. *Canadian Journal of Learning and Technology* 41(2): 1–17.
- Paterson, C. (2011). 'Adding Value? A Review of the International Literature on the Role of Higher Education in Police Training and Education.' *Police Practice and Research* 12(4): 286–297.

- \*Patterson, G. T. (2016). 'A Brief Exploratory Report of Coping Strategies among Police Recruits During Academy Training.' *Psychological Reports* **119**(2): 557–567.
- \*Perry, L. R. (2012). *Twenty-first Century Police Training: Recruits' Problem-solving Skills Following Scenario-based Training*. PhD thesis, Fuller Theological Seminary (United States).
- Pluye, P., Robert, E., Cargo, M. *et al.* (2011). 'Proposal: A Mixed Methods Appraisal Tool for Systematic Mixed Studies Reviews.' <http://mixedmethodsappraisaltoolpublic.pbworks.com> (accessed 11 December 2017).
- \*Poradzisz, D. J. (2004). *Alternative Instructional Methods in Police Learning*. Ph.D. thesis, University of Illinois at Chicago.
- \*Porter, L. E. and Alpert, G. P. (2017). 'Understanding Police Recruits' Attitudes Toward Public Interactions: An Australian Example.' *Police Quarterly* **20**(4): 1–32.
- President's Commission on Law Enforcement and Administration of Justice (1967). *The Challenge of Crime in a Free Society*. Washington, D.C.: Government Printing Office.
- \*Randles, M. G. (2001). *Effectiveness of Multiple-choice Examinations in the Development of Stage 2 Police Probationer Students*. Master's thesis, University of Hull (United Kingdom).
- \*Rantatalo, O. and Karp, S. (2016). 'Collective Reflection in Practice: An Ethnographic Study of Swedish Police Training.' *Reflective Practice* **17**(6): 708–723.
- \*Reaves, B. A. (2016). *State and Local Law Enforcement Training Academies*. 2013. Washington: Bureau of Justice Statistics. Available online at <http://www.bjs.gov/content/pub/pdf/slleta13.pdf>.
- \*Renahan, M. J. (2005). *Perception of police executives in New Jersey regarding the relationship of basic police academy training to expectations of proficiency or skills required for duty in their respective communities*. EdD thesis, Seton Hall University (United States).
- Roberg, R. and Bonn, S. (2004). 'Higher Education and Policing: Where Are We Now?.' *Policing: An International Journal of Police Strategies & Management* **27**(4): 469–486.
- \*Rojek, J., Kaminski, R. J., Smith, M. R. and Scheer, C. (2007). *The standard of local law enforcement training in the United States: A national and state analysis*. South Carolina: Department of Criminology & Criminal Justice, University of South Carolina [http://citation.allacademic.com/meta/p\\_mla\\_apa\\_research\\_citation/2/0/0/3/1/p200317\\_index.html](http://citation.allacademic.com/meta/p_mla_apa_research_citation/2/0/0/3/1/p200317_index.html) (accessed 02 April 2019).
- \*Rosenbaum, D. P. and Lawrence, D. S. (2012). *Teaching Respectful Police-Citizen Encounters and Good Decision Making: Results of a Randomized Control Trial with Police Recruits*. Chicago: Institute for Public Policy and Social Research. <http://www.ippsr.msu.edu/research/teaching-respectful-police-citizen-encounters-and-good-decision-making-results-randomized>.
- \*Rostker, B. D., Hanser, L. M., Hix, W. M. *et al.* (2008). *Evaluation of the New York City Police Department Firearm Training & Firearm-Discharge Review Process*. Rand Corporation
- Rydberg, J. and Terrill, W. (2010). 'The Effect of Higher Education on Police Behavior.' *Police Quarterly* **13**(1): 92–120.
- \*Saus, E. R., Johnsen, B. H., Eid, J. *et al.* (2006). 'The Effect of Brief Situational Awareness Training in a Police Shooting Simulator: An Experimental Study.' *Military Psychology* **18**(Suppl 1): S3–S21.
- \*Schlosser, M. D. (2011). *Evaluating the Midwest Police Academy's Ability to Prepare Recruits to Police in a Diverse Multicultural Society*. Ph.D. thesis, University of Illinois at Urbana-Champaign.
- \*Schlosser, M. D. (2013). 'Racial Attitudes of Police Recruits in the United States Midwest Police Academy: A Quantitative Examination.' *International Journal of Criminal Justice Sciences* **8**(2): 215–224.
- \*Schlosser, M. D., Cha-Jua, S., Valgoi, M. J., and Neville, H. A. (2015). 'Improving Policing in a Multiracial Society in the United States: A New Approach.' *International Journal of Criminal Justice Sciences* **10**(1): 115–121.
- Schucan Bird, K., Vigurs, C., Quy, K., and Gough, D. (2016). *Criminal Justice Interventions with Perpetrators or Victims of Domestic Violence: A Systematic Map of the Empirical Literature*. London: UCL.
- \*Schuck, A. M. and Rosenbaum, D. P. (2011). *The Chicago Quality Interaction Training Program: A Randomized Control Trial of Police Innovation*. Chicago: National Police Research Platform, National Institute of Justice.
- \*Sedevic, M. T. (2012). 'An evaluation of the emergency response week curriculum.' *Policing: An International Journal of Police Strategies & Management*. **35**(3): 438–457.
- \*Seggie, B. W. (2011). *Initial Police Training for the 21st Century: Is the Learning Strategy Meeting the Needs of the Organisation?.* Ph.D. thesis, University of Southampton.
- Shernock, S. K. (1992). 'The Effects of College Education on Professional Attitudes among Police.' *Journal of Criminal Justice Education* **3**(1): 71–92.
- \*Shipton, B. (2009). 'Problem Based Learning: Does It Provide Appropriate Levels of Guidance and Flexibility for Use in Police Recruit Education?.' *Journal of Learning Design* **3**(1): 57–67.
- \*Shipton, B. (2011). 'Expanding Police Educators' Understanding of Teaching, Are They as Learner-Centred as They Think?.' *Journal of Learning Design* **4**(2): 1–19.

- \*Shochet, I. M., Shakespeare-Finch, J., Craig, C. et al. (2011). 'The Development and Implementation of the Promoting Resilient Officers (PRO) Program.' *Traumatology* 17(4): 43–51.
- \*Stanislas, P. (2013). 'Transforming St Lucian Policing Through Recruit Training in a Context of High Crime.' In Stanislas, P. (ed.), *International Perspectives on Police Education and Training*. Abingdon: Routledge, pp. 209–234.
- \*Steyn, J. and De Vries, I. (2007). 'Exploring the Impact of the Saps Basic Training Institutes in Changing the Deviant Police Culture Attitudes of New Recruits.' *Acta Criminologica - South African Criminology Journal* 20(1): 1–34.
- \*Stroupe, W. E. (2003). *A Study of West Virginia State Police Academy Graduates' Perceptions of Their Degrees of Competence and the Relevance of the Marshall University Community and Technical College Police Science Curriculum*. PhD Thesis, Marshall University (United States).
- Telep, C. W. (2016). 'Expanding the Scope of Evidence-Based Policing.' *Criminology & Public Policy* 15(1): 1–10.
- Telep, C. W. (2017). 'Police Officer Receptivity to Research and Evidence-Based Policing: Examining Variability within and across Agencies.' *Crime & Delinquency* 63(8): 976–999.
- \*Thorneywork, D. (2004). *Just how good is Nellie or Neil? Assessing the teaching skills of the tutor constable*. Master's Thesis, University of the West of England (United Kingdom).
- \*Traut, C. A., Feimer, S., Emmert, C. F., and Thom, K. (2000). 'Law enforcement recruit training at the state level: An evaluation.' *Police Quarterly* 3(3): 294–314.
- \*Trump, M. W. (2003). *Does the Delivery Model of a Firearms Training Program Affect Qualification Scoring and Shooting Accuracy?*. Master's Thesis, Royal Roads University (Canada).
- \*Vander Kooi, G. P. (2006). *Problem-Based Learning: An Attitudinal Study of Police Academy Students*. Ph.D. thesis, Western Michigan University.
- \*Verma, A. (2001). 'Making of the Police Manager: Bharat versus India.' *International Journal of Comparative Criminology* 1(1): 77–94.
- \*Vodde, R. F. (2008). *The Efficacy of an Andragogical Instructional Methodology in Basic Police Training and Education*. PhD Thesis, University of Leicester (United Kingdom).
- Vollmer, A. (1936). *The Police and Modern Society: Plain Talk Based on Practical Experience*. Berkeley: University of California Press.
- \*Warners, R. H. (2010). 'The Field Training Experience: Perspectives of Field Training Officers and Trainees.' *The Police Chief*, 77(11): 58–64.
- \*Weber, A. A. M. (2012). *An Evaluation of a Midwestern Police Academy*. Master's thesis, University of Minnesota.
- Wimshurst, K. and Ransley, J. (2007). 'Police Education and the University Sector: Contrasting Models from the Australian Experience.' *Journal of Criminal Justice Education* 18(1): 106–122.
- \*Wong, J. S. Y. (2014). *Field Training Officers' Ratings of Communication and Listening Skills in Police Officer Trainees*. Ph.D. thesis, Fuller Theological Seminary, School of Psychology.
- \*Wooden, K. and Nixon, J. (2014). 'The Incorporation of Obedience to Authority into New South Wales Police Force Recruit Training.' *Salus Journal* 2(1): 43–62.
- \*Young, J. (2015). *A Comparison Between the Effects of the One-Hour and Twelve-Hour Massachusetts Municipal Basic Recruit Officer Course Mental Health Training on Officer's de-Escalation Skills, Self-Efficacy, and Stigmatizing Attitudes*. Ph.D. thesis, William James College (formerly Massachusetts School of Professional Psychology).
- \*Zimny, K. (2015). 'Racial Attitudes of Police Recruits at the United States Midwest Police Academy: A Second Examination.' *International Journal of Criminal Justice Sciences* 10(1): 91–101.

## Appendix A – Quality ratings (all studies)

Author (Year)	Methodology	Quality rating	Theme	Sub-theme
Alain and Chantal (2005)	Quantitative	Weak	Recruit attitudes	
Andersen (2006)	Quantitative	Weak	Recruit attitudes	
Arnetz <i>et al.</i> (2013)	Quantitative	Strong	Examining part of programme	Stress/coping mechanisms
Barrett (2014)	Quantitative	Weak	Examining part of programme	Mental health
Blumberg <i>et al.</i> (2016)	Quantitative	Weak	Recruit attitudes	
Bosse and Gerritsen (2017)	Quantitative	Weak	New learning/teaching tool	Use of IT/VLE
Bouras (2002)	Mixed	Weak	Examining academic and/or field training programme	New learning model/ curriculum
Broomé (2011)	Qualitative	Weak	Examining part of programme	Firearms training and the use of force
Bruns <i>et al.</i> (2005)	Quantitative	Weak	Examining part of programme	Other (domestic violence)
Campbell (2014)	Mixed	Weak	Examining academic and/or field training programme	Comparing different training/recruit requirements
Chan <i>et al.</i> (2003)	Mixed	Strong	How recruits learn	Socialization
Chappell (2008)	Quantitative	Weak	Examining academic and/or field training programme	New learning model/ curriculum
Chappell (2007)	Qualitative	Moderate	Examining academic and/or field training programme	Field training
Chappell and Lanza-Kaduce (2010)	Qualitative	Moderate	How recruits learn	Socialization
Charles (2000)	Mixed	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Clapham (2009)	Qualitative	Strong	Examining part of programme	Cultural diversity
Conti and Doreian (2014)	Mixed	Moderate	How recruits learn	Socialization
Conti (2000)	Mixed	Moderate	How recruits learn	Socialization
Conti (2011)	Qualitative	Moderate	How recruits learn	Socialization
Crawley <i>et al.</i> (2016)	Quantitative	Weak	Examining part of programme	Fitness training
Crime and Misconduct Commission (2010)	Quantitative	Weak	Recruit attitudes	
Cuvelier <i>et al.</i> (2015)	Quantitative	Weak	Recruit attitudes	
Dando <i>et al.</i> (2009)	Quantitative	Weak	Examining part of programme	Communication skills
Davies (2015)	Mixed	Moderate	Examining part of programme	Firearms training and the use of force
Davies and Nixon (2010)	Quantitative	Weak	New learning/teaching tool	Use of IT/VLE
Davies (2017)	Mixed	Moderate	Examining part of programme	Firearms training and use of force

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Author (Year)	Methodology	Quality rating	Theme	Sub-theme
De Schrijver and Maesschalck (2015)	Mixed	Moderate	How recruits learn	Socialization
Deverge (2016)	Mixed	Moderate	Examining academic and/or field training programme	Comparing different training/recruit requirements
Devilly and Varker (2013)	Quantitative	Strong	Examining part of programme	Stress/coping mechanisms
Drakou and Lanitis (2016)	Mixed	Weak	New learning/teaching tool	Use of IT/VLE
Drummond (2010)	Quantitative	Weak	Examining academic and/or field training programme	Role of HE
Fekjær <i>et al.</i> (2014)	Quantitative	Weak	Recruit attitudes	
Foley (2014)	Mixed	Strong	Examining academic and/or field training programme	Relevance and effectiveness of training
Gawlinski (2009)	Mixed	Moderate	New learning/teaching tool	Journal entries
Getty <i>et al.</i> (2016)	Quantitative	Weak	Examining academic and/or field training programme	Field training
Green (2001)	Mixed	Moderate	Examining academic and/or field training programme	Field training
Grieco (2016)	Mixed	Moderate	Recruit attitudes	
Haarr (2001)	Quantitative	Weak	How recruits learn	Socialization
Hartwig <i>et al.</i> (2006)	Mixed	Moderate	Examining part of programme	Communication skills
Hendricks (2014)	Qualitative	Strong	How recruits learn	Learning theory
Heslop (2013a,b)	Qualitative	Weak	Examining academic and/or field training programme	Comparing different training/recruit requirements
Heslop (2011b)	Qualitative	Moderate	How recruits learn	Learning theory
Heslop (2013a,b)	Mixed	Moderate	Examining academic and/or field training programme	Comparing different training/recruit requirements
Heslop (2011a)	Qualitative	Moderate	How recruits learn	Socialization
Hess (2014)	Mixed	Moderate	Examining academic and/or field training programme	New learning model/curriculum
Holbrook and Cennamo (2014)	Mixed	Moderate	New learning/teaching tool	Simulation
Hoshell (2009)	Mixed	Moderate	Recruit attitudes	
Hundersmarck (2009)	Qualitative	Weak	Examining academic and/or field training programme	Field training
Hundersmarck (2004)	Qualitative	Strong	Examining academic and/or field training programme	Field training
Jeter <i>et al.</i> (2013)	Quantitative	Weak	Examining part of programme	Stress/coping mechanisms
Jordan (2014)	Quantitative	Weak	Examining academic and/or field training programme	Relevance and effectiveness of training
Council of State Governments Justice Center (2017)	Quantitative	Weak	Examining part of programme	Mental health
Kaur (2017)	Quantitative	Weak	Examining part of programme	Mental health

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Author (Year)	Methodology	Quality rating	Theme	Sub-theme
King Stargel, (2010)	Qualitative	Strong	Examining academic and/or field training programme	New learning model/ curriculum
Kringen (2014)	Mixed	Strong	Other	Gender
LaLonde (2004)	Mixed	Moderate	New learning/teaching tool	Simulation
Lande (2010)	Qualitative	Strong	Examining part of programme	Firearms training and the use of force
Lettic (2016)	Mixed	Strong	Examining academic and/or field training programme	New learning model/ curriculum
Liberman and Horth (2006)	Quantitative	Weak	New learning/teaching tool	Use of IT/VLE
Mather (2012)	Mixed	Strong	Recruit attitudes	
McCarty and Lawrence (2016)	Quantitative	Weak	Examining part of programme	Stress/coping mechanisms
McCay (2011)	Qualitative	Strong	How recruits learn	Learning theory
McMorris (2001)	Quantitative	Weak	Examining part of programme	Cultural diversity
Meier <i>et al.</i> (2016)	Quantitative	Weak	Other	Predicting success
Miles-Johnson <i>et al.</i> (2016)	Quantitative	Weak	Examining part of programme	Cultural diversity
Miles-Johnson and Pickering (2017)	Quantitative	Weak	Examining part of programme	Cultural diversity
Morrow (2008)	Qualitative	Moderate	How recruits learn	Socialization
Nevers (2014)	Quantitative	Weak	Examining academic and/or field training programme	Comparing different training/recruit requirements
Novakowski (2003)	Mixed	Moderate	Examining academic and/or field training programme	Field training
Orr <i>et al.</i> (2016)	Quantitative	Weak	Examining part of programme	Fitness training
Page <i>et al.</i> (2016)	Quantitative	Weak	Examining part of programme	Stress/coping mechanisms
Paquette and Bélanger (2015)	Quantitative	Weak	New learning/teaching tool	Simulation
Patterson (2016)	Quantitative	Moderate	Examining part of programme	Stress/coping mechanisms
Paterson (2011)	Quantitative	Weak	Examining part of programme	Other (child abuse)
Perry (2012)	Quantitative	Weak	Examining academic and/or field training programme	New learning model/ curriculum
Poradzisz (2004)	Mixed	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Porter and Alpert (2017)	Quantitative	Weak	Recruit attitudes	
Randles (2001)	Mixed	Moderate	Examining part of programme	Other (assessment)
Rantatalo and Karp (2016)	Qualitative	Moderate	How recruits learn	Learning theory
Reaves (2016)	Quantitative	Weak	Examining academic and/or field training programme	Comparing different training/recruit requirements
Renahan (2005)	Quantitative	Weak	Examining academic and/or field training programme	New learning model/ curriculum
Rojek <i>et al.</i> (2007)	Quantitative	Weak	Examining academic and/or field training programme	Comparing different training/recruit requirements

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Author (Year)	Methodology	Quality rating	Theme	Sub-theme
Rosenbaum and Lawrence (2012)	Quantitative	Weak	Examining part of programme	Communication skills
Rostker <i>et al.</i> (2008)	Qualitative	Moderate	Examining part of programme	Firearms training and use of force
Saus <i>et al.</i> (2006)	Quantitative	Weak	Examining part of programme	Firearms training and use of force
Schlosser <i>et al.</i> (2015)	Mixed	Weak	Examining part of programme	Cultural diversity
Schlosser (2011)	Mixed	Moderate	Examining part of programme	Cultural diversity
Schlosser (2013)	Quantitative	Weak	Examining part of programme	Cultural diversity
Schuck and Rosenbaum (2011)	Quantitative	Weak	Examining part of programme	Communication skills
Sedevic (2012)	Quantitative	Weak	Examining part of programme	Other (emergency response)
Seggie (2011)	Mixed	Moderate	Examining academic and/or field training programme	Relevance and effectiveness of training
Shipton (2011)	Mixed	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Shipton (2009)	Qualitative	Moderate	How recruits learn	Learning theory
Shochet <i>et al.</i> (2011)	Mixed	Weak	Examining part of programme	Stress/coping mechanisms
Stanislas (2013)	Mixed	Moderate	Examining academic and/or field training programme	Relevance and effectiveness of training
Steyn and De Vries (2007)	Quantitative	Moderate	Recruit attitudes	
Stroupe (2003)	Quantitative	Weak	Examining academic and/or field training programme	Role of HE
Thorneywork (2004)	Mixed	Moderate	Examining academic and/or field training programme	Field training
Traut <i>et al.</i> (2000)	Quantitative	Weak	Examining academic and/or field training programme	Relevance and effectiveness of training
Trump (2003)	Quantitative	Moderate	Examining part of programme	Firearms training and use of force
Vander Kooi (2006)	Quantitative	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Verma (2001)	Quantitative	Weak	Recruit attitudes	
Vodde (2008)	Mixed	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Warners (2010)	Quantitative	Weak	Examining academic and/or field training programme	Field training
Weber (2012)	Mixed	Moderate	Examining academic and/or field training programme	Relevance and effectiveness of training
Wong (2014)	Qualitative	Moderate	Examining academic and/or field training programme	New learning model/ curriculum
Wooden and Nixon (2014)	Quantitative	Weak	Recruit attitudes	
Young (2015)	Quantitative	Weak	Examining part of programme	Mental health
Zimny (2015)	Quantitative	Moderate	Examining part of programme	Cultural diversity

## Appendix B – Geographic map of study locations



**Note:** For visual purposes, Sri Lanka was chosen to represent 'South Asia' and Indonesia to represent 'Southeast Asia' as Lettic (2016) did not specify countries.