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*Academic Series of Universiti Teknologi MARA Kedah*

VOLUME

# 22

ISSUE 2  
2026

eISSN: : 2682-7840



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**e-ISSN:2682-7840**



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# Mapping The Intellectual Landscape of Team Performance Research in Emergency and Law Enforcement Contexts: A Bibliometric Analysis (2000–2025)

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## ARTICLE INFO

### *Article history:*

Received Sept 2025

Accepted June 2026

Published July 2026

### Keywords:

Team Performance,  
Emergency Services,  
Law Enforcement,  
Bibliometric Analysis,  
Adaptive Teamwork

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DOI:  
<https://doi.org/10.24191/VoA.v22i2.13401>

## ABSTRACT

This bibliometric study maps the intellectual landscape of team performance research in emergency and law enforcement contexts from 2000 to 2025. Drawing on 863 publications indexed in Scopus, the study aims to (1) examine the evolution of research on team performance in emergency and law enforcement settings, (2) identify publication and institutional contribution patterns within the field, and (3) determine the countries, journals, and subject areas that have most influenced the development of this research domain. Using bibliometric tools, including VOSviewer, Bibliometrix, and Harzing's Publish or Perish, the analysis examines publication trends, citation patterns, disciplinary contributions, publication outlets, institutional productivity, and geographic distribution. The findings indicate a substantial increase in research output over the past two decades, with publication activity accelerating significantly after 2020 and reaching its highest level in 2024. Social Sciences emerged as the dominant subject area, followed by Business, Management and Accounting, Computer Science, Engineering, Environmental Science, and Medicine. Journals such as Sustainability Switzerland and the International Journal of Disaster Risk Reduction served as major publication platforms, while the United States, United Kingdom, and Canada were the leading contributors to the field. The findings also reveal that research on team performance in emergency and law enforcement contexts has developed into a highly

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interdisciplinary area that integrates organizational, technological, operational, and healthcare perspectives. Despite the growth of the field, law enforcement teams remain comparatively underrepresented in the literature compared to emergency and healthcare teams. This study highlights the need for broader geographic representation, greater attention to law enforcement contexts, and more empirical investigations of teamwork in high-risk environments. By providing a comprehensive overview of publication trends, influential contributors, and disciplinary foundations, this study contributes to a better understanding of the development of team performance research and offers directions for future scholarship.

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## 1.0 Introduction

The need for highly effective teams in emergency and law enforcement situations has grown over the last 20 years as societies deal with more complicated problems. Frontliner teams are expected to produce coordinated, flexible, and successful results under pressure in a variety of situations, including cross-agency responses, mental health emergencies, and natural disasters and public health crises. The intellectual framework and development trajectory of this corpus of work, particularly in the contexts of emergency services and law enforcement, are still largely unknown despite the explosion of team dynamics research. By conducting a bibliometric analysis of team performance research from 2000 to 2025, this study seeks to compile that knowledge.

The literature currently in publication highlights the complex nature of team performance in emergency and law enforcement settings, frequently emphasizing topics like interdisciplinary collaboration, coordination strategies, resilience, and the development of non-technical skills. Non-technical skills have been evaluated using instruments such as the Team Emergency Assessment Measure (TEAM), which have demonstrated gains after training, although there are still few connections to practical results (Cooper et al., 2023). While some scholars have examined implicit coordination and transactive memory systems as factors that contribute to effective teamwork in tactical teams (Marques-Quinteiro et al., 2013), others have drawn attention to inter-agency coordination as a crucial but little-studied element in large-scale emergencies (Power, 2018). While collaborative models like the Crisis Intervention Team (CIT) and ÉCHINOPS projects highlight the significance of integrating mental health into law enforcement responses (Compton et al., 2011; De Benedictis et al., 2024), innovative techniques like Interaction Episode Analysis (IEA) provide insights into how teams adapt in real time (Son et al., 2020). A comprehensive map of the field's intellectual development is still missing despite this rich and diverse literature.

This study provides a comprehensive picture of the academic environment through bibliometric techniques, including publication trend analysis, citation analysis, and performance analysis. These approaches help identify influential contributors, publication patterns, disciplinary foundations, and emerging areas of research within team performance studies in emergency and law enforcement contexts. For fields that are marked by interdisciplinary integration and practical urgency, bibliometric approaches are extremely relevant since they are especially helpful in identifying knowledge clusters, research gaps, and future

directions. Thus, by connecting disparate insights and highlighting new fields of study, this work adds to discussions in academia and in practice.

This study is guided by three key questions: (1) How has research on team performance in emergency and law enforcement contexts evolved from 2000 to 2025?; (2) What are the publication trends and institutional contribution patterns in team performance research within emergency and law enforcement contexts?; (3) Which countries, journals, and subject areas have most influenced the development of team performance research in emergency and law enforcement contexts?

The paper is structured as follows. Section 2 reviews the relevant literature and theoretical foundations of team performance research. Section 3 describes the methodology and bibliometric procedures employed in the study. Section 4 presents the results of the bibliometric analysis, including publication trends, influential contributors, and disciplinary distributions. Section 5 discusses the findings and their implications, while Section 6 concludes the study by outlining its contributions, limitations, and directions for future research. Overall, the study offers a comprehensive overview to advance the science and practice of high-performing frontline teams.

## 2.0 Literature Review

Over the past 25 years, growing demands on frontline teams in high-stakes situations have driven a surge in research on team performance in emergency and law enforcement contexts. Bibliometric analyses have mapped this evolution by highlighting key publications, citation dynamics, and dominant themes. Much of the literature has focused on medical crises such as resuscitation, trauma, pediatric emergencies, and COVID-19, which indicates a strong clinical orientation (Farrokhi et al., 2025). More recently, themes such as risk management, road safety, and safety culture have gained prominence in studies of government sectors, including police and enforcement units (Abdullah et al., 2024). This shift reflects growing attention to psychological and behavioral factors such as stress, burnout, and mental health, particularly after the COVID-19 pandemic. Longitudinal analyses also show that world events strongly influence research patterns, with the highest scholarly impact observed in 2018, just before the pandemic-driven surge in publications (Kılıç and Ak, 2025).

Even with the increasing amount of research, there is still a noticeable disparity in emphasis. While law enforcement teams have gotten relatively less systematic attention in bibliometric terms, particularly regarding team dynamics, decision-making, and cross-agency coordination, emergency medical teams have been extensively studied in terms of clinical performance and patient outcomes. Additionally, although non-technical skills (like leadership, communication, and flexibility) are becoming increasingly recognized as crucial, bibliometric analyses show a lack of empirical studies relating these abilities to long-term results in law enforcement settings. An important area for further research is the lack of integration between psychological competencies and operational effectiveness. Furthermore, despite the frequent mention of simulation-based tests and instruments such as the Team Emergency Assessment Measure (TEAM), little is known about how they can be used in interagency and policing contexts.

The bibliometric landscape highlights the role of influential authors, institutions, and journals in shaping research on team performance, with much of the work concentrated in a few countries (Abdullah et al., 2024; Farrokhi et al., 2025). This concentration limits geographic diversity and reduces context-specific insights for regions with different emergency or policing models, while inconsistencies in terminology and assessment standards further complicate comparisons. Overall, bibliometric analyses from 2000 to 2025

show that research on team performance in emergency and law enforcement is active but uneven. Despite progress in identifying themes such as trauma care, crisis communication, and mental health, significant gaps remain in law enforcement research, interdisciplinary dynamics, and real-world outcomes. These findings underline the need for more inclusive, comparative, and longitudinal studies to strengthen evidence-based improvements in frontline team effectiveness.

Beyond the emergency and law enforcement literature, research on team performance is grounded in several well-established theoretical frameworks. The Input–Mediator–Output–Input (IMOI) framework proposed by Mathieu et al. (2008) explains how team inputs influence mediating mechanisms, such as team processes and emergent states, which subsequently affect team outcomes. Similarly, Salas et al. (2005) identified the “Big Five” of teamwork, namely team leadership, mutual performance monitoring, backup behaviour, adaptability, and team orientation, as essential determinants of effective team functioning. Marks et al. (2001) further conceptualised team processes as transition, action, and interpersonal processes that facilitate team effectiveness in dynamic environments. These foundational frameworks have shaped contemporary research on teamwork, coordination, adaptation, and team effectiveness. Therefore, understanding the intellectual development of team performance research within emergency and law enforcement contexts requires consideration of these broader theoretical perspectives that underpin the field.

### 3.0 Methodology

This study employs bibliometric analysis to examine the evolution, intellectual structure, and publication patterns of team performance research within emergency and law enforcement contexts from 2000 to 2025. Using Scopus as the primary database due to its broad coverage and strong citation indexing, the analysis applies performance analysis and science mapping techniques through tools such as VOSviewer and Bibliometrix. These methods reveal publication trends, influential authors, institutions, journals, countries, and subject areas, offering insights into the development of this interdisciplinary field.

#### 3.1 Information Gathering

This study adopted a systematic bibliometric approach to identify and analyse publications related to team performance in emergency and law enforcement contexts. The Scopus database was selected as the primary source due to its extensive coverage of peer-reviewed literature across multiple disciplines and its robust citation indexing capabilities (Elsevier, 2024; Mongeon & Paul-Hus, 2016).

The literature search was conducted on 30 July 2025 using the following Boolean search query: TITLE-ABS-KEY (("team performance" OR teamwork OR collaboration OR "group dynamics") AND (emergency OR crisis OR disaster OR urgent) AND ("law enforcement" OR police OR security OR "public safety"))

The search was applied to the Title, Abstract, and Keywords fields (TITLE-ABS-KEY) in Scopus. No restrictions were imposed on language, document type, subject area, or country to ensure comprehensive coverage of the literature. The publication period was limited to 2000–2025 to capture the evolution of research over the past twenty-six years.

The initial search yielded 2,331 records. The records were subsequently screened based on title, abstract, keywords, topic relevance, scope, and eligibility criteria. Duplicate records and publications unrelated to team performance in emergency and law enforcement contexts were excluded. Following the screening

process, 863 publications were retained for bibliometric analysis. These records formed the final dataset used for performance analysis, science mapping, and trend analysis.

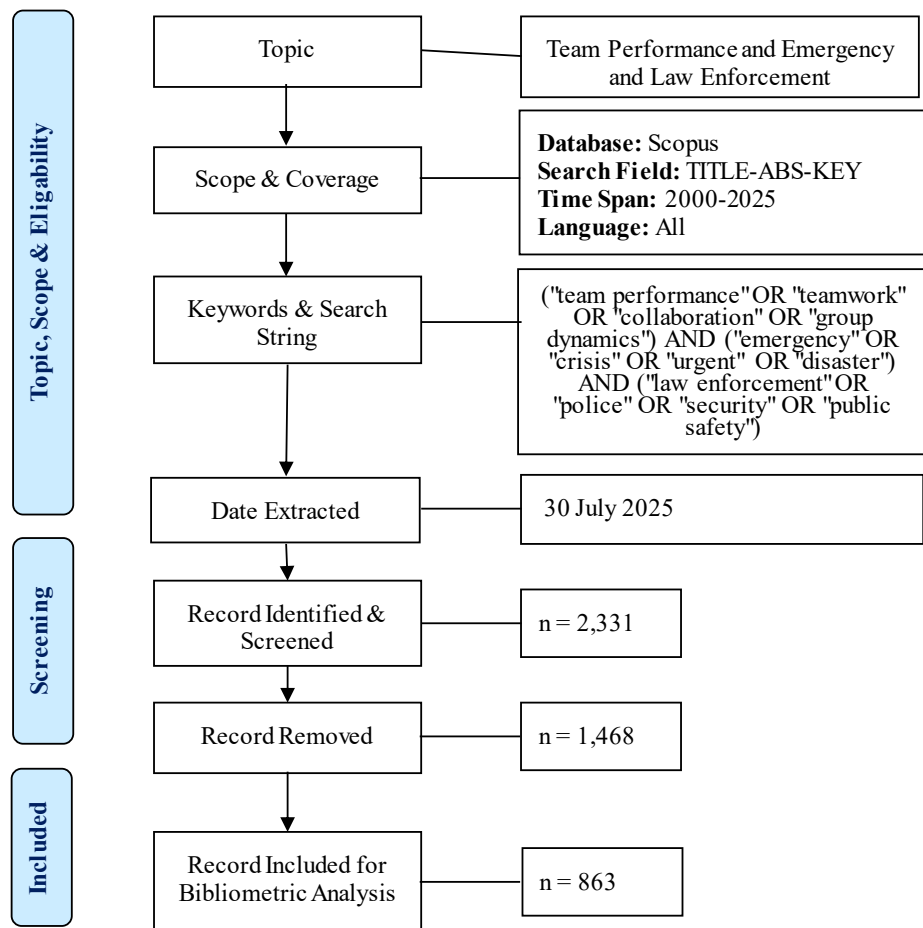


Figure 1. Flow Diagram of the Search Strategy

### 3.2 Tools

To ensure a thorough examination of research trends, intellectual structure, and publication patterns in team performance within emergency and law enforcement contexts, a variety of tools and methodologies were employed in this bibliometric study. Harzing's Publish or Perish software was used to extract and conduct preliminary analyses of citation metrics from Scopus, including total citations, h-index, and publication trends (Harzing, 2007). Bibliographic data were subsequently cleaned and standardized using OpenRefine to address inconsistencies in author names, institutional affiliations, and keywords. This step was essential for improving data accuracy and reliability.

After data cleaning and standardization using OpenRefine, VOSviewer was used to support bibliometric visualization and descriptive analysis of publication patterns, authors, institutions, countries, and research themes. These tools facilitated the identification of influential contributors and emerging areas of research within the field. Together, the analytical procedures ensured a systematic and reliable examination of the bibliometric dataset. By taking these methodological precautions, the bibliometric analysis was conducted rigorously and provided valuable insights into the development of knowledge within the field.

## 4.0 Results

The findings of the bibliometric analysis provide a comprehensive overview of publication trends, influential contributors, disciplinary distributions, publication outlets, institutional productivity, geographic representation, and emerging research topics within team performance research in emergency and law enforcement contexts. These findings offer valuable insights into the intellectual development and current state of the field.

### 4.1 Profiles of Documents

A fundamental overview of the bibliometric dataset used in this analysis is given by the document profile shown in Table 1, which represents the number and scholarly significance of publications pertaining to the investigation of team performance in emergency and law enforcement settings. The dataset covers 26 years of citation activity and includes 863 academic papers published between 2000 and 2025. Together, these papers have 8,709 citations, demonstrating the field's ongoing scholarly interest and influence. Each paper has received 10.09 citations on average, and the annual citation rate is 348.36. According to Donthu et al. (2021), these metrics show a moderate but consistent citation impact, indicating that the topic is relevant across time and disciplines.

The dataset recorded 8,709 citations across 863 publications, resulting in an average of 10.09 citations per paper and an annual citation rate of 348.36. The author-to-paper ratio of 3.05 indicates a collaborative research environment, where most publications involve multiple authors. The dataset also achieved an h-index of 41 and a g-index of 74, demonstrating both sustained scholarly impact and the presence of several highly influential publications within the field.

Table 1. Main Information

| Main Information  | Data      |
|-------------------|-----------|
| Publication Years | 2000-2025 |
| Citation Years    | 26        |
| Papers            | 863       |
| Citations         | 8709      |
| Cites_Year        | 348.36    |
| Cites_Paper       | 10.09     |
| Authors_Paper     | 3.05      |
| h_index           | 41        |
| g_index           | 74        |

Source: Generated by the author(s) using Harzing Publish and Perish

## 4.2 Publication Trends

The annual publication trends in Table 2 show growing scholarly interest in team performance research from 2000 to 2025. Early activity (2000–2007) was minimal, with fewer than 10 papers per year, such as 1 paper (0.12%) in 2001 and 3 papers (0.35%) in 2003. Productivity gradually increased from 2008 to 2015, averaging 17–30 papers annually. A notable rise occurred between 2016 and 2021, peaking at 58 papers (6.72%) in 2021. The most significant growth was from 2022 to 2024, reaching 132 papers (15.30%) in 2024, before slightly declining to 100 papers (11.59%) in 2025, reflecting the field's maturation and interdisciplinary engagement.

Table 2. Publication by Year

| Year | TP  | %      |
|------|-----|--------|
| 2000 | 3   | 0.35%  |
| 2001 | 1   | 0.12%  |
| 2002 | 5   | 0.58%  |
| 2003 | 3   | 0.35%  |
| 2004 | 9   | 1.04%  |
| 2005 | 9   | 1.04%  |
| 2006 | 9   | 1.04%  |
| 2007 | 7   | 0.81%  |
| 2008 | 19  | 2.20%  |
| 2009 | 24  | 2.78%  |
| 2010 | 17  | 1.97%  |
| 2011 | 23  | 2.67%  |
| 2012 | 25  | 2.90%  |
| 2013 | 29  | 3.36%  |
| 2014 | 22  | 2.55%  |
| 2015 | 30  | 3.48%  |
| 2016 | 40  | 4.63%  |
| 2017 | 41  | 4.75%  |
| 2018 | 29  | 3.36%  |
| 2019 | 34  | 3.94%  |
| 2020 | 42  | 4.87%  |
| 2021 | 58  | 6.72%  |
| 2022 | 80  | 9.27%  |
| 2023 | 72  | 8.34%  |
| 2024 | 132 | 15.30% |
| 2025 | 100 | 11.59% |

Notes: TP=total number of publications; %= percentage

Figure 2 shows a marked increase in publications on team performance in frontline and law enforcement settings over the past 20 years. Early output (2000–2005) was low, with fewer than 10 papers annually, reflecting limited research interest. From 2006, publications gradually increased, surpassing 20 per year by 2009 and rising steadily through 2018, with peaks in 2013 and 2016. A rapid expansion began in 2019, likely driven by global challenges such as COVID-19, reaching over 75 papers in 2022 and peaking at 132 in 2024. Despite a slight decline to 100 in 2025, the field remains vibrant and growing.

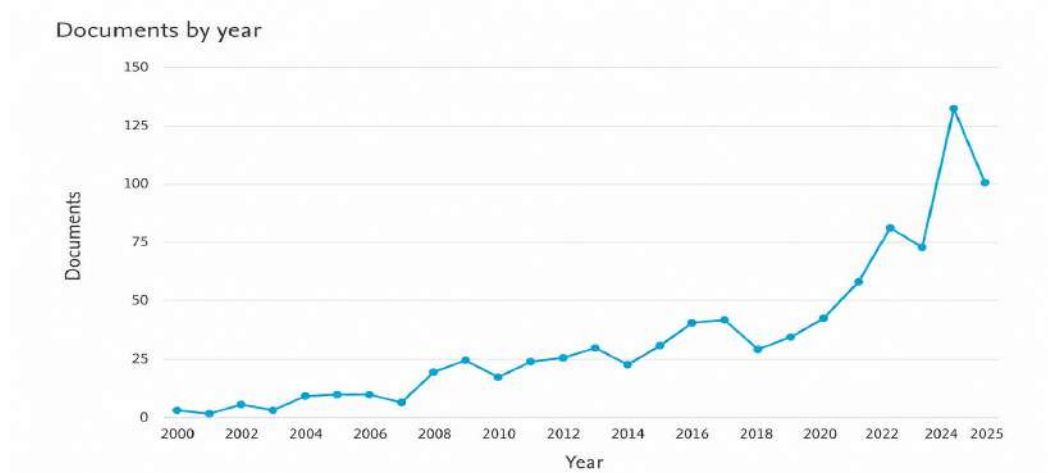


Figure 2. Publications Over Time (2000-2025)  
Source: Generated by the author(s) using Scopus database

### 4.3 Most Active Authors

The analysis of author productivity in team performance research within frontline and law enforcement contexts shows a moderately distributed contribution pattern. Desourdis, R. I. emerged as the most prolific author with five publications, followed by Berlin, J. M., Compton, M. T., Magnussen, L. I., Velthuisen, A., and Waugh, W. L., each contributing four publications. The relatively small differences in publication counts suggest that research productivity is distributed across multiple contributors rather than concentrated among a few dominant scholars. This pattern reflects the interdisciplinary and collaborative nature of team performance research in emergency and law enforcement contexts.

Table 3. Most Active Authors

| Author                | Number | %     |
|-----------------------|--------|-------|
| Desourdis, R.I.       | 5      | 0.58% |
| Berlin, J.M.          | 4      | 0.46% |
| Compton, M.T.         | 4      | 0.46% |
| Magnussen, L.I.       | 4      | 0.46% |
| Velthuisen, A.        | 4      | 0.46% |
| Waugh, W.L.           | 4      | 0.46% |
| Andersson, A.         | 3      | 0.35% |
| Broussard, B.         | 3      | 0.35% |
| Caballero-Anthony, M. | 3      | 0.35% |
| Carlström, E.         | 3      | 0.35% |
| Carlström, E.D.       | 3      | 0.35% |
| Crofts, N.            | 3      | 0.35% |
| Murphy, P.            | 3      | 0.35% |
| Oliva, J.R.           | 3      | 0.35% |
| Reuter, C.            | 3      | 0.35% |

Note: TP=total number of publications.



#### 4.4 Subject Area

The subject area analysis demonstrates the interdisciplinary nature of team performance research in emergency and law enforcement contexts. As shown in Table 4, Social Sciences emerged as the dominant subject area with 735 publications (85.17%), followed by Business, Management and Accounting (19.00%), Computer Science (16.34%), Engineering (14.25%), Environmental Science (14.14%), and Medicine (13.56%). Additional contributions were recorded in Economics, Decision Sciences, Psychology, Arts and Humanities, and Earth and Planetary Sciences.

The distribution of subject areas indicates that team performance research extends beyond a single disciplinary perspective. The presence of publications across social, managerial, technological, environmental, and healthcare disciplines reflects the broad applicability of teamwork research in addressing complex challenges within emergency and law enforcement settings.

Table 4. Top 15 Subject Area

| Subject Area                                 | TP  | %      |
|----------------------------------------------|-----|--------|
| Social Sciences                              | 735 | 85.17% |
| Business, Management and Accounting          | 164 | 19.00% |
| Computer Science                             | 141 | 16.34% |
| Engineering                                  | 123 | 14.25% |
| Environmental Science                        | 122 | 14.14% |
| Medicine                                     | 117 | 13.56% |
| Economics, Econometrics and Finance          | 76  | 8.81%  |
| Decision Sciences                            | 60  | 6.95%  |
| Arts and Humanities                          | 53  | 6.14%  |
| Earth and Planetary Sciences                 | 41  | 4.75%  |
| Psychology                                   | 36  | 4.17%  |
| Energy                                       | 36  | 4.17%  |
| Multidisciplinary                            | 30  | 3.48%  |
| Mathematics                                  | 27  | 3.13%  |
| Agricultural and Biological Sciences         | 21  | 2.43%  |
| Biochemistry, Genetics and Molecular Biology | 11  | 1.27%  |
| Nursing                                      | 9   | 1.04%  |
| Health Professions                           | 9   | 1.04%  |
| Physics and Astronomy                        | 3   | 0.35%  |
| Pharmacology, Toxicology and Pharmaceutics   | 3   | 0.35%  |
| Chemistry                                    | 2   | 0.23%  |
| Materials Science                            | 1   | 0.12%  |
| Immunology and Microbiology                  | 1   | 0.12%  |
| Dentistry                                    | 1   | 0.12%  |
| Chemical Engineering                         | 1   | 0.12%  |

Note=Total number of publications

#### 4.5 Document Type

The document type analysis presented in Table 5 indicates that journal articles constitute the majority of publications, accounting for 490 documents (56.78%). This is followed by book chapters with 149 publications (17.27%), conference papers with 88 publications (10.20%), review papers with 57 publications (6.60%), and books with 43 publications (4.98%). Other document types, including conference reviews, notes, editorials, errata, and brief surveys, collectively represent a relatively small proportion of the dataset.

The distribution of document types suggests that journal articles remain the primary medium for disseminating research on team performance in emergency and law enforcement contexts. At the same time, the presence of book chapters, conference papers, reviews, and books reflects the diverse nature of scholarly contributions within the field and highlights the continued development of both theoretical and applied knowledge.

Table 6. Source Title

| Source Title                                                 | TP | %     |
|--------------------------------------------------------------|----|-------|
| Sustainability Switzerland                                   | 16 | 1.85% |
| International Journal of Disaster Risk Reduction             | 14 | 1.62% |
| Journal of Contingencies and Crisis Management               | 9  | 1.04% |
| Advanced Sciences and Technologies for Security Applications | 8  | 0.93% |
| International Journal of Emergency Services                  | 7  | 0.81% |
| Journal of Emergency Management                              | 7  | 0.81% |
| Journal of Homeland Security and Emergency Management        | 7  | 0.81% |
| Plos One                                                     | 7  | 0.81% |
| Biosecurity and Bioterrorism                                 | 6  | 0.70% |
| Community Mental Health Journal                              | 6  | 0.70% |
| Health Security                                              | 6  | 0.70% |
| 19th Americas Conference on Information Systems Amcis 2013   | 5  | 0.58% |
| Hyperconnected World Anything Anywhere Anytime               |    |       |
| Discover Sustainability                                      | 5  | 0.58% |
| International Conference on Information Systems Icis 2012    | 5  | 0.58% |
| International Journal of Emergency Management                | 5  | 0.58% |

Notes: TP=total number of publications

Table 5. Document Type

| Document Type     | TP         | %           |
|-------------------|------------|-------------|
| Article           | 490        | 56.78%      |
| Book Chapter      | 149        | 17.27%      |
| Conference Paper  | 88         | 10.20%      |
| Review            | 57         | 6.60%       |
| Book              | 43         | 4.98%       |
| Conference Review | 24         | 2.78%       |
| Note              | 7          | 0.81%       |
| Editorial         | 3          | 0.35%       |
| Erratum           | 1          | 0.12%       |
| Short Survey      | 1          | 0.12%       |
| <b>Total</b>      | <b>863</b> | <b>100%</b> |

Notes: TP=total number of publications

#### 4.6 Source Title

The analysis of source titles in Table 6 highlights the interdisciplinary nature of team performance research in emergency and law enforcement contexts. Sustainability Switzerland emerged as the most productive publication outlet with 16 publications (1.85%), followed by the International Journal of Disaster Risk Reduction with 14 publications (1.62%) and the Journal of Contingencies and Crisis Management with nine publications (1.04%). Other notable publication outlets include the International Journal of Emergency Services, Journal of Emergency Management, Journal of Homeland Security and Emergency Management, Plos One, Health Security, and Community Mental Health Journal.

The distribution of source titles indicates that research on team performance is disseminated through a diverse range of journals covering sustainability, disaster risk reduction, crisis management, emergency services, public health, homeland security, and information systems. This pattern demonstrates the interdisciplinary character of the field and highlights the broad range of operational and organizational contexts in which team performance is examined.

#### 4.7 Most Active Institutions

Table 7 presents the most active institutions contributing to team performance research in emergency and law enforcement contexts. Heriot-Watt University emerged as the leading institution with 23 publications (3.35%), followed by Tecnológico de Monterrey with 15 publications (2.18%) and Universidade do Minho with 13 publications (1.89%). Other notable contributors included Universidade Federal de Santa Maria, Bowling Green State University, Universidade Federal de Santa Catarina, Purdue University, University College Cork, Liverpool John Moores University, and the University of Johannesburg.

The distribution of institutional contributions indicates that research on team performance in emergency and law enforcement contexts is conducted across a diverse range of universities and research centres worldwide. The presence of institutions from Europe, North America, Latin America, Africa, and Asia reflects the international nature of the field and highlights the broad academic interest in teamwork, emergency response, public safety, and crisis management. These findings suggest that research on team

performance is supported by a geographically diverse network of institutions, contributing to the continued development of knowledge in this area.

Table 7. Most Active Institutions

| <b>Institution</b>                        | <b>TP</b> | <b>%</b> |
|-------------------------------------------|-----------|----------|
| Heriot-Watt University                    | 23        | 3.35%    |
| Tecnológico de Monterrey                  | 15        | 2.18%    |
| Universidade do Minho                     | 13        | 1.89%    |
| Universidade Federal de Santa Maria       | 10        | 1.46%    |
| Bowling Green State University            | 9         | 1.31%    |
| Universidade Federal de Santa Catarina    | 7         | 1.02%    |
| Purdue University                         | 6         | 0.87%    |
| University College Cork                   | 6         | 0.87%    |
| Liverpool John Moores University          | 6         | 0.87%    |
| University of Johannesburg                | 5         | 0.73%    |
| Universidade Federal Fluminense           | 5         | 0.73%    |
| University of Southampton                 | 5         | 0.73%    |
| Indian Institute of Technology Madras     | 5         | 0.73%    |
| Liverpool Business School                 | 5         | 0.73%    |
| Universidade Federal do Rio Grande do Sul | 4         | 0.58%    |

Notes: TP=total number of publications

#### 4.8 Most Active Countries

Table 8 presents the countries with the highest research output in team performance studies within emergency and law enforcement contexts. The United States recorded the largest number of publications with 254 documents (29.43%), followed by the United Kingdom with 75 publications (8.69%), Canada with 57 publications (6.60%), India with 47 publications (5.45%), and China with 42 publications (4.87%). Germany, Australia, Sweden, Norway, and South Africa also made notable contributions to the literature.

The findings demonstrate that research on team performance in emergency and law enforcement settings has attracted global scholarly attention. However, publication output remains concentrated in a relatively small number of countries, particularly those with established research infrastructures and strong academic publication systems. While contributions are evident across multiple regions, the distribution suggests opportunities for greater participation from underrepresented countries and regions. Expanding research efforts across diverse geographic contexts may provide a broader understanding of team performance challenges and practices in different emergency response and law enforcement environments.

Table 8. Most Active Countries

| Country        | TP  | %      |
|----------------|-----|--------|
| United States  | 254 | 29.43% |
| United Kingdom | 75  | 8.69%  |
| Canada         | 57  | 6.60%  |
| India          | 47  | 5.45%  |
| China          | 42  | 4.87%  |
| Germany        | 38  | 4.40%  |
| Australia      | 35  | 4.06%  |
| Sweden         | 31  | 3.59%  |
| Norway         | 26  | 3.01%  |
| South Africa   | 24  | 2.78%  |

#### 4.9 Source Type

The source type analysis presented in Table 9 indicates that journals are the dominant source type, accounting for 556 publications (64.43%) of the total dataset. This is followed by books with 159 publications (18.42%), conference proceedings with 103 publications (11.94%), and book series with 42 publications (4.87%). Trade journals represent only a small proportion of the dataset, contributing three publications (0.35%).

The distribution of source types suggests that research on team performance in emergency and law enforcement contexts is primarily disseminated through scholarly journals. At the same time, the presence of books, conference proceedings, and book series reflects the diversity of publication outlets available within the field. These findings indicate that knowledge development in this area is supported through multiple channels of scholarly communication.

Table 9. Source Type

| Source Type           | TP  | %      |
|-----------------------|-----|--------|
| Journal               | 556 | 64.43% |
| Book                  | 159 | 18.42% |
| Conference Proceeding | 103 | 11.94% |
| Book Series           | 42  | 4.87%  |
| Trade Journal         | 3   | 0.35%  |

Notes: TP=total number of publications

#### 4.10 Languages

The language analysis indicates that English is the dominant language of publication in team performance research within emergency and law enforcement contexts. As shown in Table 10, English accounts for 831 publications (95.52%) of the total dataset. Chinese contributed 12 publications (1.38%), followed by Spanish with seven publications (0.80%). French and Persian each recorded four publications (0.46%), while several other languages, including German, Russian, Slovenian, Danish, Indonesian, Italian, Korean, Ukrainian, and Catalan, were represented by only a small number of publications.

The distribution of publication languages demonstrates the predominance of English as the primary medium for scholarly communication within the field. At the same time, the presence of publications in multiple languages highlights the international scope of team performance research and reflects contributions from diverse geographic and linguistic contexts.

Table 10. Languages

| Language   | TP  | %      |
|------------|-----|--------|
| English    | 831 | 95.52% |
| Chinese    | 12  | 1.38%  |
| Spanish    | 7   | 0.80%  |
| French     | 4   | 0.46%  |
| Persian    | 4   | 0.46%  |
| German     | 2   | 0.23%  |
| Russian    | 2   | 0.23%  |
| Slovenian  | 2   | 0.23%  |
| Danish     | 1   | 0.11%  |
| Indonesian | 1   | 0.11%  |
| Italian    | 1   | 0.11%  |
| Korean     | 1   | 0.11%  |
| Ukrainian  | 1   | 0.11%  |
| Catalan    | 1   | 0.11%  |

Notes: TP=total number of publications

#### 4.11 Recent Notable Publications

Table 11 presents a selection of recent publications published in 2025 that reflect emerging areas of interest within team performance research in emergency and law enforcement contexts. Although these publications have not yet accumulated substantial citation counts due to their recent publication dates, they provide insights into contemporary research directions and emerging themes. The studies highlight growing scholarly attention towards technology-enabled collaboration, public health and policing partnerships, cybersecurity resilience, sustainability, and ethical challenges associated with artificial intelligence. Collectively, these publications demonstrate the expanding interdisciplinary nature of team performance research and illustrate how contemporary scholars are addressing increasingly complex challenges in high-risk and dynamic environments.

Table 11. Recent Notable Publications (2025)

| Authors                                  | Year | Title                                                                                                           | Source                                        | Cites |
|------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------|
| A.P. Onyena, K. Sam                      | 2025 | The blue revolution: sustainable water management for a thirsty world                                           | Discover Sustainability                       | 3     |
| X. Ding, B. Shang, C. Xie, J. Xin, F. Yu | 2025 | Artificial intelligence in the COVID-19 pandemic: balancing benefits and ethical challenges in China's response | Humanities and Social Sciences Communications | 3     |
| W. Chen, Y. Zou                          | 2025 | Why Zoom Is Not Doomed Yet: Privacy and Security Crisis Response in the COVID-19 Pandemic                       | American Behavioral Scientist                 | 5     |

|                                                                                  |      |                                                                                                                          |                                                               |   |
|----------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---|
| A.A. Otoom, I. Atoum, H. Al-Harashsheh, M. Aljawarneh, M.N. Al Refai, M. Baklizi | 2025 | A collaborative cybersecurity framework for higher education                                                             | Information and Computer Security                             | 2 |
| C.C. Unger, N. Crofts, A. van Dijk                                               | 2025 | Envisaging the future of community safety and wellbeing: Practical examples of policing and public health collaborations | Routledge International Handbook of Critical Policing Studies | 3 |

Table 11 presents a selection of recent publications published in 2025 that are relevant to team performance research in emergency and law enforcement contexts. Although these studies have received relatively few citations due to their recent publication dates, they reflect several emerging areas of scholarly interest, including crisis communication, public health and policing partnerships, sustainability, artificial intelligence, and cybersecurity. As recently published works, these publications provide insight into current and emerging research directions rather than representing the most influential contributions within the field.

#### 4.11 Keywords

Figure 3 presents a word cloud visualizing the most common keywords in research on team performance in emergency and law enforcement settings. Keyword analysis in bibliometric studies helps identify prevailing themes, emerging trends, and gaps in the literature (Donthu et al., 2021). High-frequency terms such as "Security," "Emergency," "Management," "Health," and "Disaster" indicate a strong focus on emergency management and public safety, particularly regarding team coordination during crises. The prominence of "Security" highlights intersections with law enforcement, homeland security, and civil protection, while "Health" and "Mental" reflect growing attention to public and mental health, influenced in part by the COVID-19 pandemic (Fowler et al., 2022).

Additional terms such as "Crisis," "Prevention," "Preparedness," "Public," "Risk," "Government," and "Information" underscore the complex, multi-layered nature of emergency response, which involves coordination, communication, policy frameworks, and data-driven decision-making. Keywords like "Cooperation," "Service," and "Personnel" emphasize teamwork in high-pressure situations (Xu et al., 2023). Emerging terms such as "Blockchain," "Artificial," "Telework," and "Technology" suggest growing interest in digital innovations for crisis management, though these areas remain underexplored. Overall, the keyword landscape reflects an interdisciplinary field connecting emergency response, public health, information systems, and law enforcement, highlighting an evolving focus on resilience, cross-sector collaboration, and technology adoption in enhancing team performance under pressure.



Figure 3. Keywords

Source: Generated by the authors using WordSift.org

## 5.0 Discussion

This bibliometric study examined the intellectual landscape of team performance research in emergency and law enforcement contexts from 2000 to 2025. The findings provide insights into the evolution of research themes, patterns of scholarly contribution, and the disciplinary foundations of the field.

First, the publication trend analysis revealed a substantial increase in research output over the past two decades. While publication activity remained relatively low during the early 2000s, the field experienced steady growth after 2015 and accelerated significantly after 2020. The highest number of publications was recorded in 2024. This pattern suggests increasing scholarly recognition of the importance of effective teamwork in high-risk and dynamic environments. The rapid growth may also reflect increasing global concerns related to disaster management, public safety, crisis response, and organizational resilience, particularly following large-scale emergencies and public health crises.

Second, the findings demonstrate that team performance research in emergency and law enforcement settings is highly interdisciplinary. Social Sciences emerged as the dominant subject area, followed by Business, Management and Accounting, Computer Science, Engineering, Environmental Science, and Medicine. This distribution indicates that team performance is not examined solely from a behavioural or organizational perspective but also incorporates technological, operational, and healthcare dimensions. The growing presence of Computer Science and Engineering further suggests increasing interest in digital technologies, decision-support systems, and technology-enabled collaboration within emergency response environments.

Third, the analysis of source titles highlights the diversity of publication outlets contributing to the field. Journals such as *Sustainability* Switzerland, the *International Journal of Disaster Risk Reduction*, and the *Journal of Contingencies and Crisis Management* emerged as key publication platforms. The prominence of these journals indicates that contemporary team performance research is increasingly linked to broader discussions concerning sustainability, resilience, disaster preparedness, crisis governance, and emergency management. These findings suggest that team performance is frequently examined as part of larger organizational and societal efforts to improve preparedness and response capabilities.



The analysis of institutional and country contributions further reveals the global nature of the research field. Institutions such as Heriot-Watt University, Tecnológico de Monterrey, and Universidade do Minho were among the most productive contributors. At the country level, the United States was the leading contributor, followed by the United Kingdom, Canada, India, and China. The concentration of publications within these countries reflects their strong research infrastructures and sustained investment in emergency management, public safety, and organizational research. At the same time, the relatively limited representation of developing regions suggests opportunities for broader geographic participation and comparative studies across different emergency response and law enforcement systems.

The document and source type analyses indicate that journal articles remain the primary mechanism for knowledge dissemination, accounting for the majority of publications in the dataset. The substantial presence of book chapters, conference papers, and books further demonstrates the multidisciplinary and evolving nature of the field. These publication patterns suggest an active research community that continues to develop both theoretical and practical knowledge regarding teamwork in complex operational environments.

Finally, the language analysis revealed the overwhelming dominance of English-language publications. While English facilitates international scholarly communication and knowledge dissemination, the limited representation of other languages may restrict the visibility of context-specific experiences and local practices from non-English-speaking regions. Future studies should therefore encourage greater inclusion of diverse geographic and linguistic perspectives to enrich understanding of team performance across different emergency and law enforcement contexts.

Overall, the findings indicate that team performance research in emergency and law enforcement settings has expanded considerably over the past twenty-six years. The field has evolved into a multidisciplinary area that integrates perspectives from social sciences, management, engineering, healthcare, and technology. Despite this growth, opportunities remain to strengthen research in underrepresented regions and to expand empirical investigations into team dynamics, coordination, adaptability, and collaboration within law enforcement environments.

## 5.1 Practical Implications

This bibliometric analysis highlights key implications for law enforcement and emergency services. It emphasizes on coordination, adaptability, and decision-making underscores the need for evidence-based approaches such as scenario-based training, shared mental models, and simulation exercises (Rosen et al., 2011; Rico et al., 2019). Strong collaborative networks reveal opportunities for cross-agency training and inter-organizational learning. Lessons from high-output regions like the United States and United Kingdom can guide practice. Recent focus on psychological safety, leadership, and team learning further stresses the importance of supportive environments that foster adaptability, reflection, and innovation (Edmondson & Lei, 2014; Rousseau & Aubé, 2020).

## 5.2 Suggestions for Subsequent Research

This bibliometric analysis identifies several gaps that offer promising directions for future research. The dominance of English-language publications indicates a geographic bias, suggesting the need for multilingual and cross-cultural studies to broaden insights. While interest in adaptive team performance is increasing, further exploration is required to understand the interplay of learning, cognition, and leadership in high-stakes contexts. Mixed methods approach, including longitudinal case studies and field

experiments, may capture these dynamics more effectively (Maynard et al., 2021). Limited representation from Southeast Asia, Eastern Europe, and Latin America highlights the need for region-specific studies that account for cultural and institutional variations. Additionally, collaboration remains concentrated among elite institutions, emphasizing the importance of inclusive global partnerships. Finally, future work should examine digital tools, such as real-time coordination systems and AI-driven support, to strengthen decision-making and responsiveness (Müller et al., 2023).

## 6.0 Conclusion

This bibliometric study mapped the intellectual landscape of team performance research in emergency and law enforcement contexts from 2000 to 2025 using a dataset of 863 publications indexed in Scopus. The findings reveal a substantial increase in research output over the past twenty-six years, particularly after 2020, reflecting growing scholarly and practical interest in teamwork within high-risk and dynamic environments.

The analysis demonstrated that team performance research in emergency and law enforcement contexts has developed into a highly interdisciplinary field. Social Sciences emerged as the dominant subject area, while Business, Management and Accounting, Computer Science, Engineering, Environmental Science, and Medicine also contributed substantially to the development of the field. The findings further revealed that journals related to sustainability, disaster risk reduction, crisis management, and emergency services serve as important platforms for disseminating research in this area.

The study also identified significant geographic concentration within the literature. The United States, United Kingdom, Canada, India, and China were among the leading contributors, while institutions such as Heriot-Watt University, Tecnológico de Monterrey, and Universidade do Minho demonstrated notable research productivity. These findings highlight both the global relevance of team performance research and the need for greater representation from underrepresented regions.

This study contributes to the literature by providing a comprehensive overview of publication trends, influential contributors, disciplinary foundations, and knowledge dissemination patterns within team performance research. The findings offer valuable insights for researchers, practitioners, and policymakers seeking to strengthen teamwork and organizational effectiveness in emergency response and law enforcement settings.

Despite its contributions, this study has several limitations. First, the analysis was limited to publications indexed in the Scopus database and may not capture relevant studies indexed elsewhere. Second, only bibliographic data were analysed, limiting deeper examination of theoretical and methodological developments within individual studies. Future research should incorporate multiple databases, conduct comparative analyses across regions, and explore emerging themes related to adaptive performance, team learning, interagency collaboration, and technology-enabled teamwork in emergency and law enforcement contexts.

Overall, the findings demonstrate that team performance remains an important and evolving area of research. Continued scholarly attention is required to support the development of effective, adaptive, and resilient teams capable of operating successfully in increasingly complex and unpredictable environments.

### Acknowledgments

The authors would like to express their sincere gratitude to the Institute of Postgraduate Studies, Universiti Teknologi MARA for the generous funding provided under the Journal Support Fund (JSF). This support was crucial in facilitating the research and ensuring the successful publication of this article.

### AI Declaration

During the preparation of this work the author(s) used ChatGPT in order to brainstorm the idea and to assist in explaining the text clearly. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

### Funding Details

This work was supported by the Institute of Postgraduate Studies, Universiti Teknologi MARA for the generous funding provided under the Journal Support Fund (JSF).

### Authors Contributions

All authors contributed to this publication by delegating tasks according to sections (Introduction, Literature Review, Methodology, Results, Discussions, and Conclusion). All authors have read and approved the final manuscript.

### Conflict of Interest

There is no conflict of interest associated with this publication.

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**eISSN: : 2682-7840**