Exploring cutting-edge research trends in safety knowledge within military environments

Elias M. Radzi[a], *Khairul* H. Abdullah[b], *Fazli Shah* A. Aziz[c]

[a] Universiti Utara Malaysia, UUM College of Business,
School of Business Management,
Occupational Safety and Health Management Program,
Kuala Lumpur, Malaysia,
e-mail: eliasmdradzi9@gmail.com, **corresponding author**,
ORCID iD: https://orcid.org/0009-0000-5580-2869

[b] Universiti Utara Malaysia, UUM College of Business,
School of Business Management,
Social Security Management Center of Excellence,
Kuala Lumpur, Malaysia,
e-mail: ezadneo88@gmail.com,
ORCID iD: https://orcid.org/0000-0003-3759-6541

[c] Universiti Utara Malaysia, UUM College of Business,
School of Business Management,
Social Security Management Center of Excellence,
Kuala Lumpur, Malaysia,
e-mail: f.shah@uum.edu.my,
ORCID iD: https://orcid.org/0000-0002-9688-9857

https://doi.org/10.5937/vojtehg72-49554

FIELD: military sciences
ARTICLE TYPE: review paper

Abstract:

Introduction/purpose: The military environment is characterised by high-risk operations and activities that require a comprehensive understanding of safety knowledge to ensure personnel's well-being and effectiveness. Indirectly, this scenario illustrates the military's need to prioritise adequate safety and health management within their environment, just like other organisations. The current scientometric review aims to analyse research trends related to safety knowledge within military environments.

Methods: This review utilised ScientoPy and VOSviewer to comprehend the nature of collected datasets from Scopus and Web of Science (WoS) databases.

Results: The scholarly publication "Proceedings - IEEE Military Communications Conference MILCOM" is renowned for its extensive coverage of safety knowledge research for military environments. The keyword "emergency preparedness" has significantly impacted the thematic content of scholarly safety knowledge for the past three decades, from 1990 to 2023, as previous researchers used it most frequently. Based

on overlay visualisation mapping, the current review demonstrates that the terms "emergency," "COVID-19," and "risk management" have been accorded greater significance since 2020.

Conclusion: This study provides a thorough and worldwide perspective on the crucial subjects of safety knowledge in military settings. It is aimed at potential readers and researchers interested in better understanding these concepts and conducting more rigorous research on military safety.

Key words: safety knowledge, military, scientometric.

Introduction

Navigating safety knowledge to military environments presents various obstacles and possibilities, contradicting the common belief that military settings prioritise physical safety, security, and defence activities rather than encompassing comprehensive safety and health management like other organisations. A significant challenge is developing simulations that accurately reproduce complex urban scenarios and human behaviour, enabling training to manage unexpected situations effectively (Blake & Nemergut, 2014). Also, developing adaptive virtual environments that can dynamically alter scenario difficulty levels in response to neurocognitive and psychophysiological states is an additional challenge (De Jong et al, 2016). Nevertheless, amidst these challenges lie opportunities for progress. For example, implementing risk-averse domain adaptation (RADA) techniques can facilitate cautious adaptation in safety-critical driving environments, streamlining domain adaptation processes and bolstering safety (Parsons & Reinebold, 2012). Embracing systematic learning from incidents (LFI) is another concern supporting organisational growth by drawing lessons from technical challenges within military supply chains and ensuring operational sustainability (Dyson, 2021).

Safety knowledge plays a crucial role within the military system, as it not only ensures the successful completion of missions, but also safeguards the personnel involved during the execution of combat tasks (Wei & Kuo, 2023). This aspect is also evident in the general concept of safety knowledge, which involves understanding the importance of equipping individuals with the necessary information to operate safely and adhere to established safety rules (Abdullah, 2022a). In this nexus, militaries must clearly understand risks to safeguard the nation and its people (Pettersson, 2009; Wei & Kuo, 2023).

Learning from past accidents and incidents is crucial in supporting this facet, as this knowledge is instrumental in enhancing safety measures and mitigating their consequences (Przybysz, 2020). Furthermore, the

reliability of military vehicles is paramount for mission success and crew members' safety (Ertle et al, 2012). In order to ensure safe operation, autonomous service robots operating in complex environments must be capable of assessing operational risks and integrating safety knowledge (Ertle, 2016). Given the inherent risks associated with military training, effective risk management is imperative to guarantee the safety of troops during high-intensity and high-difficulty training exercises.

Safety knowledge can enhance military operations by improving risk perception and performance (Wei & Kuo, 2023). Military organisations must have a comprehensive understanding of the risks associated with their duties in order to effectively fulfill their responsibilities (Nosary & Adiati, 2021). Through training programs that instil safety knowledge, militaries can develop a heightened sense of risk perception, thereby contributing to improved safety performance (De Florio & Blondia, 2015). Safety performance and behaviour are intricately intertwined due to the significant influence that individual behaviours have on forming safety practices, awareness, and perceptions in a given environment (Abdullah & Aziz, 2020). More specifically, this study focuses on the reciprocal enhancement of safety knowledge and safety behaviors. It also should be emphasised that a positive safety culture plays a mediating role in the association between safety leadership and safety performance (De Florio & Blondia, 2015). By promoting safety leadership and fostering a supportive safety culture, military organisations can establish an environment that values and applies safety knowledge, enhancing operational outcomes (Danielsson, 2020).

This study aims to perform a scientometric analysis to evaluate publishing trends and research progress concerning safety knowledge in military contexts. There is a critical need to undertake a scientometric analysis of safety knowledge within military contexts to ensure a thorough grasp of this field of study. Additionally, this analysis facilitates the identification of essential works, enhances our comprehension, promotes synergy, and offers guidance for future research endeavours in advancing safety knowledge in military settings and cultivating environmental awareness.

The subsequent research inquiries are indispensable in furthering the present study's comprehension of previous research regarding safety knowledge in military environments:

1. What trends and patterns have been identified in terms of the quantity and characteristics of publications related to the investigation of safety knowledge within military settings?

2. Which sources have been the most prolific in publishing research on safety knowledge in military environments?

3. What are the dominant research themes or subjects that have emerged in the investigation of safety knowledge in military settings?

4. Which academic publications have had the most significant impact on safety knowledge in military environments?

5. Which research institutions have made significant contributions to the study of safety knowledge in military contexts?

Materials and methods

This study aims to review and analyse existing research on the applications, capabilities, roles, and effects of safety knowledge in military environments. To attain this goal, various techniques were utilised, including implementing mapping analysis with VOSviewer and measuring research trends with ScientoPy. This review retrieved Scopus and Web of Science (WoS) datasets relevant to safety knowledge within military environments. The resilient keywords illustrated in Table 1 were utilised when populating the retrieved datasets. The datasets were searched without any temporal restrictions until February 2, 2024. The Scopus and WoS databases were used for this study due to their widespread use in academia and research institutes for scientometric analysis (Abdullah & Sofyan, 2023). These datasets are known for their comprehensive coverage, high-quality data, detailed metadata, advanced analytical tools, and global accessibility (Hafiar et al, 2024).

The current investigation employed ScientoPy and VOSviewer for analysis and visualisation. ScientoPy is a scholarly-scientometric analysis software platform that measures the rank of a study's essential subjects, authors, countries, and associated publications (Abdullah & Sofyan, 2023). ScientoPy is also recognised as a Python-based programme for scientometric analysis that is both publicly available and open-source. Notably, an exceptional characteristic of the system is its pre-processing component, which effectively removes any partiality present in individual articles (Ruiz-Rosero et al, 2019). This pre-processing phase improves the

legibility, precision, organisation, comprehensiveness, and representativeness of the findings derived from a substantial volume of Scopus and Web of Science (WoS) data. In this study, VOSviewer was employed to create a co-occurrence map of the authors' terms on safety knowledge. It is crucial to provide accurate information on various themes or issues previously studied and has influenced the research on safety knowledge in military contexts worldwide (Abdullah, 2022b).

Table 1 – Search strategy for extracting data from the Web of Science and Scopus databases

Database	Search Strategy	Records
Web of Science	Topic: ("Safety knowledge" OR "Safety expertise" OR "Security awareness" OR "Risk management knowledge" OR "Safety proficiency" OR "Protective know-how" OR "Hazard awareness" OR "Safety understanding" OR "Security competence" OR "Accident prevention knowledge" OR "Health and safety awareness" OR "Safety protocol knowledge" OR "Emergency preparedness" OR "Preventive measures awareness" OR "Safety education" OR "defensive awareness") AND ("Military" OR "Army" OR "Soldiers" OR "Armed Forces" OR "Defence Forces")	123
Scopus	Article Title, Abstract, Keywords: ("Safety knowledge" OR "Safety expertise" OR "Security awareness" OR "Risk management knowledge" OR "Safety proficiency" OR "Protective know-how" OR "Hazard awareness" OR "Safety understanding" OR "Security competence" OR "Accident prevention knowledge" OR "Health and safety awareness" OR "Safety protocol knowledge" OR "Emergency preparedness" OR "Preventive measures awareness" OR "Safety education" OR "defensive awareness") AND ("Military" OR "Army" OR "Soldiers" OR "Armed Forces" OR "Defence Forces")	230

Pre-processing of retrieved datasets

The currently used datasets were pre-processed to eliminate duplicate entries and consolidate significant data using ScientoPy. Diagram 1 shows the initial data collection findings, indicating a total of 353 unprocessed data items obtained from publications in Scopus and WoS. Based on the findings, 31 articles, accounting for 8.80% of the datasets, were excluded due to the use of the automatic document-type filtering technique. Initially, 322 papers were detected, but duplicate datasets were subsequently removed. The analysis discovered 101 cases of duplication, which accounts for 31.40% of the dataset, within the Scopus database.

A total of 221 papers were considered suitable for inclusion in the current study. Among them, 118 papers (53.40%) were sourced from the WoS, while the rest of 103 publications (46.60%) were sourced from Scopus. Datasets containing over 100 components facilitated the execution of scientometric analysis.

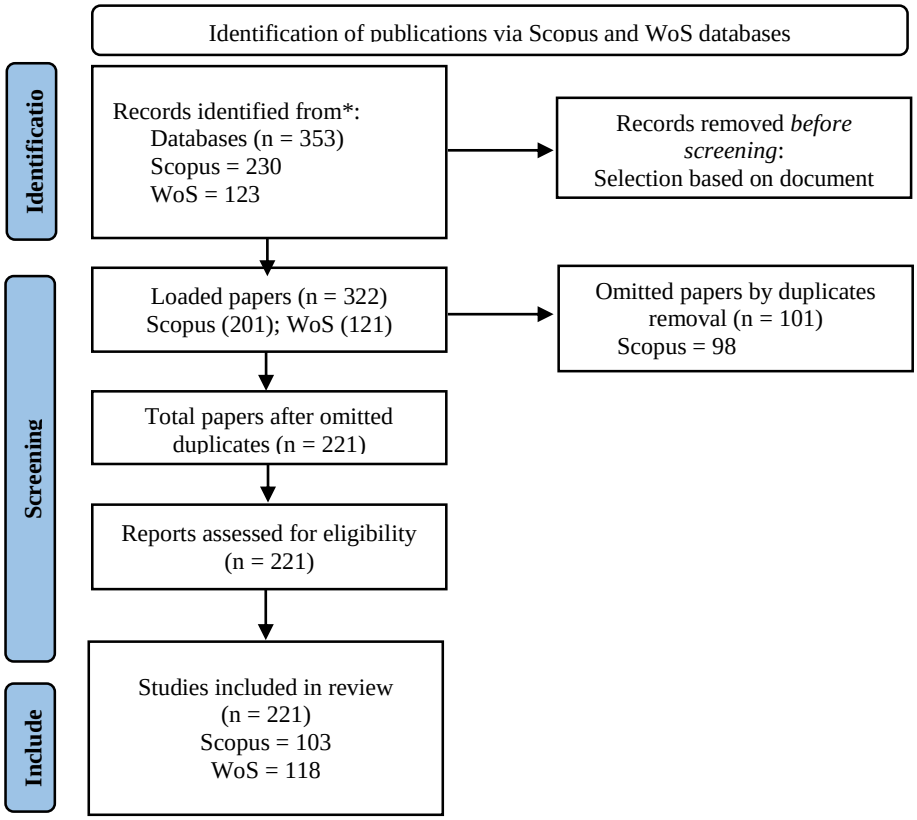


Diagram 1 – Flow diagram of the research of databases and registers

Results

The results of the present investigation sufficiently answer each of the research inquiries delineated in the methodology segment.

The results are also presented using graphical visualisations generated by ScientoPy and VOSviewer.

Trends and patterns in publishing

This investigation examines the tendencies and configurations in the dissemination of scholarly works pertaining to the intersection of safety knowledge and military environments. More precisely, this section examines the number of publications and the specific categories of papers released within this particular sector. The data shown in Figure 1 portrays the trends in developing safety knowledge in military situations as documented in recent publications. The topic being discussed is relatively new, as shown by the oldest article discovered in the Scopus database, which dates back to 1991. No publications were documented in the WoS database prior to 1992. Nevertheless, this number saw a significant surge to 11 publications by 2023. Based on the statistics from the Scopus database, the number of articles in 1991 was 3, but it significantly rose to 5 by 2023.

Figure 1 depicts the graphical representation of the timeline, which demonstrates that the number of published works in both databases during the period of 1996 to 2006 was fewer than four. Nevertheless, the data from 2008 onwards reveals an upward trend in the WoS databases, surpassing the Scopus database. The culmination of the number of publications in both databases transpired in 2019. The noted phenomenon could potentially be ascribed to the increased attention given to ecological issues in the midst of the COVID-19 outbreak. Additionally, there has been a discernible upsurge in the utilization of safety expertise within military circles, with the aim of fostering awareness of environmental matters and fostering camaraderie among individuals who encounter challenging situations.

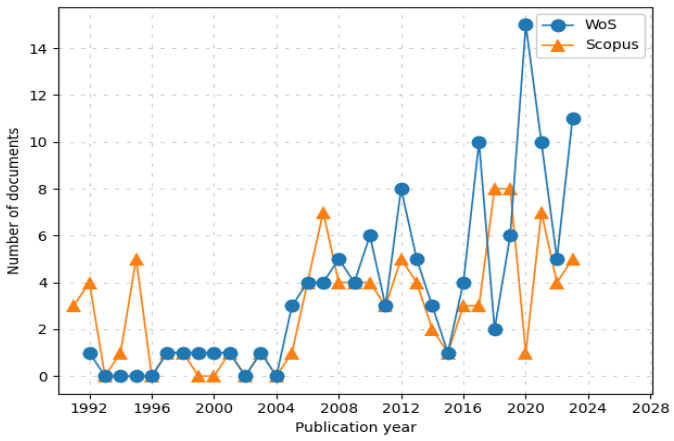


Figure 1 – The evolution of publication growth (Source: Authors, using ScientoPy 2.1.3)

Figure 2 shows a comprehensive overview of the extensively analysed document types, by the objective of identifying the most pertinent research on safety knowledge in military contexts, as examined in both databases Referring to the information depicted in Figure 2, the types of articles displayed a significantly increased count of documents, amounting to 134. This constitutes 14% of the total number of the documents published between 2022 and 2023. In contrast, conference papers accounted for 39 documents. Both document categories encompass more than 30 sources, surpassing the combined number of sources from proceeding papers, reviews, and book chapters. The existing proof suggests convincingly that a substantial amount of original investigation has been conducted in this particular area, as evidenced by the increasing number of scholarly publications dedicated to it. Additionally, it is crucial to recognise that conference papers frequently function as condensed iterations of extensive research publications presented at academic conferences or gatherings. The literary conference circuit is characterised by considerable attention and discussion surrounding safety knowledge in military research.

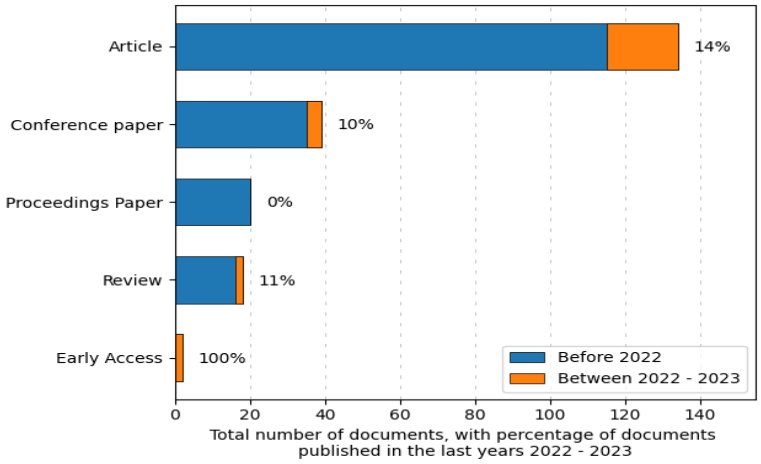


Figure 2 – Bar-trend graph of the document types (Source: Authors, using ScientoPy 2.1.3)

Prominent publishing titles

This investigation comprised the titles of sources that were acknowledged for their remarkable effectiveness in terms of disseminating scholarly articles on the topic of safety knowledge in military settings. These titles were identified as the most productive among multiple sources

of publications in this particular field. Figure 3 presents the top ten source titles that were discovered in this investigation. The data presented in Figure 3 indicates that a considerable portion of academic publications centered on the amalgamation of safety knowledge and the military are disseminated through esteemed scholarly journals and conference proceedings. The source titles with a document count exceeding four include “Proceedings - IEEE Military Communications Conference MILCOM,” “BMJ MILITARY HEALTH,” “Disaster Medicine and Public Health Preparedness,” and “TRANSFUSSION.” The publication “Proceedings - IEEE Military Communications Conference MILCOM” primarily focuses on disseminating safety knowledge within military contexts. The journals “BMJ MILITARY HEALTH” and “Disaster Medicine and Public Health Preparedness” are the second and third most prominent sources of research on safety knowledge in military contexts, respectively. Notably, the publication titled “Disaster Medicine and Public Health Preparedness” has achieved a 40% dissemination rate, establishing it as one of the most widely published works in the field from 2022 to 2023. These three academic publications and conference proceedings are highly esteemed and possess significant impact factors, indicating the presence of research of exceptional quality. These publications and conference proceedings disseminate the most comprehensive research on safety knowledge in military contexts,"thus showing an increasing attraction for both researchers and practitioners’.

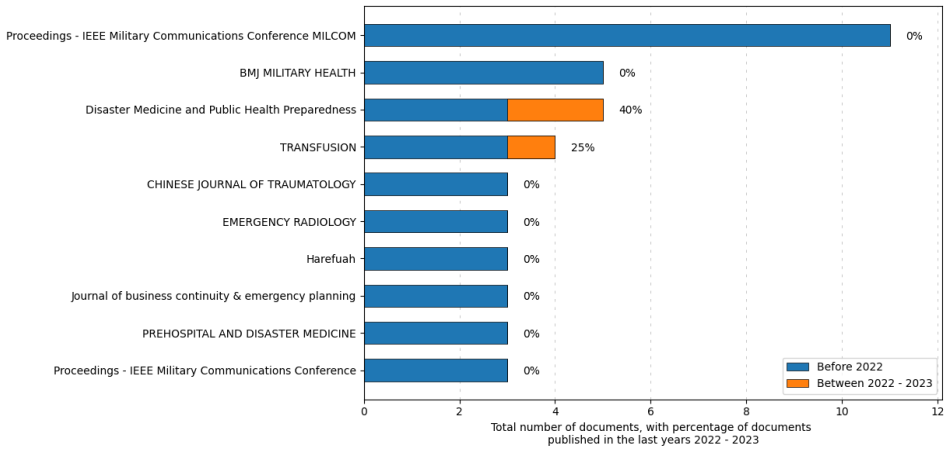


Figure 3 – The prolific source titles (Source: Authors, using ScientoPy 2.1.3).

Emerging topics or themes in research

This study utilises ScientoPy and VOSviewer to evaluate the authors' keywords and investigate the prevailing research trends and noteworthy topics in the domain of safety knowledge in military contexts. Figure 4 showcases the top 10 keywords associated with safety knowledge in military environments. The selection of words in the list is based on their frequency of appearance in the papers, depicted by the blue bars. Furthermore, the orange shade represents the proportion of articles published in the past two years (PDLY - personnel-driven learning activities), specifically in 2022 and 2023.

Based on the data presented in Figure 4, the phrase “emergency preparedness” has the highest frequency, appearing in 21 papers with a PDLY of only 9%. This finding emphasises the importance of understanding and promoting heightened awareness of safety issues and challenges in military settings. Recent studies have underscored the need to enhance environmental consciousness through various means, such as safety education, between 2022 and 2023.

The words "preparedness" is the second most commonly utilised expression, appearing in 9 papers. This observation underscores the acknowledgment of safety information as potent instruments for advancing safety and well-being among military personnel and organisations. The PDLY of 11% signifies a considerable volume of research undertaken within the last two years, centering on the evolving importance of safety knowledge in fostering environmental awareness and education within military contexts.

The word “COVID-19” appears in 6 papers, indicates the crucial aspect of integrating practices and fundamental principles of sustainability into efforts to enhance safety awareness in the military context. The 50% PDLY signifies the growing importance attributed to incorporating safety knowledge principles specific to military environments during the pandemic era. This is directly relevant to enforcement entities currently facing new challenges in enforcing government-imposed movement control orders (MCO).

The inclusion of terms such as “disaster,” “education,” “security,” “emergency management,” and “terrorism” contributes to a more comprehensive understanding of the subject area. However, there is currently no research that combines these words with safety awareness in military contexts, as indicated by the existing PDLY. The differing quantities of papers and PDLY that have been identified in this particular

study indicate distinct areas of research interest and the continual development of safety knowledge within the context of military studies.

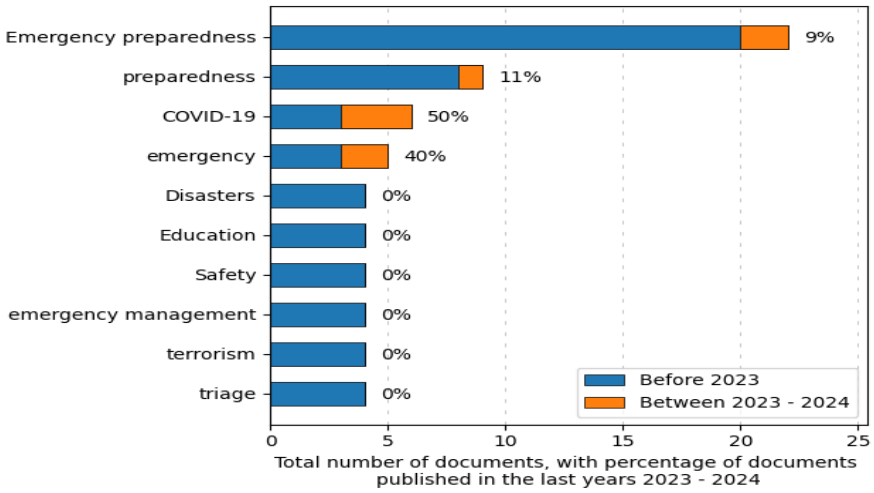


Figure 4 – The bar-trend graph of the research themes and topics emerging (Source: Authors, using ScientoPy 2.1.3).

The current research utilised the VOSviewer platform to understand the interconnections among the keywords used in previous studies. Analysing the different various correlations among the main keywords studied since 2010 is crucial. As depicted in Figure 5, the examination of authors' keyword co-occurrence was conducted with a minimum threshold of 3 instances for each term. Out of the 431 terms, only 17 met this threshold. The examination of author-selected terms holds significant value for researchers seeking to ascertain patterns in research. Furthermore, it is essential to recognize the importance of author keyword analysis when assessing the progress of research subjects. The study utilized VOSviewer to conduct mapping analysis within the context of keyword analysis. The VOSviewer software visually depicts the concurrent occurrence of these terms, as depicted in Figure 5. The configuration of nodes within this visual network denotes the degree of interconnection among words or concepts. Every node represents a unique phrase or idea. The overlaid visualization, exemplified in Figure 5, underscores the dominance of the terms "covid-19," "risk management," "safety," and "emergency" throughout the year 2020. These keywords mirror the prevailing focus on safety knowledge within military domains.

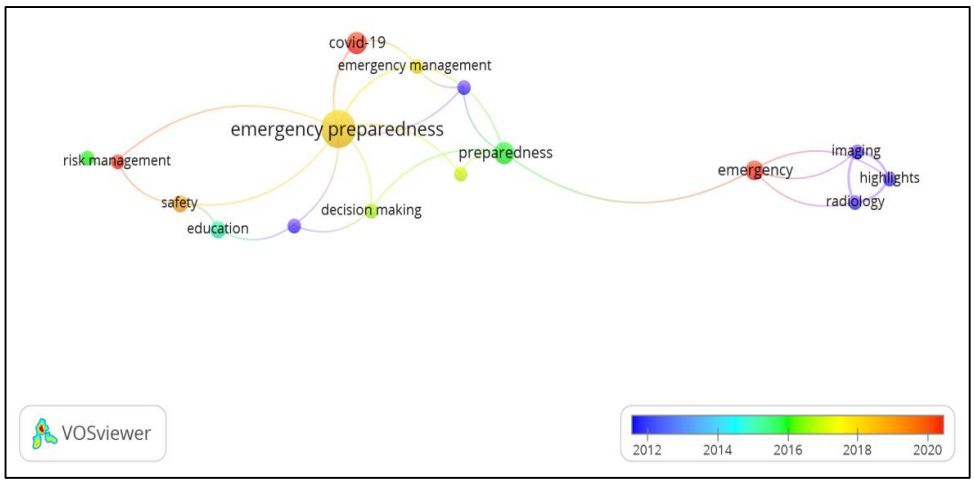


Figure 5 – The visualization of the overlapping keywords co-used by authors (Source: Author, using VOSviewer 1.6.19)

The Most influential academic works

Traditionally, the impact of a publication on a discipline was evaluated based on its citations per publication. Citations indicate how many times an article is referenced in all the documents within a database. During the pre-processing stage, ScientoPy was employed to gather the number of citations originating from the Scopus and WoS databases. The top ten papers concerning safety knowledge in military environments, which have garnered a minimum of 48 citations, are displayed in Table 2. The paper titled “Experiences in Hardware Trojan Design and Implementation” by Jin et al. (2009) received the highest citations, reaching a total of 164.

The second highest number of citations was obtained by Stevelink et al, (2018), the authors of the paper “Mental health outcomes at the end of the British involvement in the Iraq and Afghanistan conflicts: A cohort study,” which amassed 150 citations. Close behind, the article “Weapons of mass destruction events with contaminated casualties - Effective planning for health care facilities” by Macintyre et al, (2000) accumulated 138 citations, ranking it as the third most frequently referenced publication.

Table 2 – The top ten most cited papers

No	Source	Title	Citation count	Document type
1.	(Jin et al, 2009)	"Experiences in Hardware Trojan Design and Implementation"	164	Conference
2.	(Stevelink et al, 2018)	"Mental health outcomes at the end of the British involvement in the Iraq and Afghanistan conflicts: A cohort study"	150	Articles
3.	(Macintyre et al, 2000)	"Weapons of mass destruction events with contaminated casualties - Effective planning for health care facilities"	138	Articles
4.	(Ghafir et al, 2018)	"Security threats to critical infrastructure: the human factor"	97	Articles
5.	(Boukerche et al, 2008)	"Secure localisation algorithms for wireless sensor networks"	94	Articles
6.	(Schmaljohn, 2009)	"Vaccines for hantaviruses"	68	Articles
7.	(Sharp et al, 1998)	"Medical preparedness for a terrorist incident involving chemical or biological agents during the 1996 Atlanta Olympic games"	58	Articles
8.	(Garbutt et al, 2008)	"Evaluation of an Instrument to Measure Nurses' Familiarity with Emergency Preparedness"	51	Articles
9.	(Phillips et al, 2011)	"Disaster threat: Preparedness and potential response of the lowest income quartile"	48	Articles
10.	(Howell, 2011)	"The Demise of PTSD: From Governing through Trauma to Governing Resilience"	48	Articles

Productive institutions

The data analysis presented in Figure 6 sheds light on the inclusion of a considerable number of top-ranked colleges. Notably, the Royal Centre for Defence Medicine in the United Kingdom stands out as the leading institution, having published the highest number of articles, totaling five, surpassing its counterparts. Two universities, namely the Uniformed Services University of Health Sciences in the United States and the University of Ottawa in Canada, have collaborated to produce a combined total of four scholarly articles. In contrast, the remaining institutes have published fewer than three publications. Such achievements serve as a testament to the exceptional quality and effectiveness of these institutions within their respective academic domains. Furthermore, this occurrence highlights the worldwide aspect of scholarly cooperation, as educational institutions from different nations have equally contributed to the progress of research and dissemination of information.

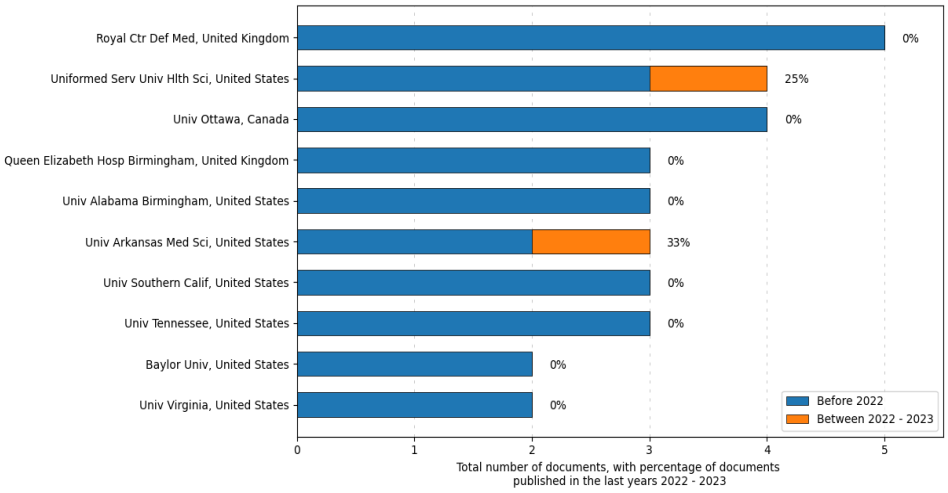


Figure 6 – The ten leading institutions in terms of productivity (Source: Authors, using ScientoPy 2.1.3)

Discussion

Given the limited existing research on evaluating safety knowledge articles in military situations using scientometric methods, conducting a comprehensive analysis of current studies utilising analytical techniques would be a valuable addition to the field. This study aims to investigate the present condition of investigations regarding safety knowledge in military situations worldwide while offering essential insights into academic collaboration through a visualisation approach that illustrates the relationships between significant studies and researchers in the field. This is achieved by examining the most frequently cited papers.

Scientometric investigations, which employ analytical methods, are crucial for a comprehensive understanding of specific areas of study. Scientists are able to analyse patterns in scientific research pertaining to a particular subject or discipline. This involves evaluating the growth of published literature, identifying prevalent topics, scrutinising the sources of these works, and categorising different types of papers. Furthermore, they have the capability to provide valuable advice to fellow researchers in the same field by pinpointing research organizations and individuals who have showcased their proficiency in their research pursuits. The use of knowledge components pertaining to safety is vital in enhancing military safety environments and enhancing the distribution of pertinent details about environmental consciousness and its connected fields issues, which

are currently widespread. These phenomena can be identified by analysing the dominant research subjects and themes in this study. Consequently, researchers can examine the present state of the subject to identify potential contributions and novel approaches for future research.

The study findings regarding the concentration of security knowledge within the military domain yield valuable insights into the publishing patterns and observed trends within this specific sector. Figure 1 demonstrates that an examination of the increase in publications indicates a steady rise in research activities concerning this subject, starting from 2005. Publications have experienced a substantial increase since 2018, a rise that can be attributed to the heightened attention on ecological concerns, specifically during the COVID-19 outbreak. It is actively utilised in the implementation of the Movement Control Order (MCO) as a safety precaution, adapting safety protocols to the existing safety policy.

According to Chirindza & Mangona (2022), the primary factor influencing the adoption of safety knowledge in military environments during the COVID-19 pandemic crisis is the environmental context. The discovery of this information possesses significant consequences for individuals responsible for making decisions and professionals who aim to comprehend the factors that impact the execution of safety knowledge. Thus, in military environments, it is crucial to provide accurate and comprehensive information about COVID-19, highlight the severity of the disease, and address cognitive and socio-structural factors in order to raise awareness and promote behavioral changes among military personnel to protect against COVID-19 (Hein et al, 2021). Therefore, the increase in publications since 2018 suggests a significant impact of the COVID-19 pandemic on safety knowledge in military environments. This phenomenon has also received considerable attention in the field of safety knowledge over the past two years.

Figure 2 depicts the prevalence of journal articles as the primary type of documents generated within this sector. This observation suggests that the advancement of safety knowledge in military contexts heavily relies on original research and academic discourse. The profusion of papers indicates the considerable focus and discourse encompassing this topic in educational and conference settings. According to Garousi and Fernandes (2017), as cited by Abdullah (2023), journal publications receive an average of 12.6 citations, whereas conference papers receive an average of 3.6 citations. This finding supports the conventional belief that, overall, scholarly journal publications have a greater impact than conference papers. Journal papers offer several advantages as sources of study findings. They confer recognition and status upon the authors and their

work (Vadhera et al, 2022). Furthermore, journal papers undergo a rigorous evaluation process to ensure the high quality of the research (Gustafsson, 2022).

Figure 3 illustrates that esteemed scholarly publications and conference proceedings play a crucial role in effectively disseminating safety knowledge in studies related to the military. Noteworthy sources include reputable journals such as “BMJ MILITARY HEALTH” and conference papers like “Proceedings - IEEE Military Communications Conference MILCOM”. The substantial impact factor and publication volume of these sources attest to the growing significance and relevance of safety knowledge in military research, piquing the interest of researchers and practitioners alike. This can be attributed, in part, to the fact that articles published in prestigious and influential journals tend to garner more citations. It is therefore advisable for researchers to submit their scientifically rigorous work to these journals, in order to enhance the impact and visibility of their studies (Achugbue & Tella, 2023; Bahadoran et al, 2020). The utilisation of policy tools within national research assessment systems, academic promotion processes, and competitive funding schemes may also impact the number of published articles. Policy tools, such as interest registries, can play a role in identifying and resolving conflicts of interest that may influence publication practices (Kianersi et al, 2023). It is worth noting that the increase in publication numbers has not been accompanied by a decline in publishing quality, as assessed by scientometric indicators.

Figure 4 portrays the primary domains of investigation and emerging apprehensions pertaining to safety comprehension within military settings. The phrase "Emergency preparedness" is notably prominent as the most frequently employed keyword, emphasizing the significance of promoting consciousness regarding environmental dangers and difficulties. The extensive utilization of the term "Emergency preparedness" in contemporary studies on safety knowledge within military contexts suggests that academics and experts acknowledge the importance of employing safety knowledge to augment individuals' awareness of matters within a military framework. According to Kao et al, (2019), improving safety knowledge in a military setting can effectively enhance individual awareness of specific concerns. This can be achieved through targeted education and training initiatives, which provide knowledge and teach individuals the essential skills needed to demonstrate appropriate behavior in dangerous situations (Szykula-Piec et al, 2020). Furthermore, fostering a culture of psychological safety can facilitate the exchange of information and enhance coworkers understanding (Barbara et al, 2020). Therefore,

the purpose of implementing safety knowledge in military settings is to minimise preventable injuries and illnesses, increase the success of missions, and improve combat efficiency. Gaining an understanding of safety is essential for maintaining secure functioning in complex and hazardous environments.

Additionally, the analysis of the co-occurrence of keywords by means of VOSviewer, as illustrated in Figure 5, provides clarification regarding the interconnection between different research topics and concepts. The growing importance of terms such as "emergency," "Covid-19," and "risk management" in recent times highlights the changing research focus and the significance of safety-related knowledge in promoting environmental consciousness and education. The frequent utilisation of the term “emergency” in scholarly discussions implies a recognition of the necessity to disentangle safety from its survival-centric rationale and to challenge the exceptionalist model in the study of emergencies (Kurylo, 2022). The concept of emergency has been presented and anticipated in a multitude of contexts, exerting influence on societal priorities and reshaping measures for mitigating risks (Seebach & Beriain Bañares, 2021). An examination of safety knowledge in emergency scenarios can be achieved by investigating the dynamics of leadership development within military contexts (Vallikannu et al, 2023). Researchers in the military field, including psychologists, sociologists, and economists, have conducted studies on organisations that may offer valuable insights to the safety and engineering communities (Vallikannu et al, 2023). The safety and engineering communities can enhance their understanding of safety knowledge in emergency scenarios by leveraging the insights gained from research on military organisations (Li & Chen, 2018). This research subject exemplifies a burgeoning scholarly interest in comprehending the emergency dimension of environmental concerns and employing approaches from emergency studies to gain significant insights into the attitudes and perspectives of military personnel.

The prevalence of the term "Covid-19" in the examination of keyword co-occurrence suggests that it is widely acknowledged as a significant determinant throughout the worldwide Covid-19 pandemic spanning from 2020 to 2022. This recognition holds importance in terms of adapting safety knowledge in the military environment and promoting environmental awareness and education. The impact of the COVID-19 pandemic on the understanding of safety knowledge in military settings is evident, as it presents new challenges and obstacles for healthcare professionals and workers. The working conditions at military hospitals have undergone changes, including increased infection risks, inadequate staffing, and

excessive workloads, all of which can influence safety knowledge and practices (Midboe et al, 2023). External influences on safety knowledge and decision making have a significant impact on the military's decision to deploy during the pandemic (Dietrich et al, 2023). Customised measures were implemented in military basic training to prevent epidemics, emphasising the importance of tailored strategies in military environments to ensure safety (España et al, 2022). Understanding the knowledge, attitudes, and behaviours of military personnel regarding COVID-19 prevention is crucial in identifying areas that require improvement and addressing any vaccine hesitancy (Woolley et al, 2023). Therefore, by cultivating a thorough comprehension of the environmental awareness within military personnel, the acquisition of safety knowledge can serve as a potent means of conveying information and viewpoints on both current and emerging environmental issues.

The results presented in Figures 4 and 5 are supported by the significant occurrence of terms related to emergency preparedness, emergency, and COVID-19. These findings demonstrate the evolving focus of research and emphasise the importance of safety knowledge in improving situational awareness and education in military contexts. An examination of keyword co-occurrence provides useful insights into the interrelationships among different study subjects and ideas, eventually augmenting the comprehension of the level of safety consciousness among military personnel with respect to environmental concerns.

Table 2 illustrates an aggregation of significant academic articles, ordered based on the number of citations acquired per article. These highly cited works provide valuable insights into the current state of safety knowledge in military environments. The publication titled "Experiences in Hardware Trojan Design and Implementation" by Jin et al. (2009) has received the highest number of citations, indicating its significant impact in the field. Publications that receive a substantial number of citations indicate widespread use and recognition within the academic community. Hence, these notable publications serve as significant assets for scholars aiming to comprehend the present condition of safety comprehension in dialogues connected to military situations. They aid in moulding the course of research and progressing the established knowledge pool.

The examination of efficacious establishments, as illustrated in Figure 6, elucidates the noteworthy contributions rendered by diverse establishments throughout various nations. "The Royal Centre for Defence Medicine, Uniformed Services University of Health Sciences", and "University of Ottawa" have consistently demonstrated their dedication to researching safety knowledge in military contexts, as evidenced by the

publication of four or more articles. This consistent output serves as a testament to their unwavering commitment and outstanding performance in these domains.

Based on the aforementioned findings and discussion, it is evident that safety knowledge plays a critical role as a mediator in the relationship between safety management practice and safety performance, particularly in military situations (refer to Figure 7). The link between safety management practice and safety performance is influenced by safety knowledge (Jo et al, 2023; Sandora et al, 2023). The research suggests that safety management techniques have a positive and significant impact on safety performance, and this impact is mediated by safety knowledge (Saleem & Malik, 2022). Safety management methods encompass the implementation of safety training, installation of safety signage, updating of standard operating procedures, and conducting safety discussions and briefings (Kalteh et al, 2022). The research proposes that safety regulations should prioritise tangible measures instead of solely focusing on risk awareness in order to enhance safety performance (Kalteh et al, 2022). Furthermore, responsible leadership has the potential to improve safety performance in situations where the safety climate is lacking or there is a low level of safety awareness. Safety knowledge is essential for effectively implementing safety management techniques and enhancing safety performance, particularly in military settings.

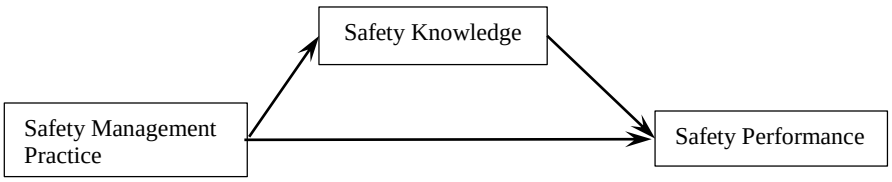


Figure 7 – Role of safety knowledge as a mediator in the research framework

Conclusion

This investigation has significantly bolstered the comprehension and practices connected to safety knowledge in military circumstances via the utilization of scientometric analysis. By examining publication patterns, research subjects, influential publications, and productive institutions, this examination has supplied valuable observations into the current state of research in this domain. The discoveries of this examination emphasize the expanding emphasis on safety knowledge in military settings, as demonstrated by the steady rise in research endeavors over time. The identification of the key research subjects, for example, "emergency

preparedness," and the acknowledgement of the importance of safety information, for example, emergency response, as practical means of promoting environmental awareness, underscores the critical significance of safety knowledge in addressing issues in military scenarios. Moreover, the evaluation of notable scholarly publications, considering their citation count, has unveiled a collection of seminal articles that have significantly influenced the discipline. These publications function as indispensable resources for scholars and practitioners striving to grasp and contribute to the comprehension of safety in military situations.

While this study has the potential to make a significant scholarly contribution to the understanding and implementation of safety measures in military environments, it is important to acknowledge the inherent limitations of this research endeavor. The use of the WoS and Scopus databases may inadvertently result in the exclusion of relevant literature on the subject matter. Additionally, the scientometric approach used in this study primarily focuses on quantitative data, specifically the quantitative assessment of publications and citations. However, it is of paramount importance to acknowledge that the qualitative elements of the articles, such as the overall excellence of the investigation or the importance of the discoveries, are not fully encompassed within this theoretical structure.

Future investigation should strive to rectify these constraints by integrating a more extensive array of datasets and undertaking a more exhaustive assessment of the caliber and influence of the articles. Additionally, it is recommended that future studies focus on exploring specific subcategories of safety knowledge within military contexts. For example, research could center on assessing the effectiveness of various strategies for promoting environmental awareness through safety knowledge or analysing the influence of enforcement entities on the adoption of environmentally-friendly practices. The use of scientometric analysis in the field of safety information in military settings offers a valuable approach to understanding publication patterns, research trends, and significant works in this area. This information can be used to inform future research endeavors, provide guidance to practitioners in implementing effective solutions, and contribute to the development of safety awareness and environmental sustainability within military culture.

References

Abdullah, K.H. 2022a. Mapping of literature on safety knowledge research using ScientoPy and VOSviewer. *Journal of Metrics Studies and Social Science*, 1(1), pp.36-49. Available at: https://doi.org/10.56916/jmsss.v1i1.75.

Abdullah, K.H. 2022b. Publication Trends in Biology Education: A Bibliometric Review of 63 Years. *Journal of Turkish Science Education*, 19(2), pp.465-480 [online]. Available at: https://www.tused.org/index.php/tused/article/view/1190 [Accessed: 25 February 2024].

Abdullah, K.H. 2023. Eco-literacy and Social Media: A Bibliometric Review. *Journal of Scientometric Research*, 12(3), pp.631-640. Available at: https://doi.org/10.5530/jscires.12.3.061.

Abdullah, K.H. & Abd Aziz, F.S. 2020. Safety Behaviour in the Laboratory among University Students. *The Journal of Behavioral Science*, 15(3), pp.51-65 [online]. Available at: https://so06.tci-thaijo.org/index.php/IJBS/article/view/241208 [Accessed: 25 February 2024].

Abdullah, K.H. & Sofyan, D. 2023. Machine Learning in Safety and Health Research: A Scientometric Analysis. *International Journal of Information Science and Management*, 21(1), pp.17-37. Available at: https://doi.org/10.22034/ijism.2022.1977763.0.

Achugbue, E.I. & Tella, A. 2023. Publication in High Impact Journals and Implications for University Rankings of African Universities. In: Onyancha, O. & Tella, A. (Eds.) *Impact of Global University Ranking Systems on Developing Countries*, pp. 309-334. IGI Global. Available at: https://doi.org/10.4018/978-1-6684-8266-7.ch017.

Bahadoran, Z., Mirmiran, P., Kashfi, K. & Ghasemi, A. 2020. Scientific Publishing in Biomedicine: How to Choose a Journal? *International Journal Of Endocrinology And Metabolism*, 19(1), e108417. Available at: https://doi.org/10.5812/IJEM.108417.

Blake, J. & Nemergut, E.C. 2014. Hope for the Best, but Prepare for the Worst. *Anesthesia & Analgesia*, 118(2), pp.249-250. Available at: https://doi.org/10.1213/ANE.0000000000000057.

Chirindza, N.A.T. & Mangona, L.B.M. 2022. Military Knowledge and Practices in Relation to Preventing and Combating COVID-19 (PREPRINT, Version 1). *Research Square,* 06 October. Available at: https://doi.org/10.21203/rs.3.rs-2073597/v1.

Danielsson, A. 2020. Knowledge in and of military operations: enriching the reflexive gaze in critical research on the military. *Critical Military Studies*, 88(3), pp.313-333. Available at: https://doi.org/10.1080/23337486.2020.1835341.

De Florio, V. & Blondia, C. 2015. Safety enhancement through situation-aware user interfaces. *arXiv:1504.03731*. Available at: https://doi.org/10.48550/arXiv.1504.03731.

De Jong, S., Klein, A., Smelik, R. & van Wermeskerken, F. 2016. Integrating Run-Time Incidents in a Large-Scale Simulated Urban Environment. In: Thangarajah, K., Tuyls, S.M. & Jonker, C. (Eds.) *Proceedings of the 15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2016)*, Singapore, pp.1401-1402, May 9-13 [online]. Available at: https://www.ifaamas.org/Proceedings/aamas2016/pdfs/p1401.pdf [Accessed: 25 February 2024]. ISBN: 978-1-4503-4239-1.

Dietrich, N., Eck, K. & Ruffa, C. 2023. How governance shaped military responses to the COVID-19 pandemic. *European Political Science Review*, 15(4), pp.628-640. Available at: https://doi.org/10.1017/s1755773923000024.

Dyson, T. 2021. The Challenge of Creating an Adaptive Bundeswehr. *German Politics*, 30(1), pp.122-139. Available at: https://doi.org/10.1080/09644008.2019.1612369.

Ertle, P. 2016. Safety of Autonomous Cognitive-oriented Robots. *KI - Künstliche Intelligenz*, 30, pp.89-90. Available at: https://doi.org/10.1007/s13218-015-0408-6.

Ertle, P., Tokic, M., Cubek, R., Voos, H. & Söffker, D. 2012. Towards learning of safety knowledge from human demonstrations. In: *2012 IEE/RSJ International Conference on Intelligent Robots and Systems*, Vilamoura-Algarve, Portugal, pp.5394-5399, October 07-12. Available at: https://doi.org/10.1109/IROS.2012.6385714.

España, G., Perkins, T.A., Pollett, S.D., Smith, M.E., Moore, S.M., Kwon, P.O., Hall, T.L., Beagle Jr, M.H., Murray, C.K., Hakre, S., Peel, S.A., Modjarrad, K. & Scott, P.T. 2022. Prioritizing interventions for preventing COVID-19 outbreaks in military basic training. *PLOS Computational Biology*, 18(10), e1010489-e1010489. Available at: https://doi.org/10.1371/journal.pcbi.1010489.

Garousi, V. & Fernandes, J.M. 2017. Quantity versus impact of software engineering papers: a quantitative study. *Scientometrics*, 112, pp.963-1006. Available at: https://doi.org/10.1007/s11192-017-2419-6.

Gustafsson, L. 2022. Journal-based or article-based metrics: What should be applied to assess a researcher's performance? *Australian Occupational Therapy Journal*, 69(1), pp.1-2. Available at: https://doi.org/10.1111/1440-1630.12789.

Hafiar, H., Budiana, H.R., Abdullah, K.H., Sofyan, D. & Amin, K. 2024. Scoring big: a bibliometric analysis of the intersection between sports and public relations. *Cogent Social Sciences*, 10(1), art.number:2297706. Available at: https://doi.org/10.1080/23311886.2023.2297706.

Hein, G., Gamer, M., Gall, D., Gründahl, M., Domschke, K., Andreatta, M, Wieser, M.J. & Pauli, P. 2021. Social cognitive factors outweigh negative emotionality in predicting COVID-19 related safety behaviors. Preventive Medicine Reports, 24, art.number:101559. Available at: https://doi.org/10.1016/J.PMEDR.2021.101559.

Jo, Y.K., Lee, J.W., So, H.S., Jung, T.H. & Kim, B.J. 2023. Multiple Parallel Mediation Effects of Perceived Risk and Safety Practice Behavior in the Relationship between Indoor Swimming Pool Safety regulation and Safety Performance. *Korean Journal of Safety Culture*, 28(22), pp.193-206. Available at: https://doi.org/10.52902/kjsc.2023.22.193.

Kalteh, H.O., Salesi, M. & Mokarami, H. 2022. The mediator role of safety motivation and knowledge between safety culture and safety performance: The results of a sociotechnical and macroergonomics approach. *Work*, 72(2), pp.707-717. Available at: https://doi.org/10.3233/WOR-205085.

Kao, K.-Y., Spitzmueller, C., Cigularov, K. & Thomas, C.L. 2019. Linking safety knowledge to safety behaviours: A moderated mediation of supervisor and worker safety attitudes. *European Journal of Work and Organizational Psychology*, 28(2), pp.206-220. Available at: https://doi.org/10.1080/1359432X.2019.1567492.

Kianersi, S., Grant, S.P., Naaman, K., Henschel, B., Mellor, D., Apte, S., Deyoe, J.E., Eze, P., Huo, C., Lavender, B.L., Taschanchai, N., Zhang, X. & Mayo-Wilson, E. 2023. Evaluating Implementation of the Transparency and Openness Promotion Guidelines: Reliability of Instruments to Assess Journal Policies, Procedures, and Practices. *Advances in Methods and Practices in Psychological Science*, 6(1). Available at: https://doi.org/10.1177/25152459221149735.

Kurylo, B. 2022. Emergency: A Vernacular Contextual Approach. *International Studies Review*, 24(3), art.number:viac036. Available at: https://doi.org/10.1093/isr/viac036.

Midboe, A.M., Javier, S.J., Salsbury, S.A., Katsovich, L., Burgess, D.J., King, H.A., Taylor, S.L., Martino, S., Wallace, R.B., Der-Martirosian, C. & Kerns, R.D. 2023. Impact of COVID-19 pandemic on nonpharmacological pain management trials in military and veteran healthcare settings: an evaluation informed by implementation science. *Translational Behavioral Medicine*, 13(8), pp.601-611. Available at: https://doi.org/10.1093/tbm/ibad015.

Nosary, I.P. & Adiati, R.P. 2021. Pengaruh Kepemimpinan Tranformational Dan Safety Climate Terhadap Safety Behavior di Mediasi Oleh Safety Knowledge. *Buletin Riset Psikologi Dan Kesehatan Mental (BRPKM)*, 1(1), pp.756-767. Available at: https://doi.org/10.20473/BRPKM.V1I1.26930.

Parsons, T.D. & Reinebold, J.L. 2012. Adaptive virtual environments for neuropsychological assessment in serious games. *IEEE Transactions on Consumer Electronics*, 58(2), pp.197-204. Available at: https://doi.org/10.1109/TCE.2012.6227413.

Pettersson, U. 2009. Sharing Knowledge: How to Highlight Proven Experience in the Swedish Armed Forces. In: Landgren, J. & Jul, S. (Eds.) *Proceedings of the 6th International ISCRAM Conference*, Gothenburg, Sweden, May 10-13 [online]. Available at: https://idl.iscram.org/files/pettersson/2009/842_Pettersson2009.pdf [Accessed: 25 February 2024].

Przybysz, K. 2020. Dependability for the military vehicles in the safety aspects. *Inżynieria Bezpieczeństwa Obiektów Antropogenicznych*, 1, pp.35-42. Available at: https://doi.org/10.37105/IBOA.47.

Saleem, F. & Malik, M.I. 2022. Safety Management and Safety Performance Nexus: Role of Safety Consciousness, Safety Climate, and Responsible Leadership. *International Journal of Environmental Research and Public Health*, 19(20), art.number:13686. Available at: https://doi.org/10.3390/ijerph192013686.

Sandora, R., Kurniasih, D. & Putri, G.A. 2023. Influence of Safety Management Practices on Safety Performance with Safety Knowledge as Intervening Variable in Safety Representative. *Tibuana*, 6(1), pp.38-43. Available at: https://doi.org/10.36456/tibuana.6.1.6496.38-43.

Seebach, S. & Beriain Bañares, A. 2021. Towards a sociology of emergency. Epidemics, biorisks, and the society of the Coronavirus. *Digithum*, 28(July), pp.1-7. Available at: https://doi.org/10.7238/d.v0i28.400351.

Szykula-Piec, B., Grabowska-Lepczak, I. & Wojakowska, M. 2020. From Social Research to Education and Training - Campaigns to Raising Public Awareness of Hazards. *Journal of Education and Training*, 7(2), pp.14-35. Available at: https://doi.org/10.5296/JET.V7I2.16323.

Vadhera, A.S., Lee, J.S., Veloso, I.L., Singh, H., Trasolini, N.A., Kunze, K.N., Gursoy, S., Geeslin, A.G., Verma, N.N. & Chahla, J. 2022. Technique Articles Are More Effective at Increasing Social Media Attention in Comparison With Original Research Articles: An Altmetrics-Based Analysis. *Arthroscopy, Sports Medicine, and Rehabilitation*, 4(3), pp.e989-e995. Available at: https://doi.org/10.1016/j.asmr.2022.02.002.

Vallikannu, R., Kanpur Rani, V., Kavitha, B.C. & Sankar, P. 2023. An Analysis of Situational Intelligence for First Responders in Military. In: *2023 International Conference on Artificial Intelligence and Applications (ICAIA) Alliance Technology Conference (ATCON-1)*, Bangalore, India, pp.1-4, April 21-22. Available at: https://doi.org/10.1109/ICAIA57370.2023.10169306.

Wei, S-Y. & Kuo, Y.-K. 2023. The relationship among safety leadership, risk perception, safety culture, and safety performance: Military volunteer soldiers as a case study. *Frontiers in Psychology*, 14. Available at: https://doi.org/10.3389/fpsyg.2023.1000331.

Woolley, S.D., Chambers, R., Bishop, J.R.B., Logan, A., McMillan, P., Fletcher, T.E., Taegtmeyer, M. & O'Shea, M.K. 2023. COVID-19 risk, attitudes and behaviour study (CRAB study): A knowledge, attitudes, and practise qualitative study of COVID-19 in the Royal Navy. *Frontiers in Public Health*, 10. Available at: https://doi.org/10.3389/fpubh.2022.1101817.

Explorando las tendencias de investigación de vanguardia en conocimientos de seguridad en entornos militares

Elias M. Radzi[a], **autor de correspondencia**,
Khairul H. Abdullah[b], *Fazli Shah* A. Aziz[b]

Universidad Utara Malasia, Facultad de Negocios UUM, Escuela de Gestión Empresarial, Kuala Lumpur, Malasia

[a] Programa de Gestión de Seguridad y Salud en el Trabajo

[b] Centro de Excelencia en Gestión de la Seguridad Social

CAMPO: ciencias militares
TIPO DE ARTÍCULO: artículo de revisión

Resumen:

Introducción/objetivo: El entorno militar se caracteriza por operaciones y actividades de alto riesgo que requieren una comprensión integral de los conocimientos de seguridad para garantizar el bienestar y la eficacia del

personal. Indirectamente, este escenario ilustra la necesidad de los militares de priorizar una gestión adecuada de la seguridad y la salud dentro de su entorno, al igual que otras organizaciones. La actual revisión cienciométrica tiene como objetivo analizar las tendencias de investigación relacionadas con el conocimiento de la seguridad en entornos militares.

Métodos: Esta revisión utilizó ScientPy y VOSviewer para comprender la naturaleza de los conjuntos de datos recopilados de las bases de datos Scopus y Web of Science (WoS).

Resultados: La publicación académica "Proceedings - IEEIEEE Military Communications Conference MILCOM" es reconocida por su amplia cobertura de la investigación del conocimiento de seguridad para entornos militares. La palabra clave "preparación para emergencias" ha tenido un impacto significativo en el contenido temático del conocimiento académico sobre seguridad durante las últimas tres décadas, de 1990 a 2023, debido a que los investigadores anteriores la habían utilizado con mayor frecuencia. Basado en un mapeo de visualización superpuesto, la revisión actual demuestra que a los términos "emergencia", "COVID-19" y "gestión de riesgos" se les ha otorgado una mayor importancia desde 2020.

Conclusión: Este estudio proporciona una perspectiva exhaustiva y mundial sobre los temas cruciales del conocimiento de seguridad en entornos militares. Está dirigido a lectores e investigadores potenciales interesados en comprender mejor estos conceptos y realizar investigaciones más rigurosas sobre seguridad militar.

Palabras claves: conocimientos de seguridad, militar, cienciométrico.

Анализ современных научных тенденций в исследованиях в области безопасности в военной среде

Элиас М. Радзи[а], **корреспондент**,
Хаирул Х. Абдуллах[б], *Фазли Шах* А. Азиз[б]

Университет Утара, Малайзия, Колледж бизнеса УУМ,
Школа управления и бизнеса, Куала-Лумпур, Малайзия

[а] Программа управления охраной труда и здоровья

[б] Центр передового опыта управления социальным обеспечением

РУБРИКА ГРНТИ: 78.19.01 Общие вопросы военной науки
ВИД СТАТЬИ: обзорная статья

Резюме:

Введение/цель: Военная среда характерна по операциям с высоким уровнем риска и по видам деятельности, требующих всестороннего понимания техники безопасности ради обеспечения благополучия и эффективности персонала. Такой сценарий косвенно иллюстрирует необходимость посвящения особого внимания надлежащему управлению безопасностью

труда и охране здоровья в военном секторе, также, как это делается в других организациях. Целью данного научного обзора является анализ тенденций в исследованиях области безопасности в военной среде.

Методы: В данной обзорной статье использовались ScientoPy и VOSviewer для понимания характера наборов данных, собранных из баз данных Scopus и Web of Science (WoS).

Результаты: Научное издание "Proceedings - IEEE Military Communications Conference MILCOM" известно своим обширным освещением исследований в области безопасности в военной среде. Ключевой термин "готовность к чрезвычайным ситуациям" оказало значительное влияние на тематическое содержание научных публикаций по безопасности за последние три десятилетия с 1990 по 2023 год, поскольку исследователи его использовали весьма часто. Благодаря применению метода визуального наложения карт данный обзор недвусмысленно показывает, что с 2020 года термины «чрезвычайная ситуация», «covid-19» и «управление рисками» стали более значимыми.

Выводы: Данное исследование представляет собой всесторонний детальный обзор важнейших аспектов знаний о безопасности в военной среде. Оно предназначено для потенциальных читателей и исследователей, заинтересованных в лучшем понимании этих концепций и проведении более тщательных исследований в области военной безопасности.

Ключевые слова: знания о безопасности, вооруженные силы, наукометрические данные.

Анализа најсавременијих трендова у истраживању знања о безбедности у војним окружењима

Елиас М. Раџи[а], **аутор за преписку**,
Аирул Х. Абдулах[б], *Фазли Шах* А. Азиз[б]

Универзитет Утара Малезија, Колеџ бизниса УУМ,
Школа за пословни менаџмент, Куала Лумпур, Малезија

[а] Програм управљања безбедношћу и здрављем на раду

[б] Центар изврсности за управљање социјалним осигурањем

ОБЛАСТ: војне науке
КАТЕГОРИЈА (ВРСТА) ЧЛАНКА: прегледни рад

Сажетак:

Увод/циљ: Војно окружење карактеришу операције и активности високог ризика које захтевају свеобухватно разумевање знања о

безбедности ради обезбеђивања сигурности и ефикасности особља. Индиректно, овај сценарио илуструје потребу војног сектора да да приоритет адекватном управљању у области безбедности и здравља у свом окружењу, као што то чине и друге организације. Овај сциентометријски преглед има за циљ да анализира трендове у истраживању знања о безбедности у војним окружењима.

Методе: У раду се користе ScientoPy и VOSviewer како би се разумела природа сакупљених скупова података из база података Scopus и Web of Science (WoS).

*Резултати: Научна публикација „*Зборник радова са конференције ИЕЕЕ о војним саопштењима MILCOM*" позната је по свом опсежном истраживању у области безбедносног знања у војним окружењима. Кључни термин* припремљеност за ванредне ситуације *имао је значајан утицај у тематским садржајима научних публикација о знању о безбедности у последње три деценије, од 1990. до 2023. године, јер су га истраживачи веома често користили. Визуелном техником преклапања мапирања јасно је показано да су термини* ванредна ситуација, ковид-19 *и* управљање ризиком *добили већи значај од 2020. године.*

Закључак: Студија пружа детаљан и свеобухватан преглед најважнијих предмета истраживања знања о безбедности у војним окружењима. Намењена је потенцијалним читаоцима и истраживачима заинтересованим за боље разумевање ових концепата како би приступили темељнијим истраживањима у области војне безбедности.

Кључне речи: знање о безбедности, војска, сциентометријски преглед.

Paper received on: 29.02.2024.
Manuscript corrections submitted on: 05.06.2024.
Paper accepted for publishing on: 06.06.2024.

© 2024 The Authors. Published by Vojnotehnički glasnik / Military Technical Courier (www.vtg.mod.gov.rs, втг.мо.упр.срб). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/3.0/rs/).