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Researching the 'blue glass ceiling' of police leadership; the barriers and challenges faced by senior women police officers – A critical examination of research methodologies.

ABSTRACT

The narration of women in policing is one of an extensive and lengthy campaign to achieve parity with their male colleagues. Recent figures highlight that within UK policing, women officers now make up 38% of constables, and 40% currently hold the rank of Chief Constable emphasising that inequality still exists but also evidences that glass ceilings have been cracked, moulds broken, and stereotypes challenged. Global research could arguably lay claim to some of these advancements having provided better comprehension of the narratives alongside the implementation of research outputs. Contemporary research continues to submit considered corroboration of the gendered nature of policing, which is arguably based on seminal studies, lack theoretical foundations, are outdated evidentially and methodologically, which lead to weakness and flaws in research strategies and findings. This articles aim was to critically examine the methodologies used in eight published articles within the last decade, thereby identifying good practice and areas for development for future research. An integrative thematic literature review was conducted as the primary research methodology. The study concludes that selecting the correct research methodology, aligning each element of the process, and understanding the researcher's positionality, all influence the research and impacts on the validity of its findings. Presenting the research in a structured way enhances its quality, professionalism and acceptability.

KEYWORDS:

Women police research, women police leaders, leadership challenges, research methodologies, police research methodologies

Introduction

The narration of women in policing is, as with the history of women within any other profession, one of an extensive and lengthy campaign to achieve any resemblance of equivalence with their male colleagues (NARPONews, 2024).

The customary and conventional view of policing as a male dominated vocation is according to some, deeply engrained making it challenging for women to progress and break through the 'glass ceiling' (Dods Diversity.com, 2023), furthermore this stereotype impacts upon recruitment and ultimately shapes the career advancement ambitions of those already within the profession (Dods Diversity.com, 2023).

Within the British policing landscape, research figures highlight that 36.8% of police constables and 40% of current holders of the rank of Chief Constable in England & Wales are women, emphasising on the one hand that inequality persists at all ranks and that authentic and genuine parity for women in policing is still considered as 'work in progress' (Skills for Justice, 2024), but evidences on the other that "equality policies [are] now in place, glass ceilings (have been) broken" and of conversations having taken place (Flemming et al, 2023), with policing themselves arguing that women are now "breaking moulds and

challenging stereotypes” (Metropolitan Police, 2025). This arguably is the result of global research which has led to a better comprehension of the narrative of women’s experiences alongside the implementation of its output (Flemming et al, 2023).

Contemporary research continues to submit sustained and considered corroboration of the enduring inequitable gendered nature of policing (Silvestri, 2003) and policing itself, which is arguably based on “seminal studies of policing” and “other studies that are deemed trivial... lack theoritisation” (Lumsden & Goode, 2016), are mature, outdated evidentially and methodologically, and considered as weaknesses within research strategies. The conflicted debates surrounding police leadership and organisations continue to invite study (Silvestri, 2003), but arguably these studies now need to be more focused, relevant, methodologically rigorous and in the context of today’s policing to enable positive change and sustain the momentum of the advancements already achieved.

It is against this backdrop that this paper aims to identify, and explore the methodologies used by researchers in the field rather than to identify and analyse the contemporary barriers, or challenges of progression which are arguably becoming fatigued. This will be achieved by selecting, and critically evaluating a sample of eight articles that have explored the subject in the last decade (2014-2024) delivering a qualitative based literature review as its principal methodology.

The methodology of an integrative thematic approach will be employed to allow the articles themselves to ascertain and guide the debate concerning nuances of the methodologies employed; to identify areas of development that impact upon the research outputs and to discover good practice that could inform future research practice. Additionally, the review will seek to identify and consider the epistemological, ontological, and ethical issues of each article in the sample. Reviewing these aspects of the research papers is important as they can influence how the authors frame their research in their drive to discover knowledge, guide their research design (Moon and Blackman, 2017) and ultimately influence the research outputs.

Having identified, evaluated, and synthesised the key themes, this review will conclude by seeking to propose the future direction of research required within this area.

Authors Positionality

‘Positionality’, according to Berkovic (2023), “describes an individuals’ worldview and the position they adopt about research and its context”. She goes on to say that it includes an individuals’ beliefs (including those that are fixed and flexible), knowledge, and personal values, all of which influence how an individual approaches their research.

Positionality is also associated to the concept of ‘reflexivity’ (Sybing, n.d.) which Hecker and Kalpokas (n.d.) refer to as “the practice of self-awareness in research as researchers critically examine their influence on the construction and interpretation of knowledge”. It’s further argued that reflexivity is deemed integral to the credibility, quality, validity, and outputs of the research alongside recognising its limitations. It may also lead to avenues of future research thereby advancing the depth and scope of the study (Hecker and Kalpokas, n.d.). Reflexivity can therefore assist the researcher to understand and mitigate any unintentional bias that may influence the research (Shepherd, Noble & Parkin, 2022).

The epistemology of this author employs a pragmatic philosophy that employs both an inductive and interpretivist approach as her aim is to understand the issues around the

research question rather than providing a descriptive account of them (Saunders *et al*, 2009, p.119). This approach also allows the author to develop theory from the analysis of data. Furthermore, the interpretivist approach provides opportunity to interpret and understand the data used, and how those interpretations can then influence the area subject of this article.

The author has significant experience of policing and police leadership through an extensive policing career, and as a current lecturer of police leadership. As a result, she has personal experience of being a woman in policing, gaining leadership positions, and supporting the advancement of women officers. Her knowledge and experience of leadership concepts informs her analysis, findings, and recommended future direction of research. Her position as an insider researcher is therefore affirmed.

Methodology

a. Literature Review

A literature review according to McCoombes (2022) is a “survey of scholarly sources on a specific topic” which provides a synopsis of current knowledge that affords opportunity to identify relevant methods, theories and gaps in knowledge together with the analysis, synthesis and critical evaluation of the available literature so as to provide the current academic locus of the topic and knowledge of scholarly debate.

A thematic literature review on the other hand is an optional approach of the review of literature that focuses on integrating existing research on a topic by organising and presenting it according to key themes or concepts (Prime, 2024). It is seen as a critical tool for synthesising research findings within a specific subject area and offers a structured approach to identify recurring patterns and trends across a collection of studies (Hecker, Kalpokas, n.d.). Themes are not pre-defined but become visible to the researcher through the reading and synthesis of the literature being explored. Hecker and Kalpokas (n.d.) argue that it “empowers researchers to construct a coherent narrative that weaves together disparate studies into unified analysis”.

The advantages of undertaking a thematic approach according to Hecker and Kalpokas (n.d.) allows for enhanced understanding of the research field; the identification of research gaps and trends and by focusing on themes rather than individual studies, can draw associations and disparities from different research settings and methodologies. Furthermore, they argue that the framework supports the “integration of findings, presenting a unified and comprehensive portrayal” of the topic thereby allowing researchers to draw down explicit insights relevant to their research objectives (n.d.).

An ‘integrative’ approach to a literature review and analysis is an established approach (see p.14 below) which aims to contribute to the advancement of knowledge, theories and concepts on established or new research areas (Snyder, 2019).

However, thematic literature reviews are not without their difficulties. Hecker and Kalpos (n.d.) suggest that its overarching challenge lies in its “inherent subjectivity” and argue that the process of identifying themes is very reliant upon the researcher’s interpretations and position/views around the topic. A thematic approach requires balance between flexibility and methodological accuracy as the absence of a standardised process can influence the quality and credibility of findings (Hecker and Kalpos, n.d.). Furthermore, it is argued that as the approach can accommodate large datasets it can lead to data overload, resulting in difficulties or oversimplifying the identification of themes.

Having undertaken the above evaluation the author has determined that a thematic approach to this study is suitable as it confidently addresses its aim, and that its challenges can be mitigated within its research strategy.

b. Research strategy

Denscombe (2010) asserts that a strategy is a plan of action designed to achieve a specific aim. It therefore follows that a 'research strategy' is a plan or structure by which the activity of searching for and assessing information found is carried out (Malhotra, 2017). Within a research strategy the researcher is provided with the opportunity to outline amongst other matters the data collection methods to be utilised. These methods refer to the process of gathering data from different sources and is seen as an integral part of the research process. One such process is the use of secondary data.

Secondary data analysis is the process of analysing existing data collected by another for a particular purpose and involves reviewing, synthesising data from a myriad of sources. The main function of secondary data is to provide a wider comprehension of the research area, identifying any knowledge hiatuses which allow for further focused investigations (Harry, 2023).

According to Harry (2023), the use of secondary data in literature reviews saves time and resources; provides a wider perspective on the research topic by drawing upon multiple sources; allows for longitudinal analysis to be conducted thereby allowing inclusion of studies over a longer period of time and finally can provide a diverse data set to the researcher. This is supported by others who also add that the free availability of data makes it attractive, alongside its ability to offer insights into sensitive or hard to reach populations (Razi, 2023) that may be inaccessible to others.

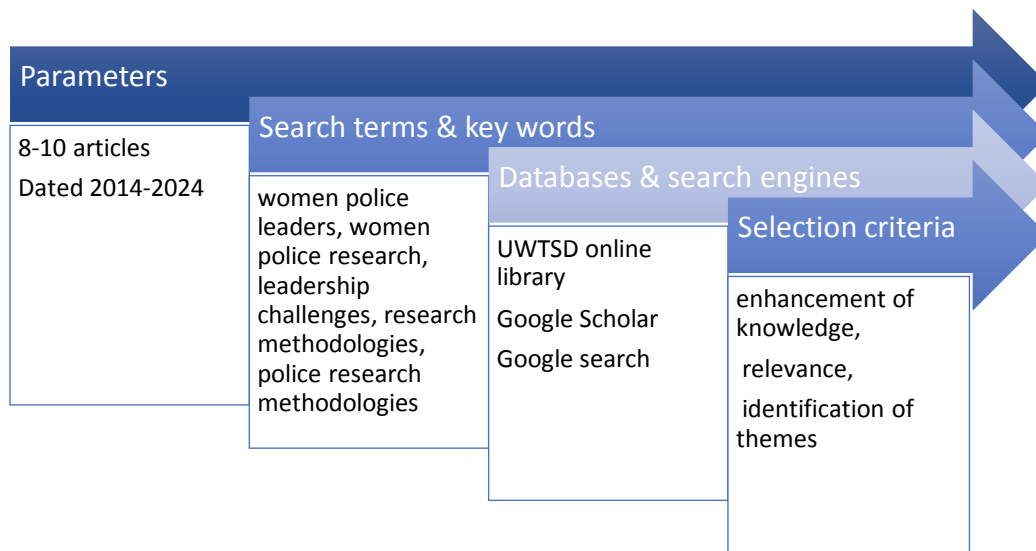
Harry (2023) does however highlight limitations to secondary data use – these limitations include the quality of the data, the relevance of the data, the fact that it might be out of date; and finally, the data may be exposed to bias and errors.

Academic literature searching is different to how searching for everyday information is conducted (Cranfield University, n.d.) in that academic questions are arguably complex and seldom have a straightforward answer. Collating the appropriate and relevant related data/information upon which to compile a literature review is therefore integral to the integrity and quality of the literature review and its findings. It's argued that most contemporary literature searches are now more commonly undertaken using electronic devices and electronic databases (including e-libraries) so as to easily assist in the researcher's task. These databases provide immediate access to large quantities of diverse information, which is retrieved in an instance, at the push of a button.

Key word searches are arguably a favoured method for identifying appropriate literature, and this review is no different. Sezer *et al* (2022, p185) state that keywords are critical, as well-chosen keywords "increase findability, improve the quality of the research, convey valid information to the reader".

The selection of data is influenced by a number of points - including the enhancement of current knowledge, relevance to the research question (supportive or opposing) and identification of existing or new themes (Saunders *et al*, 2009).

Having considered the above elements, the research strategy adopted for this review is depicted below and further details provided in Appendix A.



(Figure 1: Research Strategy)

Research Limitations.

The research methodology utilised in this study is not without potential limitations. Three particular issues are highlighted:

1. The parameter of the sample size (8) and publications age range (2014-2024) is rigid – This excludes a large volume of work that has been produced, albeit outside of the parameter, which could impact upon the findings of this particular review. To mitigate this, other publications released outside of the parameters have been permitted in order to bring balance into the critical evaluation of the key issues highlighted, either through support or challenge.

2. Availability of relevant key literature that specifically addresses the nature of the research question posed for this review within the time parameter used is not vast, leaving limited choice for the author. The implications of this are that it might undermine the findings of the review. In an attempt to mitigate this, the author has sought to prioritise the use of publications that are cited frequently, and their authors are seen as experts in the field. In addition, selection of some publications was based on the amount of dialogue within its content that specifically addressed the research topic either as a primary or secondary focus.

3. Researcher bias is described as the incidence of when the ‘researcher’s belief or expectations influence the research design or data collection’ (Scribbr, n.d.) including its analysis and outputs. No research is void of bias, whether it appears consciously or unconsciously, therefore it is important for the researcher to be aware of it in order to minimise (Scribbr, n.d.). In an effort to mitigate any bias the author has created a research strategy that has addressed each aspect of the research process; highlighted the authors

positionality and provided transparency around the coding of data and identification of themes (See Appendix C, D).

The Findings.

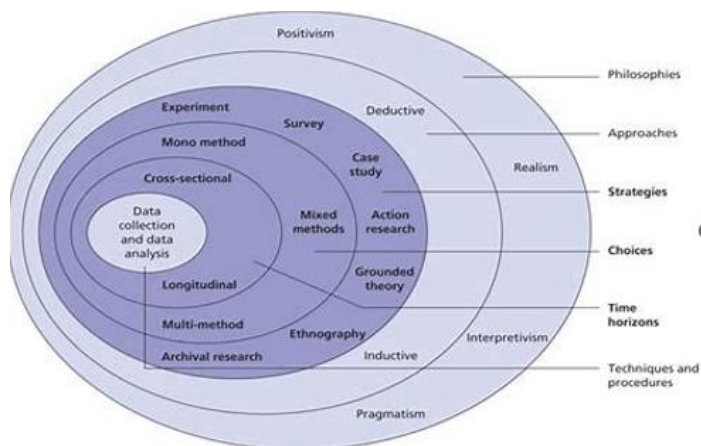
The findings of this literature review will be presented by:

- I. Introducing a suitable framework for analysing the methodologies
- II. Critically evaluating each aspect of the research methodologies as a particular theme
- III. Highlighting other common themes amongst the methodologies outside of the analysis framework that may impact upon the respective findings.

I. The Research Process as a Framework for analysis

According to Whiffin (2021.p11), methodology is “the fundamental assumptions that guide decision making and (is) a core influence on the study”. It is argued that understanding other authors’ methodology within research does have its challenges as there is no consistency on the use of research terminology; discussions around methodology are not always disclosed and often, their application is hidden from the readers view (Whiffin, p12).

Whiffin (2021, p.19) describes the research process as a “linear process” which takes the researcher through a series of steps – paradigms, methodology, design and methods. Saunders *et al* (2009) however, use the analogy of an ‘onion’ to describe the steps that need to be taken by a researcher to describe their methodological approach – each step is represented by a layer of an ‘onion’ as illustrated:



(Figure 2, Saunders *et al* Research Onion, 2009, p108)

To evaluate the methodologies used by the authors subject of this review Saunders *et al*'s 'Research onion' (2009) is used as a framework to capture each step as a theme.

II. Critical evaluation of the research methodology themes.

Research Philosophy

According to Saunders *et al*, research philosophy is formed by many things including the way we view the world, practical considerations and our view of the relationship between knowledge and how we develop that knowledge (2009, p.108). There are two key philosophical approaches, sometimes referred to as paradigms – ‘epistemology’: which relates to the nature of knowledge and how it can be obtained; and ‘ontology’: which refers

to the nature of truth and reality (Whiffin, 2021, p.15) and the assumptions about how we understand how the world works.

Each of these paradigms influence the researchers view of the problem under investigation and what methods should be adopted to address it. Each can be broken down further for example:

There are two aspects to ontology – 1. *objectivism*: - where social entities exist in reality externally to issues that impact their existence and 2. *subjectivism* – where social facts are created from the perceptions and the consequences of those individuals concerned with them (Saunders *et al*, 2009, p.110).

Epistemology also has two approaches: 1. *Positivism*: relates to the researcher working with a reality that they can observe (Saunders *et al*, 2009), their knowledge is therefore “absolute and verifiable” (Whiffin, 2021, p15) and their reality is “objective and fixed”. 2. *Interpretivism*: however, points to their knowledge being created through “interpretation”, with their reality therefore being “subjective and multiple” (Whiffin, 2021, p.15).

When evaluating the articles selected within this study’s literature review none of the authors disclosed their philosophical stance within their respective research articles. Moon and Blackman (2017) assert that knowing and understanding a researcher’s philosophy is important because “...research can only be meaningfully interpreted when there is clarity about the decisions that were taken that affect the research outcomes”, it can therefore impact upon the readers perceptions of the validity of the research being reviewed.

Brodowicz (2024) suggests that identifying an author’s research philosophy can be difficult because it is “a very personal thing for a researcher [and] difficult at times to persuade others why a particular philosophy is the best one” to employ. Mauthner (2020, p.85) does support some of this view, but adds that although difficult to identify, they are important as they “may clash with your explicitly stated philosophical approach and introduce philosophical inconsistencies into your research”.

Interestingly, Mauthner further asserts in her argument, that a researcher can’t opt out of having a research philosophy as “opting out is a philosophical choice and stance in itself because it inadvertently takes up a positivist position” (2020, p85).

Having reviewed each of the eight articles and where stated their aims, it could be argued that seven of the articles (A-D, F-H) utilise an interpretivist epistemology as each of these articles set out to explore an issue that exists amongst humans in a particular role (i.e. policing) and seek to offer insight, impact or views, and to offer solutions. Only one article (E) suggests a positivist epistemology. This is based on the researcher’s disclosure of using a theoretical framework as a basis for their research.

Research Approach

Saunders *et al* (2009) claim that there are two research approaches that should be considered by the researcher -1. The *deductive* or 2 the *inductive* approach.

The *deductive* approach is where the researcher develops a theory or hypothesis, and the research strategy is designed to specifically test the theory/hypothesis. The *inductive* approach is where data is collected and a theory is developed having analysed the data (Saunders *et al*, 2009). Saunders *et al* suggest that although useful to assign the approaches to the research philosophies, they advocate some caution as categorising as such may be misleading and may not necessarily add value (2009, p.124), they further

suggest that combining the two approaches in the same research can be done and is sometimes to the research's advantage (2009, p.119).

Within the sample (A-H), none of the authors revealed their research approach. It could however be argued, based on the research questions, aims and findings, that an inductive approach was utilised in all but one of the articles (E), as the majority of authors wished to understand what was happening in a particular area of policing by seeking participants views, rather than describing what was happening. Article (E) however, was based on a theoretical framework and put forward two theories which were to be tested within the research, thereby aligning to a deductive approach. This approach does have advantages and disadvantages. In its context it allows for the testing of a specific hypothesis, results can inform evidence-based practices, and finally it can provide precise data that can be used to generalise for a particular group i.e. policing (Salomao,2023). In opposing the approach, it may not necessarily capture the complex nature of real-world phenomena; can be limiting when exploring new perspectives on issues; it may not capture individual experiences and finally it may not portray real-world situations or environments (Salomao, 2023).

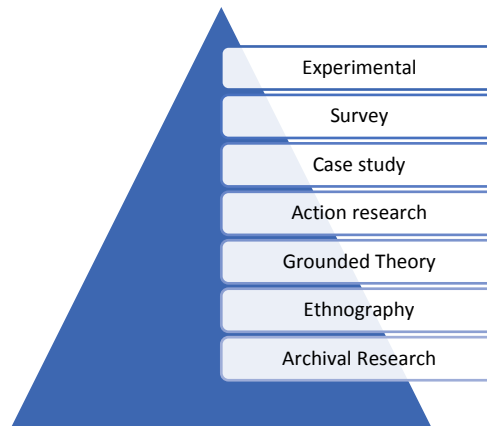
Undertaking inductive research has some benefits for the authors within this study, Masud (2025) suggests the following:

- a. A flexible strategy affords the researcher opportunity to change or amend their research techniques, and topics based on the data collected, resulting in opportunities to study new concepts that they may not have necessarily thought of.
- b. A holistic view is offered rather than just focusing on existing and set theories; it doesn't limit the researcher by what they know but allows learning around the complexities of the study area.
- c. New concepts and hypotheses appear that can assist in compiling more innovative interventions or solutions.
- d. Provides opportunities to help predict outcomes through patterns/trends which help understand the chance of something happening.
- e. Finally, it improves understanding by revealing further insights into complex issues that may not necessarily be obvious when just using logic.

Inductive research is also not without its challenges. Salomao (2023) suggests that these challenges could manifest in errors or inconsistencies within data collection; findings may be difficult to interpret or explain or not suitable if the researcher is seeking distinct or specific insights and may be subject to researcher bias.

Research Strategies

Research strategies are defined earlier in this article. Saunders *et al's* (2009) research onion framework, highlights seven types of research strategy to adopt –



(Figure 3, Research Strategies)

The research strategies within the sample (A-H) are not confirmed. However, evaluation of their content, data and analysis; well-founded assumptions can be made that three strategies were favoured and utilised – *Survey, Action Research and Ethnography*.

Surveys as a research strategy are deemed cost effective; easy to administer in person or online; can be developed and deployed quickly through questionnaires or interview; data can be captured from large samples; numerous questions can be asked at once providing opportunity for flexibility in the analysis and finally, a wide range of data can be collated including opinion, beliefs, behaviour etc. (DeFranzo, 2025).

As with any strategy, surveys also present some disadvantages to the researcher. These include participants may not be motivated to share accurate and honest answers: a reluctance to share answers that may present themselves or their group in an unfavourable manner; data errors may exist due to non-responses to questions; surveys that offer optional answers may be interpreted differently by participants (DeFranzo, 2025).

Within the articles reviewed five authors used surveys as a research strategy (articles C D E F G) – this included questionnaires and interviews. The number of participants varied between 30 (F) to 324 (C) confirming some of the advantages listed above.

Action Research according to Biggam (2015; p.160 cites Cunningham, 1995) begins with a specific issue that needs to be resolved or understood within the environment within which the researcher is working. The focus of this strategy is to bring about change within organisational settings (Biggam, 2015; p160).

Action research as a strategy does provide some benefits. George (2023) suggest that this strategy provides an immediate and visible way forward for resolving the issues subject of the research; it is an empowering strategy informing social change and allowing participants to influence that change within their group; finally, it is an adaptable strategy that allows the researcher to manipulate the analysis to their needs and to bring about change at an individual level.

George does however caution the researcher that these types of research are difficult to replicate and are not theoretically precise as the researcher has full control of drawing conclusions, further the strategy can be difficult to structure ethically and is at a high risk of researcher bias (2023).

Four of the articles reviewed are perceived as having employed an action research strategy (A, D, F, H). This finding aligns with the confirmed positionality of the authors being deemed

'insider researchers'. According to Bukamal (2022) a researcher is an 'insider' when they share particular attributes with the participants of the study (in this context women and policing). This issue will be discussed further under 'ethics' later in this document.

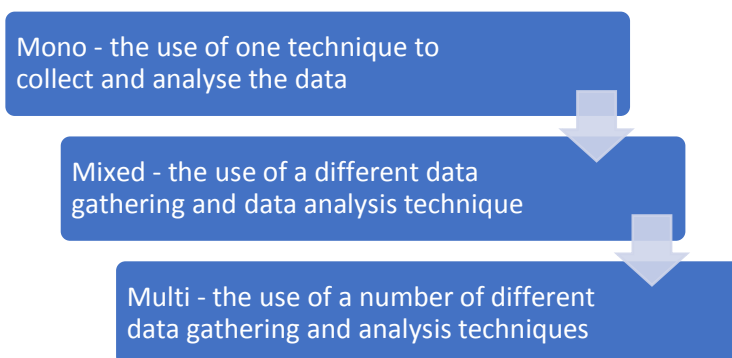
Ethnography has historically been based on the study of people in their natural environment, however in more contemporary research it has taken a wider meaning referring to the study of culture, old or new (Biggam, 2015; p.155).

Five of the articles reviewed are perceived to have used an ethnographic research strategy (B C E F G H). In their respective research contexts, the benefits of the strategy present as an opportunity for the researchers to immerse themselves in the policing culture, develop their knowledge of police practice and procedures, gain a better understanding of police language and importantly are able to study an unconventional group whose members are considered underrepresented; considered elite; have an unheard voice (i.e. senior police women) (St John, 2015) and is arguably suited to studying complex cultural (e.g. police culture) and societal situations (falloutgrace04, 2022) .By expanding the range of knowledge from this strategy, researchers are able to understand why behaviours occur.

Ethnography can bring challenges. St John (2015) suggest that it is more complicated in terms of confidentiality and ethical issues that have to be considered e.g. the research groups within these studies are small, participants are within an 'elite' group - this may make maintaining anonymity and confidentiality difficult. Ethnography can be susceptible to bias and is not fully representative as only a select number of participants from within an 'elite' group are used (i.e., senior women), and it takes time to build trust so as to illicit full and honest information (Baral *et al*, n.d.).

Research Choices

Next the author considers the research choices made. According to Saunders *et al* (2009), researchers must decide upon the types of research/analysis they will employ – these fall into three categories namely,



(Figure 4 – research choices)

It can also refer to the type of data gathered – i.e., Qualitative or quantitative, primary or secondary.

The research choices are highlighted at Appendix C. The results show that:

- a. Six studies (A B C E F G) chose a mixed approach to both interviews and surveys that collected qualitative and quantitative data, which was primary and secondary in nature, and analysed using a mix of methods.
- b. Two studies (D, H) chose a mono approach, where a literature review only was undertaken using qualitative data, secondary in nature and analysed using one method.

Jansen (2021) explains that qualitative research choices are typically used to “explore and gain a deeper understanding” of a situation, and in contrast quantitative choices are “usually used to confirm or test hypothesis”. A mixed method therefore brings both choices together to explore a situation qualitatively, and then use quantitative techniques to test the results. Jensen (2021) proposes that each stage of the research process is therefore aligned as follows:

Qualitative Research	Quantitative Research
• Uses an inductive approach • Is used to build theories • Takes a subjective approach • Adopts an open and flexible approach • The researcher is close to the respondents • Interviews and focus groups are oftentimes used to collect word-based data. • Generally, draws on small sample sizes • Uses qualitative data analysis techniques (e.g. content analysis, thematic analysis, etc)	• Uses a deductive approach • Is used to test theories • Takes an objective approach • Adopts a closed, highly planned approach • The research is disconnected from respondents • Surveys or laboratory equipment are often used to collect number-based data. • Generally, requires large sample sizes • Uses statistical analysis techniques to make sense of the data

(Source: GradCoach.com, 2021)

Of note, despite the authors of the samples providing limited information regarding their methodological choices, it is arguable that their perceived choices do however align to recognised methodologies:

Interpretivist – inductive - qualitative

Positivist – deductive – quantitative (Whiffin, 2021).

Miles (2019, p.2. cites Booton, 2014) defines alignment to refer to “the logical progression of ideas between the structural elements” of research. It is argued that having alignment throughout a piece of research will result in accurate and reliable results supporting

methodological integrity and rigor. Furthermore, it ensures that the study is “well designed and based on logical argument” (National University, 2024).

Research Time Horizons

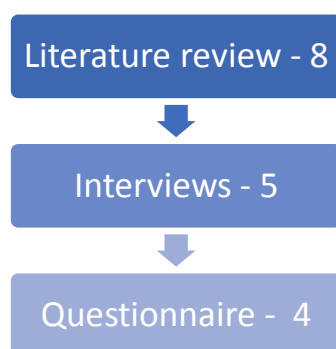
All eight studies (A-H) undertook a cross sectional time horizon within their research which again is evidenced by the research aims and finding, rather than being disclosed by the authors. Thomas (2023) explains a cross sectional time horizon as the collection of data from participants at a single point in time, and only on one occasion. A longitudinal time horizon is the opposite, repeatedly collecting data from the same participants over a period of time.

All eight studies (A-H) wished to research the topic in the ‘here and now’, hence the selected time horizon being the appropriate route to take. Within the contexts of the eight studies cross sectional is arguably beneficial as it captures a specific moment in time in order to provide an indication or outline of views, opinions, beliefs and experiences of the participants; in this instance women leadership, or the challenges and barriers faced at that particular time. It is arguably an inexpensive research method to employ as no follow up data collection is required as demonstrated within the eight articles, trends and patterns are easily identified thereby providing some understanding of the research output.

However, this time horizon does have some disadvantages. Thomas (2023) suggests that its rigidity of time cannot capture any changes over a period of time and that the outputs provide an overview at a given time which may not be representative of the wider group with the same attributes. In addition, the data is arguably temporary in nature and becomes outdated quickly.

Research Techniques and procedures

Finally, the articles were evaluated in relation to the techniques and procedures employed to obtain research data:



(Figure 5 – Choice of techniques & procedures)

All articles (A-H) undertook a *literature review* to provide context to their research and identify current theories and research in the field. Each author’s review critically evaluated the information sourced and were able to demonstrate gaps in the literature where their research would sit (University of Edinburgh, 2024) and how it then supported the aim of the research, each arguably complying with the traditional norms of using a literature review in a piece of research.

A *literature review as a research methodology* was selected by authors (B) & (H). Snyder (2019) argues that as the production of knowledge from research gains pace, making it

difficult to keep updated and to assess the evidence in specific fields, “literature reviews as a research method is more relevant than ever”, suggesting that generic literature reviews often lack thoroughness, are arguably undertaken unplanned and unprepared rather than following a specific methodology, raising concerns over quality of the content (Snyder, 2019).

A literature review may be the most appropriate method when researchers wish to evaluate theory in a particular area, or to provide an overview of a specific issue or research problem (as illustrated in B, H). They can be approached in three ways:

- *Systematic* (mainly used in the medical sciences) - used in other fields where there is a need to identify all empirical research that fits a criteria in order to address the research question.
- *Semi-systematic* (also referred to as ‘narrative’) - used when subject areas have been theorised differently, studied by various research groups within diverse disciplines thereby obstructing a full systematic review (Snyder, 2019).
- *Integrative* – used to assess, critique and synthesise the literature to allow new theories and concepts to emerge (Snyder, 2019 cites Torracco, 2005). Most integrative reviews are used to address “mature”, or new emerging subjects (Snyder, 2019).

Articles (B) and (H) demonstrate an integrative approach to their literature review methodologies. Both authors are exploring ‘mature or established topics’ (i.e., women police leaders), rather than newly emerging ones, the method is employed to provide an overview of the available knowledge base and to critically evaluate, re-consider and expand upon the theoretical foundations of the topic as it evolves rather than creating (new) initial concepts and theories (Snyder, 2019). This methodological approach should result in advancing knowledge and theory in the subject area rather than just providing a descriptive overview. In articles (B) and (H), both meet the criteria by highlighting the emergence of new concepts ((B): impact of feminisation, and (H) the ‘glass cliff’).

Interviews are primarily a qualitative research tool that collects primary data by asking questions, they provide more reliable results than some tools and allow interviewers to engage with their participants (studysmarter.co.uk. 2025). Only one author provided details of the questions asked to evidence alignment within their methodology. Despite this technique providing many benefits to the research – providing profound understanding of experiences, and valuable opinion that other tools may not capture (Hecker & Kalpokas, n.d.), it also has some inherent weaknesses. Firstly, they are time consuming, require attention to detail, need to seek clarification to fully interpret responses; alongside this they can occasionally limit anonymity, raise cultural and language barriers and there could be issues with recall (Hecker & Kalpokas, n.d.)

Surveys are a further primary data collection tool; they can be either qualitative or quantitative based. The most common type of survey is a questionnaire which was employed by four of the authors in the sample (C D E F).

Lindenmann (2023) suggests that the benefits of using a questionnaire range from their ability to collect data on a large scale, standardised responses can be used to provide a structured framework for participants answers thereby mitigating any ambiguity and ensure consistency but allow patterns or trends to be identified. Further he asserts that they can provide anonymity and confidentiality and are a cost-effective means of gathering data and can be replicated very easily. However, the tool can have its challenges. Lindenmann suggests they provide limited depth of information, need to mitigate against response bias due to errors in interpretation and responses to questions; low response rates, questions

may be incorrectly interpreted, no scope to record non-verbal cues (body language etc) and there is a risk of limited engagement by participants due to a number of reasons (lack of interest, survey fatigue etc) (2023).

III. Other methodological themes

Ethics – “is the code of conduct upon which we lead our lives” (Biggam, 2015, p73) it therefore follows that Research ethics is the code of conduct upon which research is carried out (*ibid*) Research ethics are guided by key principles that ensure that research participants and the researcher are safeguarded, that the integrity and validity of the data collected is maintained and that the research is undertaken transparently.

In the sample reviewed ethical considerations were not discussed in detail, minor details only were disclosed such as trust (A), bias (B, F), consent (A, C, G), anonymity (A) and that ‘ethics had been considered’ (E) – these tentatively comply with the guiding principles alluded to but are void of detail.

Absent from the papers was the researchers position as an insider or outsider researcher, and the impact that this may have on the research. Five researchers were identified as ‘insider researchers’, through either disclosure or research (A C D F H). Flemming (2018, p.312.) argues that ‘insider researchers’ bring many advantages to a piece of research including a pre-understanding of an organisation/group which can be used to develop research questions based on their intimate knowledge and understanding of the issues to be addressed; the reality of the organisation and what is deemed significant. However, Flemming (2018) highlights that insider researchers face many challenges including: 1. research bias - aiming to minimise this, and other forms throughout. 2.ethical considerations different to those encountered by external researchers such as formal and informal power (2018, p.314) and the need to address and mitigate perceptions of coercion or control over participants during research enrolment, together with the need to mitigate (Toy-Cronin,2018). Furthermore ‘informed consent’, understanding long term implications of insider research beyond the conclusion of the research (p.315), observing the principles of confidentiality and privacy of individuals/organisations, transparency of data interpretation and the impact of personal alliances and relationships, amongst many other matters must be considered alongside their impact of the research (p.315).

Of the five articles highlighted only one (F) refers to bias, but in relation to participant recruitment only and no mitigation is offered.

As a sub- category of ethics, *research limitations* became a theme. Jansen (2022) explains research limitations as “the weakness of the study based on factors outside of the control” of the researcher (theoretically or practically based) which appear from within the research design. He suggests that these limitations can restrict the research conclusions but alternatively provide support for future research (Jansen, 2022); display honesty and integrity (Abbadia, 2022) and asserts that all research has limitations (Jansen, 2022, Abbadia, 2022).

Ross and Bibler Zaidi (2019) in support add that limitations are often overlooked, not reported upon or minimised. It is argued that disclosing research limitations is considered an ethical element of research, ensuring validity and transparency of both research and researcher (*ibid*, 2019).

Two papers disclosed the limitations of their research (D F). (F) provides detailed limitations around the methods used and proposes how to ameliorate in future research (as supported above). (D) also highlights limitations based on methods, but doesn't propose mitigative action, (D) does however acknowledge a change to the research strategy that may have had an impact.

The reasons as to why researchers fail to report their research limitations are varied – Ross and Bibler Zaidi (2019, cite Price and Murnam, 2004) suggest that authors fail to take cognisance of their importance and implications, or assume that not divulging them may increase the likelihood of publication, and imply that publication controls such as word count may apply. It is argued that making assumptions regarding the omission of limitations in the research sample (A B C E G H) is difficult without comprehensive knowledge of the research elements not reported.

- **Terminology and definitions** – the lack of a definition of a 'senior policewoman leader' (and its variations), or agreed parameters in relation to the ranks that would fall within the category of 'senior leader' was not provided.

(A) referred to a rank structure that would fall under the category of senior leader (the rank of Inspector through to the roles assigned to the Association of Chief Police Officers). (C) looked at Sergeant and Senior Sergeant rank only; and (F) categorised senior leader as 'Superintendent and above'. There was therefore a lack of consistency.

A common understanding of words and phrases "eliminates confusion and promotes clarity" (Pedada, 2023); improves the 'overall quality and rigour of the research establishing a solid foundation for communication and understanding' (Pedada, 2023). Definitions also enable participants, and the research audience to understand the context and scope of the study, ensures consistency, a shared and accepted language and provides a reference point (Pedada, 2023). Furthermore, it influences accessibility to a wider audience helping with engagement and making informed decisions and evaluations (Enago Academy, 2025).

Two articles (G H) did not provide details of key words used for searching. Key words represent the main concepts of an author's work, and when absent provide difficulties for others in order to locate the research or find relevant information (Walden University, 2024). Pedada (2023) suggests that their inclusion enables readers to understand specific meanings of key terms and concepts thereby promoting clarity, enhancing understanding to allow readers to follow the study's arguments, methods and findings.

- **Research presentation and structure.** Presentation of published articles are arguably influenced by the requirements of the publisher or may have to align with certain established guidelines or frameworks regarding content and structure. Adhering to these will result in visually appealing documents that overtly and covertly professionalise the research and promote the reputation of the researcher amongst its readers and academic community.

All eight had a clear structure with minor discrepancies. Two articles in particular stood out – (C) and (F), who were aligned with the same publisher. The content followed a clear structure, was visually attractive, addressed all aspects of the methodology and more, and was perceived as more professional than the others and arguably considered as the preferred structure.

Conclusion

Contemporary research of women police and the barriers and challenges faced in relation to obtaining leadership positions is multi-faceted, better informed, and able to evidence the impact and influence of research findings. This may be due in part to better informed research methodologies, wider participant pools in which to obtain data and richer research outputs being shared as a result of sustained momentum and appetite for research in this area.

Most contemporary research questions seek to identify, evaluate, or explain officer's views, opinions or lived experiences of the research area on a cross sectional basis. This is evident in the sample subject of this review and deemed appropriate as policing policies are constantly changing and current police culture, which influences most research in relation to gender-based research, is under extreme pressure to change.

This review aimed to critically examine the methodologies employed in eight published articles on the research subject, taking cognisance of epistemological, ontological, and ethical issues thereby discovering any areas for development that could impact upon the research outputs and identifying areas of development and good practice that could inform future research practice.

The author concludes that selecting the correct research methodology, aligning each element of the process, and understanding the researcher's positionality, all influence the research and impacts on the validity of its findings. Presenting the research in a structured way enhances its quality and professionalism and acceptability.

The evaluation has therefore highlighted the following as areas for future consideration:

1. *Research transparency* - the choice of research methodologies, researcher positionality, research limitations and ethical issues should be documented and openly discussed as all can influence the validation of the research, its process, its findings and acceptance. Where this cannot be documented within the research article, a link to obtaining all the research information should be provided.
2. *Impact of implementation outcomes* - When evaluating previous studies, evidenced cognisance of the outcome of the implementation of their findings should be sought to inform relevance to the current study.

The evaluation has further identified the following good practice:

1. *Structure* - Adopting a recognised structure for the publication of the research document influences its acceptability and the researcher's reputation and professionalism. The structure adopted by articles C and F is highlighted as good practice.
2. *Alignment* – aligning the research methodology to the research question, its aims and objectives provides a framework for the research and focus for the researcher.

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Appendix A

Research strategy

Parameters - Rigid parameters are in place regarding the age of the publications chosen to be the main focus of the review - on this occasion within the last 10 years (2014-2024) so as to ensure its 'current-ness' .

Critical evaluation of the publications could draw down from other sources outside of the date parameter.

Search terms/key words - The keywords or phrases, used to search for literature are agreed upon as: *women police research; women police leaders, leadership challenges, research methodologies; police research methodologies.*

A single word (used as a keyword) is too broad and not specific enough, whereas the use of appropriate phrases allows for more subject specific information to be found (see Robens, 2024).

Databases & search engines – A mixture of resources to be used:

- UWTSD - University on-line library.
- Google Scholar
- Google search platform, supported where available and accessible, by hard copy publications.

Selection criteria - Utilising the strategy approach:

- 8 to 10 articles are required and provided as an appendix to the review.
- Must fall within date range of 2014-2024 (see parameters above)
- Must be aligned to key words.
- Coded alphabetically for ease of reference, capital letters (A B etc)
- Selection will be influenced by - the enhancement of current knowledge, relevance to the research question (supportive or opposing), identification of existing or new themes.

Appendix B**List of chosen articles subject to review: 2014-2024**

Ref	Title	Author	Published
(A)	<i>Power Relations within the UK Police Service: Towards Enhanced Female Career Progression</i>	J. Astley	2019
(B)	<i>A Police service in transformation: implications for women police officers.</i>	J. Brown, and M. Silvestri	2019
(C)	<i>Navigating the police promotion system: a comparison by gender of moving up the ranks.</i>	J.M. Drew & J. Saunders	2020
(D)	<i>Women police leaders in Europe: A Tale of Prejudice and Patronage</i>	M. Silvestri & S. Tong	2020
(E)	<i>Self-Confidence of Police Women in Leadership Positions towards Career Progress in Moshi Municipal Police</i>	S.R. Mhina, E.O. Ogoti, H. Onyancha	2022
(F)	<i>Parallel lines? The homogeneous and gendered career patterns of senior leaders in policing in England and Wales</i>	J. Alexander and S. Charman	2023
(G)	<i>The Pathway Forward: Uncovering the Barriers Faced by Women Police Chiefs</i>	M. Llamas, A. Roma, T. Hao, W. Perkinson K. Astell	2023
(H)	<i>When will women chiefs break the brass ceiling without falling off the glass cliff?</i>	D.M. Schulz	2024

Appendix C**Coding of Methodological Themes**

	Research Philosophy	Research Approach	Research Strategy	Research Choices	Research Time Horizon	Techniques & procedures
Paper A	Not disclosed Interpretivist	Inductive	Action Research	Mixed	Cross - sectional	Literature review Semi-structured interviews Life histories
Paper B	Not disclosed Interpretivist	Inductive	Ethnography	Mono	Cross – sectional	Literature review only
Paper C	Not disclosed Interpretivist	Inductive	Survey& Ethnography	Mixed	Cross – sectional	Literature Review Questionnaire
Paper D	Not disclosed Interpretivist	Inductive	Survey & Action research	Mixed	Cross – sectional	Literature review Questionnaire Interview
Paper E	Not disclosed Pragmatist	Inductive/Deductive	Survey & Ethnography	Mixed	Cross – sectional	Literature review Questionnaire Interview
Paper F	Not disclosed Interpretivist	Inductive	Survey & Action Research	Mixed	Cross – sectional	Literature review Questionnaire Semi-structured interview
Paper G	Not disclosed Interpretivist	Inductive	Survey Ethnography	Mixed	Cross – sectional	Literature review Semi-structured interview
Paper H	Not disclosed Interpretivist	Inductive	Action Research & Ethnography	Mono	Cross - sectional	Literature review only

Appendix D**Other themes from Methodology evaluation:**

	Methodology section included	Research limitations disclosed	Researcher positionality	Ethics:	Key words disclosed	Other:
Paper A	Yes	No	Insider (disclosed)	Trust/confidence Anonymity 'Elite groups' Participant withdrawal	Yes	UK based. Female only participant Rank structure for senior leader structured.
Paper B	Yes	No	Outsider (disclosed)	Bias in results	Yes	UK Based structured
Paper C	Yes	No	Insider x1 (disclosed) Outsider x 1 (disclosed bibliography)	Consent & informed consent Information to participants	Yes	Australia Male & female participants Good structure Sgts & snr Sgt only
Paper D	Yes	Yes	1 x Insider 1x Outsider (disclosed)	Confidentiality & anonymity 'Elite group' Limitations	Yes	Europe wide Male & female participant Poor stucture
Paper E	Yes	No	Outsider (not disclosed, perceived)	Considered only	Yes	India Female only participant Poor structured
Paper F	Yes	Yes	1 x insider 1 x outsider (disclosed in bibliography)	Bias – regarding participants Limitations	Yes	UK based Male & female participant Good structure Senior leader defined
Paper G	Yes	No	Outsider (not disclosed – perceived)	Consent	None provided	USA based Female only participant structured
Paper H	No	No	Insider (disclosed through research)	None disclosed	None provided	USA based structured