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An Altmetric Examination of Artificial Intelligence and Emotional Intelligence: A View from PlumX Metrics

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ABSTRACT

This study examines the altmetric analysis of AI and EI literature. The Scopus database was chosen to extract the documents, 228 documents were selected. Among 228 documents, the top 100 articles were selected based on Scopus citation for data analysis. SPSS, MS Excel, and RStudio were used for data analysis. The results indicate a steady growth of annual publications. Sustainability journal has the highest publication, IEEE transactions on pattern analysis and machine intelligence was the highly cited journal. Tohoku University was a highly productive institute. The USA was the most prominent country both quantitatively and in impact. The pearson correlation coefficient between NoA and JIF is weakly positive (0.069), while the relationship between NoA and citations is weakly positive (.034). The study found a moderate positive relationship between Journal Impact Factor and citations (0.537) and captures (0.572). There is a weak positive correlation between JIF and mentions (0.221) and social media (0.013). The study found a strong and significant correlation between citations and captures (0.759), weak negative correlation between citations and mentions (-0.010) and a weak positive correlation between citations and social media (0.008), a significant weak positive relationship between mentions and social media (0.317) and a weak negative correlation (-0.028) between mentions and captures. Likewise, social media demonstrates a weak positive correlation with captures (0.105).

Keywords: Altmetric; Artificial intelligence; Emotional intelligence; PlumX

1. INTRODUCTION

Artificial Intelligence (AI) and Emotional Intelligence (EI) are two fast-changing fields that have attracted significant academic and applied interest over the last few decades. AI has transformed various aspects of human life, encompassing areas such as digitisation, decision-making, personalised recommendations, and problem-solving. Conversely, as AI continues to advance, there is an increasing acknowledgment of the importance of integrating EI into these technological developments. EI pertains to the ability to respond to and manage emotions in specific contexts. It involves the recognition, comprehension, and regulation of emotions across different scenarios. This skill is essential in human life, influencing decision-making, problem-solving, and interpersonal relationships.

AI has profoundly transformed numerous industries, ranging from automation to decision-making support, among others. Nevertheless, the rapid evolution of AI has made the incorporation of EI into these systems an essential focus of research. Goleman[1] defined emotional intelligence as the ability to recognise, understand, and manage ourselves and others. Picard[2], *et al.* state that through the adoption of EI into AI, researchers aim to know the perceived and response to emotions and tend to more intuitive and impactful human-computer interactions. The integration of artificial intelligence and emotional intelligence holds untapped potential to create advanced human-simulation technologies that can significantly impact human lifestyles and improve user experiences, work efficiency, and mental health.

1.1 Need For The Study

An investigation into Artificial Intelligence and Emotional Intelligence is vital for multiple reasons. It delves into the ways AI can deepen our comprehension and regulation of emotions, while also assessing how EI can contribute to the advancement and implementation of AI technologies[3-4]. This research is fundamental for creating AI that is more aligned with human values, tackling ethical issues, and promoting a future in which AI and humans coexist in a balanced manner.

Conventional bibliometric indicators, such as citation scores, provide only a limited view of a publication's influence, often overlooking its immediate and broader impact through online channels[5]. Altmetrics present valuable alternatives for assessing research[6]. PlumX

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Metrics, a prominent provider of altmetrics, aggregates data across five categories usage, captures, mentions, social media, and citations to offer a comprehensive perspective on research impact. Research has demonstrated the effectiveness of PlumX Metrics in gauging social engagement with publications and identifying emerging trends in research[7-8].

Although the use of altmetrics has surged, there are limited studies that focus specifically on PlumX metrics within the realms of Artificial Intelligence and Education Informatics. The majority of altmetric studies have adopted a broad or disciplinary perspective to assess research impact, often consolidating data without considering the unique characteristics and dissemination trends of specific fields[7,9]. Thus, this study addresses these gaps by evaluating an altmetric analysis of AI and EI literatures through PlumX metrics and correlation analysis among various variables such as the number of publications, journal impact factor, number of authors, and PlumX metrics, including usages, citations, mentions, social media, and captures.

1.2 Objectives

These are the following objectives of the study:

- To explore the annual growth of literature of the top 100 highly cited articles on artificial intelligence and emotional intelligence research.
- To examine the journal productivity through the Number of Publications (NoP), Total Citations (TC), and Journal Impact Factor (JIF).
- To investigate the affiliation and country productivity with the NoP and TC.
- To know the relationship between Number of Authors (NoA) with Journal Impact Factor (JIF) and citations.
- To analyse the correlation between JIF with PlumX metrics, including citations, mentions, social media, and captures.

1.3 Research Questions

1. What is the annual growth of literature of the top 100 highly cited articles on Artificial Intelligence (AI) and Emotional Intelligence (EI) research?
2. Which journal contributes the most to highly cited AI and EI literature among top 100 articles?
3. Which institutions and countries contribute the most to highly cited literature in AI and EI?
4. Is there any significant relationship between NoA with JIF and citations in AI and EI literatures?
5. What is the relationship between the JIF, and PlumX metrics?

1.4 Hypotheses

H1: There is a significant relationship between NoA and JIF of the top 100 highly cited AI and EI literatures.

H2: There is a significant relationship between NoA and citation of the top 100 highly cited AI and EI literatures.

H3: There is a significant relationship between citations and JIF of the top 100 highly cited AI and EI research.

H4: There is a significant relationship between the JIF and PlumX metrics

2. LITERATURE REVIEW

Artificial intelligence simulates human intelligence, enabling machines to perform tasks like reasoning, learning, problem-solving, and decision-making that typically require human computation. It was developed by McCarthy in the 1950s, it has two dimensions human-centered and rationalist approaches, where, human-centered approaches include hypothesis and experimental validation, and the rationalist approach is an integration of engineering and mathematics[10]. Incorporating AI in modern society has resulted in interdisciplinary and multidisciplinary research initiatives.

Salovey & Mayer[11] introduced the term Emotional intelligence, but it was popularised by Goleman[1]. The concept has gained significant attention both academically and professionally. It is considered a critical factor in personal and professional success, as it contributes to better intra-personal relationships. Salovey and Mayer[11] have conceptualised EI in three forms including one as appraisal and expression of emotion, second as regulation of emotion and third as utilisation of emotion. This emphasizes the importance of emotional awareness and regulation in cognitive processing. Goleman[1] builds upon the Salovey and Mayer model by adding five broad domains including self-awareness, self-regulation, motivation, empathy, and social skills. These factors contribute to understanding how people cope with their feelings and those around them; the latter is known as cognitive processing, and the former is recognised as an elemental aspect of personal identity.

There are three directions for AI research in emotional contexts: imitation of emotion by machines[12], recognition of emotion in people[13], and the convergence of both for interaction improvement[14]. In addition to academic effect, social media analysis enables examination of how research appeals to general communities[15]. Limiting attention to citations ignores societal knowledge transfer. Social media analysis provides an expanded perspective on research impact, with a focus on public engagement [6,15].

The rapid expansion of AI and its compatibility with emotional intelligence has become a focus research area in the current scenario. AI and EI collectively discover the integration of technologies and emotions, enhancing automation capabilities for simulation, recognition, and emotions. This has led the various applications across various fields of research such as business, agriculture, education, healthcare, finance, and others. Artificial intelligence is a simulation of human intelligence[16], while emotional intelligence is the ability to manage, and understand one's and other emotions[1,17]. Although artificial intelligence excels at data processing and automating jobs, it lacks the inherent human talent

for emotional intelligence. This ability helps people to understand, sympathize, and form emotional bonds with others. As a result, the relationship between AI and EI is mutually beneficial; human emotional intelligence may considerably enhance AI's information processing skills, resulting in more complex and meaningful interactions.

Altmetrics, sometimes known as "alternative metrics", analyze the impact of research and academic work through online participation. These analytics help to improve traditional indicators like citation counts and journal impact factors. An altmetric study provides a comprehensive view of public engagement and academic impact, optimising social media, news outlets, blogs, mentions by professionals, and online platforms to know the influence of publications in a broader way. Altmetric.com and PlumX are two prominent altmetrics score aggregators, both provide scores based on various social media engagements, bibliographic information, policy documents, mentions, readers on various platforms, and others[15,17].

Over the last few years, the emergence of altmetrics has provided novel methods for measuring the visibility and impact of scientific publications in addition to the conventional citation-based metrics[15]. Of all the altmetric indicators, PlumX Metrics has received growing attention due to its multidisciplinary framework of recording the digital trace of scholarly contributions[7]. It measures research impact on five different dimensions including usage, captures, mentions, social media, and citations and presents a broader picture of how scholarly outputs are interacted with by different communities.

Prior research indicates multidisciplinary study with the integration of AI into other fields of research such as business[18], healthcare[19], education[15], and others. Likewise, emotional intelligence research has been conducted in areas-EI with finance[20], business and management[21], education[15], libraries[22], and others. For instance, Yousaf[23], *et al.* conducted a bibliometric study on emotional intelligence and indicates a steady growth in publications between the years 2017-2019, the USA was the prominent nation, and the most productive institute was the George Mason University of USA, the most cited article was "Toward machine emotional intelligence: analysis of affective physiological state", the most prominent journal was "personality and individual differences". Roda-Segarra[15], *et al.* investigates a study on AI-based emotions in the educational context from Scopus and Web of Science (WoS) using three social attention score platform such as PlumX Metrics, Altmetric and Crossref and reveals that scientific publications have a significant social impact, with an average of 25.08 social impact records per publication, especially since 2019. However, there is a lack of alignment between articles with high scientific impact and those with high social impact, and the social impact is not from Twitter users, but from authors, publishers, or scientific institutions[15]. Additionally, an altmetric study concludes there was a strong and significant correlation between mentions, readers and downloads, and between readers and citations[9]. While other research explored, citations are weak and insignificant correlated with altmetric attention score, but it strongly correlated with PlumX metrics[22], furthermore, a study by Sedighi[24] states that there is a nearly significant and weak positive correlation between citations and altmetric score, however, a negative correlation of citations with readers in Twitter (now X).

The assumption behind the use of PlumX is that research impact is naturally complex, especially in areas where digital sharing and societal significance are prominent. The five-dimensional metric structure of the platform assumes that various forms of engagement, like being bookmarked, shared on social media, or cited on blogs, are indicative of different categories of research impact. Previous studies including Thelwall[25] and Sugimoto et al[26] has concluded that PlumX metrics are only weakly correlated with one another and with citations, supporting the argument that they provide complementary information instead of redundant information.

The literature review indicated that prior studies have not conducted a PlumX analysis concerning the integration of artificial intelligence with emotional intelligence publications. The incorporation of altmetrics into the study of AI and EI presents numerous opportunities for the advancement of multidisciplinary research, providing essential insights into both academic and societal impact.

3. METHODOLOGY

3.1 Data Collection

The first step involved selecting a relevant and appropriate database for altmetric analysis. The Scopus database was chosen due to its comprehensive coverage of literature, including journals, coference papers, and patents, managed by Elsevier, and covers a wide range of disciplines. The dataset was extracted from the Scopus database on 7th January 2025 from 1997-2025. The search string utilised were:

TITLE-ABS-KEY (("Artificial intelligence" OR "AI") AND TITLE-ABS-KEY ("Emotional intelligence")) AND (LIMIT-TO (DOCTYPE, "ar") AND (LIMIT-TO (LANGUAGE, "English")).

A total of 632 data were retrieved, and after applying inclusion and exclusion criteria 228 data were extracted from which only the top 100 cited articles with full information were taken for further analysis. The selection criteria ensured that only articles published in English and research articles were included. PlumX metrics including, citations, mentions, social media, and captures were recorded manually from the scopus database.

3.2 Document Selection Criteria

To ensure a relevant and significant dataset, the following selection criteria were applied throughout the literature retrieval process:

3.2.1 *Database Selection*

Literature was extracted from the Scopus database due to comprehensive scientific literature (Roda-Segarra *et al.,*);.

3.2.2 *Language*

Only documents published in the English language were included in the analysis.

3.2.3 *Document Type*

Emphasis on only peer-reviewed journal articles.

3.2.4 *Exclusion Criteria*

Articles with missing bibliographic data were excluded. We considered only the top 100 highly cited articles with no missing information, so other articles were excluded for further study.

3.2.5 *PlumX Metric*

It is used to know the social impact of literature[25-26]. Metrics, including citations, mentions, social media, and captures, were recorded manually from the Scopus database.

3.2.6 *Rationale*

These criteria were designed to minimize bias, ensure relevant data, and provide a focused analysis of the most influential in this field of research.

3.3 Data Analysis Tool

The data were analysed using three major tools: MS Excel is used for data cleaning and graphical representation, while R Studio, which is used for running analyses such as annual growth, journal productivity, affiliations, etc., and Statistical Package for Social Science (SPSS), which is used for correlation analysis.

4. RESULTS

4.1 Annual Growth of Literature

Figure 1 demonstrates the annual growth of the literature, indicating that the first publication was in 1997 with one article, while most of the articles were published in 2023, with fifteen articles, highlighting the growing interest of researchers in the field of artificial intelligence and emotional intelligence. There was steady growth in annual publication from 2017. More than one and a half articles (59 articles) were published during 2019-23. Despite this upward trend, there was a slight decrease in the number of publications in the year 2024, with fourteen publications. This may be due to external factors impacting the publications.

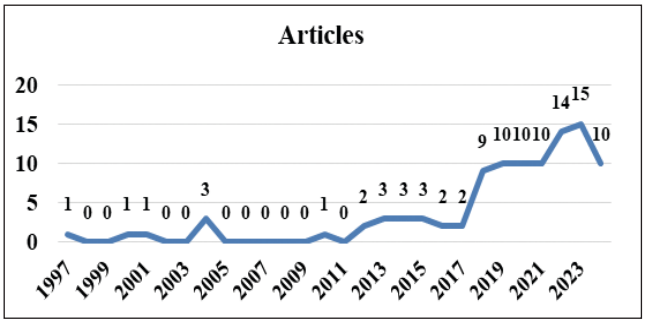

Figure 1. Annual growth of artificial intelligence (AI) and emotional intelligence (EI) publications.

4.2 Journal Productivity

Journal productivity indicates the efficiency and influence of scholarly publishing within a specific field of research. It demonstrates the overall contribution of a journal to the research community. Table 1 represents journal productivity in terms of the Number of Publications (NoP) and Total Citations (TC) of the top 10 journals. Results show that according to NoP, Sustainability leads with 10 articles (TC=196, JIF=3.3). Despite having only one publication from "IEEE Transactions on Pattern

Table 1. Journal's productivity through the number of publications, total citations and journal impact factor

S. No.	Journals	NoP	TC	JIF
1	Sustainability (switzerland)	10	196	3.3
2.	Biologically inspired cognitive architectures	5	147	NA
3	Bt technology journal	2	390	NA
4	Computers in human behavior	2	184	9
5	Electronics (switzerland)	2	77	2.6
6	Frontiers in psychology	2	115	2.6
7	Journal of artificial intelligence and consciousness	2	37	NA
8	Journal of hospitality marketing and management	2	192	11.9
9	Marketing letters	2	63	2.5
10	Proceedings of the ACM on human-computer interaction	2	35	0

NoP =Number of publications, TC= Total Citations, JIF= Journal impact factor, NA= Not Available

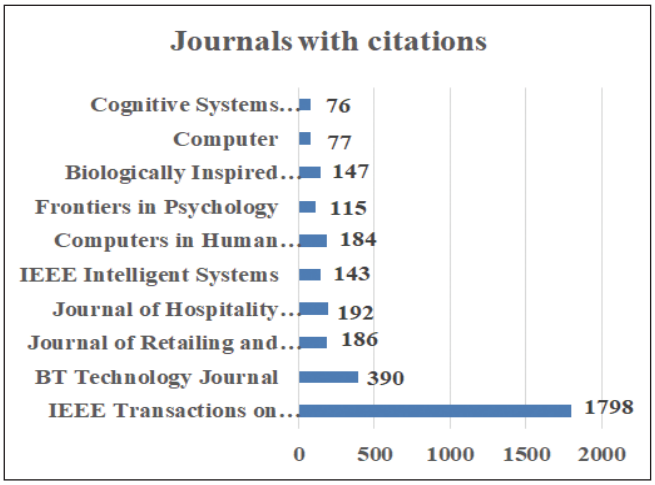

Figure 2. Top-ten highly cited journals.

Analysis and Machine Intelligence" stands out with the highest total citations (n=1798) with the highest JIF (20.8), emphasising its significant research visibility and scholarly impact among the scholarly community (Fig. 2). Figure 2 shows "IEEE Intelligent Systems" (JIF =5.6) with one publication achieving a high citation score (TC= 143). This comparison explores the diversity in journal contributions, with some succeeding in productivity and others in impact. These top 10 journals with NoP account for around one-third (31 articles) of the total publications, showing it can be connected to their relevance and impact factor, which draws researchers' attention to explore for credibility and authenticity.

4.3 Affiliations and Country's Productivity

4.3.1 Affiliations Productivity

Table 2 represents the contributions of leading affiliations with the respective countries' productivity with NoP and TC. Among affiliations, Tohoku University from Japan accounts for the highest number of publications (n=14), revealing its strong research activity.

Table 2. Top 10 affiliations according to the number of publications

Affiliations	Country	NoP
Tohoku University	Japan	14
City University of New York	USA	7
Colombia university	USA	7
Max Stern Yezreel Valley College	Israe	7
University of Belgrade	Serbia	7
Penn State University	USA	6
Universidad De Leon	Spain	6
Taipei Medical University	Taiwan	5
Brigham and Women's Hospital	Botson	4
Griffith University	China	4

4.3.2 Countries Productivity

Analysis reveals the USA with one-fourth (25 %) of publications and 2595 total citations, leading across other nations, showing its significant academic contributions. Followed by China with sixteen articles (TC=460) (Fig 3).

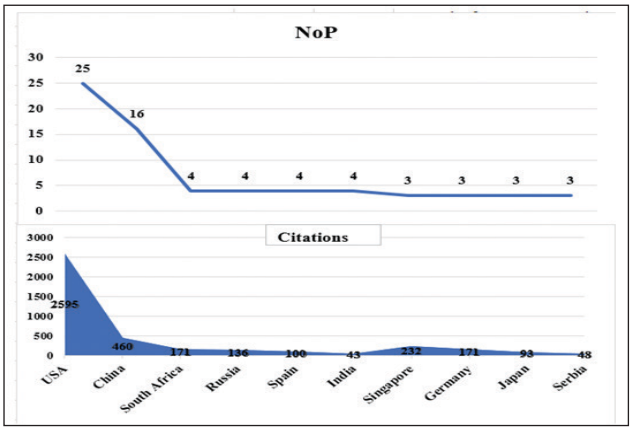

Figure 3. Countries productivity through the number of publications and total citations

4.4 PlumX Metrics Analysis

It reveals a multidimensional view of the impact and engagement of scholarly publications by analysing, citations, usage, captures, social media, and mentions across different platforms. Where usage records how often a research work is used, such as clicks, downloads, and views. While mentions track citations to research works in different sources that are not academic literature, including news articles, blog post, Wikipedia, comments, captures represent an individual's willingness to revisit a research output later and their intention to do so. It includes bookmarks, favourites, readers within reference managers (e.g., Mendeley, Zotero) and social Media metrics include the sharing and discussion of research on social sites, such as Twitter (X), Facebook, Reddit, LinkedIn and YouTube.

In this study, the dataset provides insights into publications related to artificial intelligence and emotional intelligence, exploring their application within different platforms. Here each category of PlumX metrics demonstrates:

4.4.1 Citations

The most cited article, titled "Toward machine emotional intelligence: Analysis of affective physiological state" authored by Prichards and others (2001) and published by "IEEE Transactions on Pattern Analysis and Machine Intelligence" with 1804 total citations, indicates significant academic impact.

4.4.2 Mentions

The highest number of mentions of articles titled "ChatGPT outperforms humans in emotional awareness evaluations" and "An all 2D bio-inspired gustatory circuit for mimicking physiology and psychology of feeding behavior" has fourteen mentions each by the scholar community, signifying their engagement among researchers.

4.4.3 Social Media

The most shared research titled "Comparing artificial intelligence and human coaching goal attainment efficacy" authored by Terblanche & others in 2022 was published by PLoS ONE, and highlights its global reach within the scholarly community and professionals.

4.4.4 Captures

The most captured article titled "Toward machine emotional intelligence: Analysis of affective physiological state" authored by Prichards (n=1251), reveals its relevance and interest across the scholarly community, followed by "Emotional intelligence or artificial intelligence– an employee perspective" with 909 captures authored by prentice in 2020 was published by "Journal of Retailing and Consumer Services". This analysis explores the various insights that these articles have influenced both scholarly research and public discussion.

4.5 Correlation Analysis

4.5.1 Relationship Between Number of Authors (NoA) with Journal Impact Factor (JIF) and Citations

Table 3 represents the correlation between NoA with JIF and citations; the Pearson correlation coefficient between NoA and JIF is very weakly positive (0.069), with a significant value of 0.498, demonstrating that the correlation is not statistically significant. This result indicates that there is no significant relationship between NoA and the impact factor of journals, implying that the number of authors on a paper does not significantly influence the impact factor of the journal. So, H1 was rejected, which means there is no significant relationship between NoA and citations.

Analysis indicates the relationship between NoA and citations was a very weak positive correlation (.034), indicating no meaningful relationship among them. Here, H2 is rejected, as there is no significant relationship between NoA and citations. It suggests that the number of authors has nearly no influence on the number of citations of publications.

Table 3. Correlation analysis of journal impact factor (JIF), and number of authors (NoA)

		JIF	Citations
NoA	Pearson Correlation	.069	.034
	Sig. (2-tailed)	.498	.734
	N	100	-

4.5.2 Relationship Between JIF and Plum X Metrics Such as Citations, Social Media, Captures, Mentions

Table 4 presents the Pearson correlation between four variables i.e., citations, mentions, social media and captures with JIF. The finding indicates that there exists a moderate positive relationship between JIF and citations (0.537) and JIF and captures (0.572), indicating that as IF increases, the number of citations and captures also tends to rise. There is a weak positive correlation between JIF and mentions (0.221) and also between JIF and social media (0.013). This shows the relationship is statistically significant, which suggests journals with an IF indicate the standards and impact of scholarly publications, and tend to receive citations, highlighting the influence of the IF as a key measure of scholarly recognition and reach.

Further results indicate citations and captures are strong (0.759) and significantly correlated, showing articles with higher citations tend to have more captures from the research community. On the other hand, a very weak negative correlation between citations and mentions (-0.010) and a very weak positive correlation between citations and social media (0.008) indicate no significant relationship. Additionally, there was a significant weak positive (0.317) relationship between mentions with social media, demonstrating that publications frequently mentioned are also likely to have higher social media engagement. Whereas, there was a weak negative correlation (-0.028) between mentions and captures, indicating no significant relationship between them. Likewise, social media demonstrates a weak positive correlation with captures (0.105). These results reveal that, meanwhile, some metrics, such as citations and captures, are closely related, unlike other metrics, such as social media and citation, which act independently. This highlights the multidimensional nature of research impact metrics.

5. DISCUSSION

The integration of Artificial Intelligence (AI) and Emotional Intelligence (EI) has led to significant uptake in cross-disciplinary research, finding applications across various fields of research such as business, healthcare, education, agriculture, and others. With the increasing

Table 4. Relationship between JIF, and Plum X metrics, such as cited by, social media, captures, mentions

		IF	Citation	Captures	Mentions	Social media
Citation indexes	Pearson correlation	.537	1	.759	-.010	.008
	Sig. (2-tailed)	.000		.000	.921	.936
Captures	Pearson correlation	.572	.759	1	-.028	.105
	Sig. (2-tailed)	.000	.000		.785	.300
Mentions	Pearson correlation	.123	-.010	-.028	1	.317
	Sig. (2-tailed)	.221	.921	.785		.001
Social media	Pearson correlation	.013	.008	.105	.317	1
	Sig. (2-tailed)	.901	.936	.300	.001	
	N	100	100	100	100	100

focus on knowing the social and academic influence of studies, altmetrics aggregators such as Altmetric.com and PlumX metric (by Elsevier) have emerged as measures to explore the online engagement of the publications[17]. This study uses datasets from the Scopus database. Findings reveal there was growing interest in AI and EI studies, with an increasing number of publications from 2017 onwards. This surge can be due to technological advancements, funding, and global collaboration. Similar patterns of growth of publication in related multidisciplinary research have been noted in previous bibliometric studies[23,27].

Additionally, our study found "Sustainability" as the most productive journal (10 articles), and "IEEE Transactions on Pattern Analysis and Machine Intelligence" was the most cited journal with 1798 total citations. This differs from the findings of Yousaf et al[23], whose research found "Journal of Retailing and Consumer Services" to be one of the significant journals in EI-centered research, and Roda-Segarra et al[15], who highlight "IEEE Access" in AI-related research. The variations could result from differences in the scope of research, as EI-centered studies focus on consumer and business services, whereas integration of AI with EI attracts interest from technically based, high-impact journals of international reach.

The country analysis aligns with Yousaf[23], *et al.* who conclude the USA as the most prominent nation in both quantitative and impact. However, this contrasts with the findings of Roda-Segarra[15], *et al.* who state that China is the most productive nation, and Tohoku University has emerged as a productive affiliation. PlumX metrics provide a holistic view of scholarly impact by including usage, citations, mentions, social media, and captures by researchers. The finding explored that the most cited article was "Toward Machine Emotional Intelligence: Analysis of Affective Physiological State" with 1804 citations, indicates the impact of foundational research in AI-EI integration does not align with Roda-Segarra et al[15] results, "ChatGPT Outperforms Humans in Emotional Awareness Evaluations," was the most mentioned article reveals active engagement across globally, indicates the relevance of AI-EI research in advanced discourse[17]

Interestingly, results reveal a very weak positive correlation between NoA and JIF (0.069) and citations (0.069), a weak positive correlation between citations and social media engagement (0.008), while a weak negative and insignificant correlation between mentions and captures (-0.028) indicates PlumX metrics operate independently. The findings align with Sedighi[24] findings , who states that there was an insignificant relationship between traditional citations and altmetrics indicators. However, the strong positive correlation between citations and captures (0.759) highlights that high citations tend to lead researchers' attention across online platforms. while a weak correlation between mentions and citations (-0.010) suggests that public engagement may not always translate into scholarly recognition. These findings validate earlier studies emphasising the distinct roles of altmetric variables in measuring academic impact[8,9].

The results explore the utility of altmetric aggregators like PlumX in offering a multidimensional perspective on academic impact. By analysing social media engagements, mentions, captures, and citations, researchers can enhance their knowledge beyond traditional bibliometrics studies, enhancing the academic and social impact. The integration of AI and EI into various research offers critical pathways for enhancing automation and emotional simulation capabilities, with altmetric studies for optimising dissemination and social engagement.

6. CONCLUSION

Altmetric analysis and correlation study explore the leading interest of the scholarly community in the interaction of Artificial Intelligence and Emotional Intelligence study. Our study findings demonstrate that there was progressive growth in annual publications. The findings highlight the diverse contributions in terms of numbers, visibility, and scholarly influence. The study provided new perspectives concerning the emerging field of Artificial Intelligence and Emotional Intelligence research. It emphasizes the need for a variety of techniques, beyond the citation count, to measure influence and form a more complete understanding of the practical importance of a field. This study has some limitations that further research can explore. We explored the determinants of enhancing the integration of EI into AI, so future researchers should explore the factors of interaction of emotions into artificial intelligence to support a more user-friendly and meaningful man-machine interface.

The broader implication of these findings indicates that the combination of AI and EI is not only a growing academic interest but also has pivotal potential for furthering human-centric technologies, especially in education, mental health, and human-computer interaction. Although this study is not without its limitations. It did not investigate the underlying reasons promoting or obstructing the integration of emotional intelligence into AI systems. Subsequent research should examine these determinants, the cultural, technological, or ethical ones, and so forth, and evaluate how emotion-sensitive AI can improve the quality, accessibility, and empathy of online interactions. Moreover, broadening altmetric analysis to incorporate trends and discipline-specific platforms will enrich insights into how upcoming research becomes more visible and has greater traction over time.

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