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Life contexts among patrolling police officers in the European Union, investigating environmental characteristics and health – A protocol for a scoping review and a systematic review

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ABSTRACT

Introduction: The police officer occupation is a high-risk profession, with significantly more traumatic and stressful events than other occupations. Key factors for the health of police officers have been found to be related to intra-interpersonal, occupational, and organizational factors. However, the mechanisms underlying why is inconclusive. This protocol therefore intends to explain the approach for conducting both a scoping review, and systematic review. The overall aim of the reviews is to investigate patrolling police officers' life contexts with the intention to identify barriers and resources that affect their lifestyle and health.

Methods: The protocol is reported according to the PRISMA-P guidelines, with PROSPERO number: CRD42020190583. Searches will be carried out in SCOPUS, Web of Science, PubMed, OpenGrey, and EBSCO (Academic Search Premiere, APA PsychINFO, CINAHL, SocINDEX). Two independent raters will screen articles and conduct the critical appraisal. Analyses include Arksey and O'Malley's methodology for the scoping review, and a narrative synthesis for the systematic review, including critically appraising the total body of evidence in the systematic review.

Discussion: The purpose of the reviews is to understand patrolling police officers' life contexts, and support future development of an assessment that measures patrolling police officers' life balance from a contextual viewpoint.

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Active duty officer; environment; life balance; lifestyle; narrative synthesis; occupational role; occupational therapy; private life; stress; working life

Introduction

The police officer occupation is considered a high-strain and high-risk profession [1], because police officers experience emotional exhaustion [2] as well as violence, threats and harassment from the public [3–5]. Police officers' stress is also known to be related to health problems [6–8]. For example, police officers in Sweden are significantly more exposed to traumatic and stressful events than other occupational groups [9].

Patrolling police officers, which this protocol focuses on, experience many different challenging situations in various environments related to their occupational role. A patrolling police officer is in the protocol defined as an officer doing patrol duty, while being in daily communication with the public, wearing a uniform, and patrolling certain areas by foot or vehicle, providing safety to the public and upholding the law [10,11]. The environment can both challenge

and support participation in everyday occupation [12]. Furthermore, the person, in this case the patrolling police officer, and the environments continuously influence each other, while the police officer performs his or her occupations [12].

Previous reviews have synthesized different aspects of police officers' health [1,6,13,14]. However, there is a knowledge gap regarding reviews studying the life contexts and lifestyle of police officers. Hence, two reviews are needed, a scoping review to locate and explore the life contexts of the police officers, and a systematic review investigating the factors affecting their lifestyle and health. The protocol for our reviews will add to the gathered evidence by focussing on patrolling officers' life contexts in order to synthesize findings related to lifestyle and health. We also believe that it will be the first reviews utilizing theoretical framework within occupational science.

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According to Taylor [12] and the theoretical framework of Kielhofner's 'Model of Human Occupation' (MOHO) a person's context is defined as his or her physical, social and occupational environment. These environments exist on an immediate level (e.g. home or work), a local level (e.g. community or neighbourhood), and a global level (e.g. laws and policies) and there is a continuous dynamic interaction between the different levels that has an impact on a person's life [12].

The person and the environments are considered inseparable. The environments also influence the person in the occupations he or she performs and how. In turn, the person influences his or her environments in the way he or she desires [12]. Moreover, the World Health Organization stresses the importance of the environment as a determinant factor of health because the environmental characteristics are constructed by the physical, social and attitudinal environments in which people live their lives [15].

Occupation and specifically meaningful occupation is described as essential for engagement in daily life and it can generate physical, mental and social benefits; hence its status as a health-promoting agent [12,16–18]. According to Wilcock and Hocking [18] work can be one of these meaningful occupations, and work is also considered a significant part of everyday life as it occupies many hours of each day for adults [12,18]. Thus, work can be a probable source of negative and positive influences on physical, mental and social health [18]. Positive because it can be fundamental to health by learning how to handle time, provide daily social contacts, and provide social status, etc. [12], but negative because it can cause conflicts between private life and the occupational role [19], or result in occupational stress which affects a person's health [19–21].

Environmental characteristics that affect the health of police officers are for example socioeconomic factors [22], organizational culture and attitudes [23], and communication and social support at work [24,25]. Moreover, an earlier international systematic review has shown that practical issues such as wearing body armour have been found to have physiological and biomechanical impacts on the wearer. Examples include increased exertion and time to complete functional tasks, decreased work capability, balance and stability. It is also speculated to have an effect on cognitive performance [26]. Together with practical issues of wearables affecting the physical and cognitive health of police officers, the prevalence of soft-tissue strains and sprains are high, occurring frequently

within the police profession. The cause of injury is most often a non-compliant offender [27,28]. Additionally, working as a police officer has earlier been found to affect one's private life [29,30], and work and family demands are important predictors of stress for police officers [31].

Stressful situations may ultimately result in poor health or sick leave for many patrolling police officers [5,32], thus affecting their lifestyle patterns and balance in life [33,34]. Lifestyle is according to Matuska and Christiansen [34] everything we do on a daily basis. We also all have 24 h to spend each day, but in order to have a healthy lifestyle, we need to use them wisely. Hence, in order to have a balanced lifestyle, a person needs to engage in occupations related to biological health and safety aspects, self-affirming relationships, challenging and interesting occupations, and contribution to a positive identity. These needs may change over time [34].

Additionally, life balance has within occupational science been described as a continuum of occupational patterns during a lifetime, where the balance is not static or an ideal state, but a dynamic interaction between the environment and the everyday patterns of occupations. Thus, life balance is considered to have an impact on lifestyle and health outcomes [33,34] and having an imbalanced life regarding e.g. strenuous and restful occupations have been found to affect health negatively [35].

Even though the ill health of police officers still needs further investigation [36], intra-interpersonal, occupational and organizational reasons have been proposed to explain the health consequences [37]. Abdollahi [37] suggests that in order to better understand the strains of police work, researchers must apply a theoretical foundation when proposing explanations for the origins and health consequences of police officers' stressors [37]. Therefore, analysis of patrolling police officers' life contexts will be performed by drawing on the theoretical framework 'MOHO', which includes a clear theoretical model of life contexts, environments and environmental characteristics including environmental components and qualities [12], which will aid in the analysis.

In summary, elements in a person's environment function as risk or protective factors, and these factors increase some behaviours and prevent others. This also applies to police officers and it is thus important to understand and analyse the impact of their environments if we are to begin to understand police officers' health from a life balance perspective and develop measures assessing lifestyle and health of police officers.

These reviews therefore aim to contribute to the increased knowledge on patrolling police officers' lifestyle and health in relation to their environments. The intent is to investigate patrolling police officers' existing environments and examine these from an occupational therapy viewpoint, while also investigating whether there are any characteristics in the environments that have not yet been identified or that affect police officers' life balance. We mean to apply a reproducible and transparent procedure for a scoping, and systematic review of the literature; hence the procedure will be clearly explained.

Future amendments to the protocol will be described in the article manuscripts and necessary corrections will also be revised in PROSPERO. By publishing the protocol and registering the study we reinforce the clarity and aim of a study with good quality.

Objectives

Thus, the aim for this protocol is to explain the approach for conducting both a scoping and systematic review. The overall aim of both reviews is to investigate life contexts among patrolling police officers with the intention of identifying knowledge gaps, but also barriers and resources that affect patrolling police officers' lifestyle and health.

For the scoping review the aim is to explore the immediate, local and global contexts among patrolling police officers in the European Union (EU). Additionally, also identifying environmental characteristics within these contexts.

For the systematic review the aim is to then investigate these same life contexts, in order to identify critical areas for a healthy and sustainable lifestyle among patrolling police officers, from a life balance point of view.

Methods

Both reviews were initiated on 5 May 2020 with an initial search and was the only part of the review that had commenced before registration of the systematic review protocol with PROSPERO. The studies are expected to be completed in May 2021.

Protocol and registration

The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines have been followed to report the protocol [38]. The

protocol is also registered with the international prospective register of systematic reviews PROSPERO, registration number CRD42020190583.

Study population and eligibility criteria

The reviews will investigate patrolling police officers' different life contexts in the EU. Hence, the *inclusion criteria* are all patrolling police officers, regardless of age and gender. Countries within the EU were chosen in order to study nations with similar police organizations. However, it should be noted that there are organizational differences between countries. In addition, Iceland, Norway, and the United Kingdom with a long-term cooperation agreement with other EU countries will also be included in the reviews. *Exclusion criteria* are studies gathering data from populations other than this specific population. Studies on traffic police officers, police recruits and trainees, correctional, prison, or probation officers, police forensic personnel or civil (non-sworn) police officers will also be excluded. Studies on police officers in ranks other than patrolling officers, and studies researching other occupational groups together with patrolling police officers will not be included.

Search strategy and selection of studies

The searches for both reviews were conducted with the same search string between 8 June 2020 and 14 June 2020, but will also be re-run just before the final analysis, separately for each review. The publication period is the last 20 years.

The study investigates different characteristics of the contexts related to patrolling police officers' occupational roles, based on both qualitative and quantitative approaches. Hence, no restrictions will be applied regarding the type of study design to include in the review, but editorials, other systematic reviews, protocols and letters to the editor will be excluded. Grey literature in the form of research reports will also be included to reduce publication bias and enhance our understanding of the area we want to study [39]. Since the research team does not have the resources to support the translation of data, articles written in any language other than English, Swedish, Danish, or Norwegian will be excluded.

One author (EGV) will perform the searches. As a first step, duplicates of the initial search results will be removed. The initial search results will be screened by title and abstract against eligibility criteria by two authors (EGV and UN), blinded to each other, and

any article generating ‘uncertain’ to the eligibility criteria will be prompted for discussion between the two authors, as well as the reasons for discarding articles. Any disagreements about the ‘uncertain’ articles or exclusion of articles will be resolved through discussion and, if necessary, a third author (KG) will be involved to make the final decision. If uncertainties persist as to the admissibility of an article, the authors of the study might be contacted for clarification. Likewise, if no full text is available the authors will be contacted. If the full text is not received the study will be excluded.

After comparison and agreement of the first screening process, eligible full texts will be obtained and examined for eligibility by one of the authors (EGV). A second author (KG) will also randomly select and check 10% of the full texts for consistency. If discrepancies are found the authors will discuss them and, if necessary, a third author (MG) will be involved to make the final decision.

The PICO search strategy has been used to formulate the search string [40], *Population* – Patrolling police officers, *Phenomena of Interest* – life contexts and environmental characteristics affecting a person’s health and life, *Context* – countries included in the EU, as well as Norway, Iceland and the United Kingdom. If necessary, the search string will be modified according to each database depending, for example, on the user interface and number of terms allowed. However, PICO will be applied in all searches. A search strategy using free-text words will be used together with Boolean strategies of ‘AND’ and ‘OR’. An example of the full search string for the EBSCO databases can be found in the PROSPERO registration [41]. When searching in Pubmed, MeSH terms will be used for the ‘Interest’ term in the PICO search strategy, and searches will be conducted in ‘All fields’, not only in ‘Titles, Abstracts and Keywords’. The same search strategy will be used for both reviews.

The search strategy and study selection process as well as reasons for exclusion of articles in each step will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement and described in a flow diagram [42], with the inclusion of an extension for the scoping review [43].

Data sources and data management

Searches for both reviews will be carried out in the following databases: SCOPUS, Web of Science,

PubMed, OpenGrey, EBSCO (Academic Search Premiere, APA PsychINFO, CINAHL, SocINDEX). Potential reference lists of articles will be searched for if necessary, and articles and research reports that the reviewers are already aware of but have not been identified in the performed searches will also be included.

The searches will be moved to RAYYAN, a web-application for conducting systematic reviews [44] after they have been conducted. Data extraction will begin after the selection of studies and the process of critical appraisal.

The data extraction sheet will be constructed by two authors (EGV and MG) and checked by a third author (KG), pre-piloted and if necessary revised. One author (EGV) will extract the data from the included studies into an Excel file (Microsoft Corp.), and 10% of the extracted data will be randomly selected and checked for consistency by a second author (KG). Any discrepancies will be managed through discussion between the two authors and, if necessary, discussed with a third party (MG). In the event any data in the articles are insufficient or unavailable, the authors of the studies might be contacted for clarification. The following data will be extracted: title, authors, date of publication, type of study, participant characteristics, sample size, measures or questions used to assess the patrolling police officers’ different environments, and results. Furthermore, data will be extracted for each of the PICO search strategy tool domains Population (Patrolling police officers), Interest (Different life contexts related to police officers’ occupational roles, and physical, social and occupational environments), and Context (e.g. France, Germany or Poland).

Critical appraisal

To reduce publication bias in the reviews, relevant grey literature will be included in the study. However, excluded in the systematic review at the stage of critical appraisal together with any other articles that do not match quality assessment. The decision on the cut-off for study exclusion at this stage will be decided in advance before the critical appraisal has begun. For the scoping review, critical appraisal will also be undertaken in order to draw conclusions regarding the nature and extent of the gaps found [45,46], but no articles will be excluded based on the result of the quality assessment [46].

Two authors (EGV and MG) blinded to each other will assess the quality of all included articles. Any

disagreements will be resolved through discussion and, if necessary, a third author will be involved to make the final decision. In accordance with Porritt, Gomersall & Lockwood [47] different tools for quality assessment will be used depending on the study designs included in the review, e.g. for quantitative evidence identifying risk of bias and for qualitative evidence looking at rigour of research and level of transferability. Therefore, all studies will be critically appraised with the Mixed Method Appraisal Tool (MMAT) [48]. However, studies that are randomized controlled studies and non-randomized controlled studies for interventions, will be supplemented with critical appraisal using the Cochrane tools ROB 2.0 [49] and ROBINS-I [50]. Discrepancy on the quality assessment scores between researchers will be resolved by discussion and if no agreement is reached, discussed with a third party. The result of the critical appraisal will also be used for performing the data synthesis in the systematic review.

At the final stage of the systematic review, the total body of evidence will be considered by assessing the confidence of the review's results appropriately, e.g. using 'Grading of Recommendations, Assessment, Development and Evaluation' (GRADE) [51] for quantitative studies and 'Confidence in the Evidence from Reviews of Qualitative Evidence' (GRADE-CERQual) [52] for qualitative studies.

Data analysis and synthesis

For the scoping review Arksey and O'Malley's framework will be used [45,46,53], with the focus of exploring life contexts and identifying knowledge gaps in the literature regarding which contexts and environments police officers reside in.

The synthesis method, a narrative synthesis, was chosen for the systematic review because it will include a wide range of different research designs [54]. Diverse environments in the included studies will be analysed, with a starting point in the framework MOHO, and will describe the range of contexts and characteristics according to a narrative approach.

The narrative synthesis will be performed in accordance with 'Guidance on the Conduct of Narrative Synthesis in Systematic Reviews: A protocol from ESRC Methods Programme' according to Popay et al. [54]. This includes the following steps:

1. Developing a theory to contribute to the interpretation of the reviews' findings and to assess how widely applicable those findings may be.

2. Developing a preliminary synthesis to organize the findings from the included studies.
3. Exploring relationships in the data to consider factors that might explain differences in the data.
4. Assessing robustness regarding assessment of the strength of the evidence.

Step one will, however, be carried out at an initial step of the review process in order to understand the types of studies to include [54], and it will be conducted by one person (EGV) and revised by another researcher (MG). The three other steps of the narrative synthesis will be conducted by two independent researchers (EGV and MG).

Ethics and dissemination

Any amendments made to the protocol will be reported in the future manuscripts, and if necessary major changes will also be corrected in the PROSPERO registry. Formal ethical approval has not been obtained due to the fact that the review will draw on publicly available scientific literature. No primary data have been collected.

The findings from the two reviews will also be published in a peer-reviewed journal, and at relevant scientific conferences or seminars.

Discussion

These reviews aim to synthesize [54] and identify knowledge gaps [53] in the existing research area of patrolling police officers' environments and the environmental characteristics influencing their health by using a theoretical framework within occupational therapy.

Although several reviews already exist regarding the health of police officers [1,6,7], the pending scoping, and systematic reviews will use a theoretical approach to locate police officers' environments. Additionally, focussing on the health aspect of life balance of patrolling police officers. Hence, the reviews will contribute to understanding patrolling police officers' lifestyle and will support the research for a future assessment that measures life balance for this specific population. These reviews are part of a comprehensive, larger research project to create an instrument that measures patrolling police officers' life balance from a contextual viewpoint.

Acknowledgements

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Ethics approval and consent to participate

Ethical approval was waived and has not been obtained due to the fact that the review will draw on publicly available scientific literature. No primary data were collected, and there is no ethical risk to take into consideration.

Author contributions

EGV conceptualized and designed the protocol, and MG, KG and UN provided substantive feedback on the protocol. EGV drafted the initial manuscript and KG, MG and UN reviewed and provided essential feedback on the manuscript. All authors have read and approved the final manuscript. MG is the guarantor of the review.

Disclosure statement

The authors declare that they have no competing interests.


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Availability of data and materials

The search results supporting these reviews are from previously reported studies and datasets, which have been cited. The saved articles are available at RAYYAN from the corresponding author on reasonable request. Data will also be extracted to an Excel file. All data generated and analysed during this study will be included in the published articles and supplementary files are available on reasonable request.

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