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From Mind to Soul : A Bibliometric Analysis of IQ, EQ, and SQ in Academic Research

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Abstract: *This study aims to present a comprehensive bibliometric analysis of Intellectual Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) in an academic context, particularly focusing on the role of lecturers. Using bibliometric methods. The data for this study came from 300 English-language scientific articles published in 2023 from the Scopus and Google Scholar databases. The analysis was carried out using keyword co-occurrence techniques, overlay visualization, density visualization, and author collaboration networks. The findings show that there is a strong focus on developing conceptual frameworks and reviewing literature related to IQ, EQ, and SQ, indicating an effort to understand the integration of these three intelligences as the foundation for human resource development in higher education. However, several keywords were also found to be thematically irrelevant, suggesting challenges in data filtering or uniqueness of terminology between disciplines. Collaborative networks between authors tend to be fragmented, indicating the potential for fostering broader collaboration. The implications of this study theoretically reinforce the need for the integration of IQ, EQ, and SQ in understanding holistic intelligence, while practically encouraging higher education institutions to design lecturer development programs that balance these three aspects of intelligence to form superior character and performance.*

Keywords: *Bibliometric Analysis, Emotional Intelligence, Intellectual Intelligence, Lecturers, Spiritual Intelligence*

1. INTRODUCTION

In the current era of digital transformation and global complexity, the quality of human resources is recognized as a principal determinant of institutional success, particularly in higher education. Universities face the dual mandate of producing graduates who possess not only high intellectual competence but also emotional maturity and spiritual depth. This necessity emphasizes the integration of Intellectual Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) in developing the character and performance of lecturers, who are central to the educational process. Each of these dimensions represents essential facets of comprehensive human intelligence and plays a significant role in guiding professional and ethical behavior in academic settings. Research indicates that a well-rounded education encompasses the interplay of IQ, EQ, and SQ, where educators foster learning environments that nurture intellectual and moral development, aligning with principles of character education that stress holistic growth (Carr, 2016; Novianti, 2017).

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The evolving role of lecturers in higher education has intensified the expectations placed upon them. Beyond academic excellence and effective knowledge transfer, there is an increasing demand for lecturers to exhibit social sensitivity, establish healthy relationships, and maintain strong moral integrity. The rapid changes in pedagogical approaches, social dynamics, and prevailing work pressures have rendered emotional and spiritual aspects as critical as intellectual capabilities in enhancing the overall performance of educators (Haryanto, 2025; (Orona et al., 2023. As such, a balanced understanding of IQ, EQ, and SQ becomes imperative for advancing human resource development within educational institutions, advocating for frameworks that interlink these three dimensions to optimize educational outcomes (Alimah, 2020; Fatimah & Sumarni, 2024.

The academic discourse surrounding IQ, EQ, and SQ has evolved into a rich, interdisciplinary field, intersecting with domains such as psychology, education, management, and philosophy. Pioneering contributions by scholars, including Goleman and Zohar, have established foundational theories and applications that analyze cognitive, emotional, and spiritual dimensions of learning. For example, while IQ is predominantly associated with logical and analytical capabilities impacting academic performance, the relevance of EQ extends to self-awareness, empathy, and relationship-building—elements vital for leadership and conflict resolution. Conversely, SQ introduces a novel perspective by linking personal values and integrity to ethical decision-making processes, particularly in professional contexts such as education, thereby illuminating the necessity of character within the academic milieu (Orona et al., 2023; Fatimah & Sumarni, 2024; Maslani et al., 2025).

Despite the increasing recognition of these interrelated concepts, there remains a notable research gap concerning their comprehensive exploration within academic contexts, particularly as they pertain to lecturers. Most existing studies have typically isolated these dimensions or provided descriptive accounts without synthesizing them to highlight global research trends related to IQ, EQ, and SQ in higher education (Kadarsih et al., 2025; Balontia, 2024). Notably, bibliometric approaches—capable of mapping scientific patterns,

collaborations, and thematic evolutions—have yet to be extensively applied in this area. This represents a critical void in the literature that warrants systematic investigation (Brooks & Harrison, 2024; Willems & Laan, 2025). Bridging this gap can significantly enhance the pedagogical frameworks employed in higher education, leading to a more informed and cohesive approach to lecturer capacity building.

The identified literature gap presents opportunities for comprehensive bibliometric analyses aimed at uncovering essential trends in research concerning IQ, EQ, and SQ. Through bibliometric methodologies, this study intends to unveil publication dynamics, author and institutional collaborations, and influential citations, providing insights into the evolving discourse on these critical themes within academic settings (Fitzgerald, 2023; Alimron et al., 2023). Additionally, this analysis aims to chart the interrelations among the topics using keyword co-occurrence and citation networks, elucidating the foundational narratives that characterize contemporary academic discourse on these dimensions. The predominant research questions guiding this exploration seek to map global publication trends surrounding these concepts, identify influential actors and institutions, and examine the central themes that emerge from the intersection of IQ, EQ, and SQ studies in the academic realm (Yue, 2022; Handayani, 2021).

In conclusion, this article endeavors to present a thorough bibliometric analysis of IQ, EQ, and SQ in higher education, focusing on the role of lecturers. Enhancing our understanding of these interconnected dimensions is pivotal in shaping a holistic narrative that informs future pedagogical strategies and fortifies the alignment between education policies and the pressing demands of contemporary learning environments.

2. LITERATURE REVIEW

Intellectual Intelligence (IQ) in Academic Achievement and Scientific Competence

Intellectual Quotient (IQ) serves as a pivotal indicator of cognitive abilities encompassing logic, analysis, verbal comprehension, memory, and problem-solving skills. It is fundamentally interlinked with academic success, facilitating knowledge absorption and the execution of complex tasks within scientific domains. Historical perspectives on intel-

ligence, notably Spearman's g factor theory and Wechsler's multidimensional IQ assessments, provide a foundational framework for understanding the relationship between IQ and academic performance, highlighting the predictive capacity of IQ for educational and vocational trajectories, as revealed in Gottfredson's extensive research (Ermakov, 2021).

Empirical studies corroborate that higher IQ levels among lecturers correlate with enhanced comprehension of novel theories, effective management of research methodologies, and an increase in high-quality academic publications (Stumm et al., 2011). Research indicates that cognitive ability significantly impacts scientific output and publication rates in esteemed journals, suggesting that IQ affects teaching efficacy and curriculum development (Toffalini et al., 2017).

However, an overemphasis on IQ in evaluating academic competency faces scrutiny, as it neglects the importance of emotional intelligence in collaborative work and academic leadership (Tulbure, 2018). Sternberg criticizes conventional intelligence measures, asserting that non-cognitive factors often play a more decisive role in real-world educational success (حميد, 2023).

Therefore, while IQ is an integral component of academic competence, it should be perceived as part of a broader conceptual framework that incorporates emotional and spiritual intelligence, thus enabling a more holistic development of academic professionals.

Emotional Intelligence (EQ) and Its Role in Academic Relationships and Professional Development

Emotional Quotient (EQ), reflecting an individual's capacity to comprehend and manage emotions, has become paramount in academic settings since its conceptualization by Mayer and Salovey and popularization by Goleman. Their insights suggest that professional success is significantly influenced by emotional competencies, occasionally surpassing the impact of intellectual capabilities (Stanovich et al., 2016). Lecturers possessing high EQ can foster positive social interactions, adeptly navigate class dynamics, and manage stress, thereby cultivating an inclusive learning environment that bolsters student motivation (Yuditasari et al., 2023).

Research substantiates the assertion that elevated EQ correlates with superior teaching performance and a collaborative academic atmosphere, as demonstrated by findings that link emotional intelligence to heightened teaching effectiveness (Masruroh et al., 2024). Furthermore, relationship-centered leadership within academic settings has been highlighted as essential for fostering collective commitment and institutional effectiveness

(AR & Syahrizal, 2017). However, the measurement of EQ presents challenges regarding validity and its comparative contribution to structural factors like institutional policies, eliciting critical discussions in academia (Dorfman & Kalugin, 2022). Nevertheless, meta-analyses reinforce the significant association between EQ, work performance, and leadership across various professions, including academia (Rizal et al., 2024).

Ultimately, the integration of emotional intelligence into professional development for lecturers represents a strategic initiative aimed at cultivating a resilient and productive academic environment.

Spiritual Quotient (SQ) as the Foundation of Academic Integrity and Meaningful Engagement Professional Development

Spiritual Quotient (SQ) denotes an individual's capacity to derive meaning and purpose in life and to apply these values in daily conduct. Introduced by Zohar and Marshall, SQ is seen as an essential form of intelligence governing other intelligences such as IQ and EQ. In academia, SQ is instrumental in nurturing scientific integrity, ethical professional conduct, and intrinsic motivation for educational initiatives ("Epistemic Inclusion and STEM", 2021). Research indicates that lecturers with elevated SQ exhibit work orientations driven by intrinsic values rather than external rewards, resulting in a deeper commitment to their roles (Kurnia, 2019).

Studies highlight that high SQ correlates with job satisfaction and resilience against psychological stress, both critical for the teaching profession (Annett et al., 2007). Specific analyses within academic environments demonstrate that spiritually inclined lecturers tend to uphold personal integrity and fair practices, fostering authentic relationships with students (Costa et al., 2018). Despite ongoing debates surrounding SQ's definition and methodology for measurement, growing empirical evidence substantiates its role in enhancing psychological well-being among academic professionals (Ratu et al., 2021).

Critiques related to SQ often stem from positivistic frameworks that marginalize spiritual dimensions in scientific inquiry. However, an integrative perspective recognizes spirituality as essential to understanding the full spectrum of human intelligence in education, focusing not merely on cognitive enhancements but also on character and ethical development. Thus, a comprehensive understanding of SQ in higher education is crucial for cultivating an academic system that embodies both intelligence and empathy.

3. METHOD

Research Approach.

This study adopts a bibliometric approach to systematically map the intellectual structure and research trends around the themes of Intellectual Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) in academic literature. Bibliometric analysis is widely recognized as a reliable and objective method for exploring and visualizing large-scale scientific data, allowing researchers to track the development of scientific fields, identify key authors, and analyze collaboration patterns (Ragazou et al., 2022; (Passas, 2024). This method is especially pertinent for emerging or integrative topics such as IQ, EQ, and SQ, which intersect multiple disciplines and garner diverse scholarly interest Yuanti et al., 2023). By focusing on publications from 2023 onwards, the study captures the most recent academic discourse and reflects current priorities, frameworks, and intellectual debates in the field. Furthermore, bibliometric methods allow the research to transcend subjective interpretations, providing robust and reproducible results based on empirical data extracted from reputable sources, enhancing the credibility of the findings (Costa, 2021; (Passas, 2024).

Data Sources and Types

The data for this study consisted of 300 scientific articles collected from two leading academic databases: Scopus and Google Scholar. Scopus was selected for its high credibility, extensive indexing of peer-reviewed literature, and advanced filtering capabilities, which enhance the precision of search results (Liu et al., 2024)Ragadhita & Nandiyanto, 2021). Google Scholar was included as a complementary source to capture a broader array of gray literature and interdisciplinary publications that may not be indexed in Scopus yet remain relevant to the study (Liu et al., 2024)(Passas, 2024). Articles included were published between January and December 2023 and written in English to ensure consistency and global relevance in the analysis. Utilizing two databases broadened coverage, thereby mitigating potential biases associated with relying exclusively on a single source (Liu et al., 2024). The keywords for the search were: “IQ”, “EQ”, “SQ”, and “Lecturer”, employed either as stand-alone terms or in combinations incorporated into the article's title, abstract, and keywords sections.

Data Collection Process

Initial data collection commenced with a systematic search using the selected keywords in both Scopus and Google Scholar databases. To enhance the quality and relevance of the dataset, Boolean operators such as AND and OR were strategically utilized alongside quotation marks for exact phrase matching (Zainuldin & Lui, 2021; Yuanti et al., 2023). The search was limited to journal articles, conference papers, and reviews, specifically excluding book chapters, editorials, and non-peer-reviewed content. All metadata, including authorship, year of publication, journal name, abstract, and keywords, were exported in RIS and CSV formats for subsequent processing (Cömert, 2022; (Passas, 2024). The restriction to 2023 ensured that the analysis reflects timely research insights and identifies current trends in the academic discourse surrounding IQ, EQ, and SQ. Subsequently, the combined metadata underwent a deduplication process using Microsoft Excel to eliminate redundant entries and uphold data integrity. Articles with incomplete metadata or missing abstracts were discarded at this stage (Shukla et al., 2020; (Passas, 2024).

Data Filtering and Selection

To refine the dataset, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart was utilized as a methodological guideline to ensure rigor in the inclusion and exclusion of articles. PRISMA provides a transparent and reproducible process for tracking how records were identified, screened, and selected (Passas, 2024). Initially, 438 records were retrieved; after removing duplicates, 362 articles remained. A screening of titles and abstracts led to the exclusion of 42 papers not directly related to the research theme. A subsequent full-text review phase eliminated 20 articles due to thematic irrelevance or lack of methodological clarity. Ultimately, 300 articles were eligible for inclusion in the final bibliometric analysis. This careful selection process enhances the intervention's relevance and accuracy, ensuring that only high-quality and thematically pertinent literature is scrutinized (Ramadhan et al., 2024; Mora-Cruz & Palos-Sánchez, 2023).

Data Analysis and Interpretation

The selected data were analyzed using VOSviewer, a popular bibliometric software developed to construct and visualize bibliometric networks (Chandel et al., 2023). VOSviewer was selected for its capability to produce high-resolution visualizations based on the analysis of citations, co-citations, co-authorships, and keyword co-occurrences

(Devos & Ménard, 2020). This software facilitates the interpretation of complex data through visual outputs such as network visualizations, overlay visualizations, density visualizations, and co-author collaboration maps (Gil-González et al., 2022). Network visualizations were employed to identify clusters of frequently co-occurring terms, thereby indicating dominant research themes. Overlay visualizations provided insights into temporal research patterns, highlighting the novelty of topics over time. Density visualizations elucidated concentrations of intellectual activity within specific areas of the field. Meanwhile, co-authorship mapping enabled the examination of the structural dynamics of academic collaborations among authors and institutions. Through these techniques, this study offers a comprehensive understanding of the evolution of IQ, EQ, and SQ concepts within the scientific community, pinpointing gaps and opportunities for future investigations (Ragazou et al., 2022; Yuan et al., 2023).

4. RESULTS AND DISCUSSION

Cluster Analysis

Table 1. Cluster Analysis Results

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Analysis	Context	Case	Addition	Chapter
Try	Dimensions	Parable	Data	Existence
Draft	Form	Condition	Experimental Data	Publisher Summary
Development	Framework	Dependence	Information	Survey
Plus	Means	Electron	Ion	
Type	Special Emphasis	Extensions	Core	
Literature	Principle	Investigation	Nucleon	
Meson	Qcd	Motion	Physics	
Paper	Respect	Number	Set	
Prediction	Self	Parameter	Table	
Quarks	Solution	Possibility	Transition	
Reaction	To Rotate	Presence	Use	
Role	Type	Question		
Subject	Road	Temperature		
See				
Year				

Source: Processed Data, 2025

The cluster analysis presented in Table 1 illustrates the grouping of keywords from the research literature related to Intelligence Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) within academic contexts. The identification of certain clusters,

particularly those featuring terms like “electron,” “ion,” “nuclei,” and “physics” in Clusters 3 and 4, suggests potential interdisciplinary connections that may extend beyond the primary focus of IQ, EQ, and SQ. This phenomenon could indicate that the underlying data encompasses a wider array of topics than initially intended, or it may arise due to specific characteristics of the data collection and processing methods employed. This notion aligns with the bibliometric analysis framework, which aims to capture the thematic structure that informs our understanding of dimensions such as IQ, EQ, and SQ, supplemented by the roles of educators and their influence on academic outcomes, as indicated by the article titled “From Mind to Soul: A Bibliometric Analysis of IQ, EQ, and SQ in Academic Research” (Meng et al., 2015., Tyagi & Krishankumar, 2023).

Within Cluster 1, we observe keywords such as “analysis,” “attempt,” “concept,” “development,” and “literature,” which suggest that a considerable portion of the reviewed research is concerned with theoretical exploration and literature synthesis. This focus on conceptual development corresponds to the objectives of bibliometric studies to elucidate the evolution of ideas in a specific domain (Mahmood et al., 2015., Alpisarrin et al., 2024). The presence of these keywords underscores the overarching research problem, which seeks to trace global publication trends concerning IQ, EQ, and SQ while identifying key contributors and thematic concerns that characterize this body of work. Therefore, the keywords in this cluster serve as implicit indicators of an academic environment engaged in rigorous literature analysis and theoretical maturation.

Moving on to Cluster 2, keywords such as “context,” “dimension,” “framework,” “mean,” and “principle” reveal a critical emphasis on the contexts within which IQ, EQ, and SQ are examined. This aspect is integral to understanding how these intelligences underpin human resource development in higher education environments (Elpers & Coyle, 2022., Ramachandaran et al., 2017). Furthermore, the inclusion of terms like “framework” and “principle” reflects researchers’ endeavors to develop models that delineate the interrelations between these various facets of intelligence. This not only highlights the existing research gaps—including the scarcity of comprehensive investigations of these concepts within academic settings—but also points towards a call for more rigorously structured inquiries that can bridge these gaps by offering a deeper examination of IQ, EQ, and SQ in the educational context (Nurhab et al., 2022).

In Cluster 5, the keywords “addition,” “chapter,” “data,” “information,” “publisher summary,” and “survey” indicate a stronger connection to methodological considerations

and the presentation of research findings. The prominence of terms like “data” and “information” resonates with the bibliometric methodology itself, which is underpinned by systematic data collection and analysis (Mathur et al., 2025., Iskandar, 2022). Keywords reflecting publication format, such as “chapter” and “publisher summary,” may refer to aspects of academic dissemination, which underscore the novelty of this research approach that aims to quantitatively map the discourse development surrounding IQ, EQ, and SQ.

While some keywords may initially seem disconnected from the nodes of IQ, EQ, and SQ, the overall cluster analysis yields valuable insights into the conceptual, methodological, and thematic orientations present in the literature. These clusters, although not exclusively focused on the three intelligences, illuminate different dimensions of ongoing research within the field and suggest broader academic implications, thereby indicating possible transdisciplinary linkages or variations in terminological usage across the scientific literature (Dulewicz & Higgs, 2005., Khan, 2019). This suggests a rich tapestry of inquiry into human intelligence, revealing possibilities for future exploration that remain anchored within interdisciplinary contexts.

Network Visualization

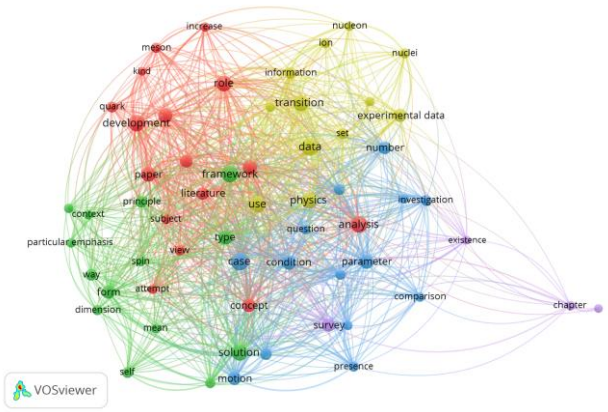

Figure 1. Network Visualization

Source: Data processed, 2025

The visualization represented in Figure 1 illustrates the interrelations among key themes in the academic discourse concerning Intelligence Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ). The nodes symbolize distinct keywords, while the connecting lines indicate their co-occurrence, demonstrating how various themes coalesce within the literature. Different colors highlight clusters of frequently co-occurring keywords, reflecting dominant research clusters within the discourse of IQ, EQ, and SQ. The

objective of this research article is centered on deciphering the major trends and themes that pervade the examination of IQ, EQ, and SQ in academic environments. Consequently, the graphical representation of this data aids in conceptualizing the interconnectedness of these topics, substantiated by literature emphasizing the integration of diverse intelligences as critical to broadening our understanding of human cognitive and emotional development (Meidani et al., 2022; (Pishghadam et al., 2022) (Sánchez-Álvarez et al., 2020.

A notable finding from Figure 1 is the identification of several keyword clusters that appear disconnected from the main discourse surrounding IQ, EQ, and SQ, such as terms related to physics including “meson,” “quark,” and “nucleon.” Their emergence within a study primarily focused on psychological dimensions raises inquiries regarding their relevance, particularly in the context of the title "From Mind to Soul: A Bibliometric Analysis of IQ, EQ, and SQ in Academic Research." This anomaly suggests a potential research gap, highlighting possible ambiguities in the selection of keywords, or the inherent challenges in the dataset, which comprises 300 articles sourced from Scopus and Google Scholar published in 2023, which may inadvertently incorporate literature from disparate domains employing similar terminologies. These findings resonate with observations about the necessity of careful keyword curation within bibliometric studies to enhance the validity and relevance of the research outcomes (Mathur et al., 2025).

In contrast, the visualization reveals significant clusters that align tightly with the main themes of discussion, such as “framework,” “literature,” “development,” and “analysis.” These keywords denote a prevailing focus on constructing theoretical frameworks and conducting literature reviews, which are integral to advancing our understanding of the interplay among IQ, EQ, and SQ within educational settings. Research has increasingly showcased the importance of integrating these intelligences, emphasizing their roles in various educational contexts and the evolution of academic pursuits surrounding them (Sánchez-Álvarez et al., 2020; Nurhab et al., 2022).

Furthermore, keywords such as “role,” “context,” and “type” further suggest that ongoing studies are analyzing the impact and categorization of these intelligences across diverse academic environments, consistent with the research aims to clarify how these concepts have developed within academic literature (Pishghadam et al., 2022).

The article identifies a particular research gap: the absence of comprehensive studies mapping the evolution of IQ, EQ, and SQ in the context of lecturers' roles. By visually articulating the interrelationships between these paradigms, this network visualization seeks to bridge this gap, contributing to the ongoing dialogue on how IQ, EQ, and SQ can

be cohesively understood in academic frameworks. Although the visualization serves as a foundational tool for discerning keyword interconnections, it necessitates a thorough interpretation to elucidate the implications of non-academic keywords that emerged. This raises a critical need for refining the keywords associated with IQ, EQ, SQ, and "lecturer" to focus primarily on relevant disciplines such as psychology, education, and management. If the presence of irrelevant keywords prevails within the dataset analyzed, this could inadvertently skew the overarching findings and dilute the intended focus on the roles of human intelligence in higher education contexts (Prado et al., 2021; Alpisarrin et al., 2024).

Overlay Visualization

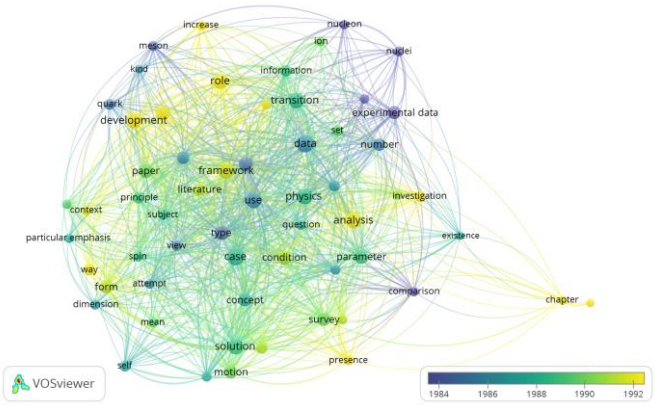

Figure 2. Overlay Visualization

Source: Data processed, 2025

In the analysis provided concerning the Temporal Dimension of Keywords as depicted in Figure 2, an essential inconsistency arises regarding the color legend, which suggests a time frame ranging from 1984 to 1992. This discrepancy critically undermines the study's reported methodology, which states that data collection was conducted from 2023 onwards. If the legend is indeed accurate, it indicates that the analysis fails to capture the current academic discourse intended by the research. Such a misrepresentation constitutes a significant research gap as it misaligns with the study's objective, which aims to reflect the most recent trends in academia regarding Intellect Quotient (IQ), Emotional Quotient (EQ), and Social Quotient (SQ) (Gkintoni et al., 2023, (Macaday-Quioco, 2024.

Assuming the color legend should indicate 2023, an analysis of emerging trends can be performed. If the lighter-colored nodes—representing more recent keywords—cluster around themes pertinent to IQ, EQ, and SQ, this suggests sustained academic interest. For

instance, studies have shown that recent work highlights the interplay between emotional intelligence and academic achievement, supporting the growing importance of EQ in educational settings (Toscano-Hermoso et al., 2020, Paneru & Kafle, 2024, Ojewola, 2022). Conversely, if the yellow-colored clusters include keywords like "electron" or "physics," which are irrelevant to IQ, EQ, and SQ, it could indicate a failure in data filtering, raising concerns about the relevance of the sampled articles and ultimately biasing the study's findings about ongoing research trends (Baños et al., 2023, Van et al., 2023). Hence, ensuring that the analysis maps only pertinent scholarly discourse is fundamental to upholding the study's legitimacy.

Moreover, concentrating on the inferred patterns, lighter-colored nodes may signify "emerging topics" in IQ, EQ, and SQ research, indicating these areas remain vigorous in the current academic landscape. If key terms associated with the "role," "development," or "framework" of these intelligences manifest predominantly in these lighter shades, it would imply ongoing scholarly investigations aimed at refining these constructs within educational settings—critical for the strategic development of lecturer capabilities (Gkintoni et al., 2023, Baydar, 2020). Conversely, a predominance of darker hues could denote well-established topics with reduced inquiry, potentially suggesting stagnation in certain research avenues, which may detract from holistic educational strategies designed to integrate EQ and SQ with traditional IQ (Macaday-Quioco, 2024, Emon et al., 2023).

In conclusion, for the presentation of Figure 2 to contribute effectively to the strategic development of academic capacity among lecturers, a critical examination of the temporal elements is necessary. If framed accurately within the latest context, the overlay visualization could reveal significant shifts in research focus over time, illustrating the necessary fusion of IQ, EQ, and SQ. However, given the inconsistencies in the year legends, the analysis of Figure 2 remains limited and may lead to misleading conclusions. Without clarification or correction of the represented data over time, the trustworthiness and implications of this research may be considerably compromised, particularly regarding recent publications and evolving pedagogical paradigms (Baños et al., 2023, Chandra, 2020, Тайболатов et al., 2024).

Density Visualization

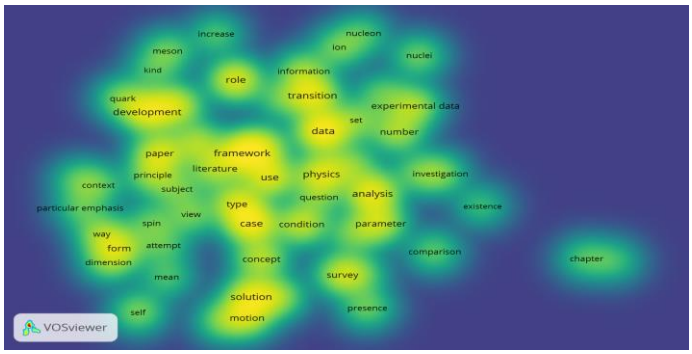

Figure 3. Density Visualization

Source: Data processed, 2025

The visualization of density in intellectual activity across IQ, EQ, and SQ research fields, as depicted in Figure 3, provides crucial insights into the academic landscape, illustrating keyword concentrations via a heatmap. Areas of higher keyword densities, denoted by lighter colors such as bright yellow, indicate prominent topics and intense scholarly engagement within the literature. For instance, the notable clustering around terms like "framework," "literature," "paper," and "development" suggests a significant focus on conceptual frameworks, comprehensive literature reviews, and theoretical advancements in emotional and social intelligence domains (Alsukayti & Singh, 2022). This aligns well with existing literature that emphasizes the continuous evolution and mapping of these intelligence constructs within educational contexts, underscoring their relevance to pedagogical practices (Uraz & Arhan, 2020, Perazzo et al., 2020).

Furthermore, the apparent density in keywords such as "role," "information," and "transition" enriches the discourse concerning the multifaceted implications of IQ, EQ, and SQ in educational environments. This observation corroborates evidence that highlights the relationship between these intelligences and professional behaviors, emphasizing their vital role in shaping ethical decision-making and social interactions (Uraz & Arhan, 2020, Cherniss, 2010). The literature consistently points to the necessity of understanding how these intelligences correlate with performance outcomes both in workplace dynamics and academic success (Boyatzis et al., 2012).

Notably, the presence of keywords seemingly unrelated to the core themes, such as "electron," "ion," and "physics," also marks the visualization. While these terms exhibit lower densities compared to more relevant keywords, their presence raises concerns regarding dataset appropriateness and thematic clarity. The amalgamation of these terms suggests potential overlaps or misalignments in the dataset used for the analysis, possibly

pointing to a research gap that could undermine the validity of findings. A rigorous examination of keyword relevance in future studies is crucial to enhance the reliability of density interpretation and ensure scholarly rigor.

This bibliometric approach, which utilizes density visualization as a methodological tool, represents a novel endeavor in understanding the developmental trajectory of scholarly discourse. It adeptly identifies both well-researched and potentially under-explored areas, yet it simultaneously highlights the complexities introduced by irrelevant keywords in the dataset. Consequently, while high-density clusters illuminate core themes, the presence of extraneous terms complicates the narrative, launching a call for more stringent filtering criteria in future bibliometric analyses.

In summation, the density visualization not only offers a nuanced overview of the current academic focus on IQ, EQ, and SQ but also signals a critical need for methodological refinement in the selection and filtering processes of research data. As such, the implications for future investigation stand clear: ensuring that research aligns more closely with its intended thematic focus can greatly enhance the clarity and applicability of findings across these pivotal intelligence domains.

Density Visualization

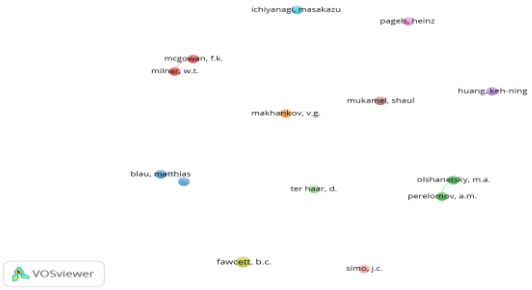

Figure 4. Collaborative Network of Co-Authors

Source: Data processed, 2025

Figure 4, the Co-author Collaboration Network, visualizes the intricate web of collaborations among authors engaged in research on Intelligence Quotient (IQ), Emotional Quotient (EQ), and Social Quotient (SQ) within academic contexts. In this visualization, the nodes symbolize individual authors, while the connecting lines represent co-authorship on shared articles. The size of the nodes may indicate an author's publication productivity, and the thickness of the lines can denote the frequency of collaborations. Understanding the most influential authors, institutions, and countries pertains to the overarching purpose

of this study. This visualization elucidates the collaborative patterns among researchers, directly addressing the study's inquiries into the formation and evolution of scientific collaboration networks (Parish et al., 2018; (Fonseca et al., 2016.

Analysis of Figure 4 reveals a relatively scattered collaboration network without large, centralized clusters of cooperation. Most authors manifest as isolated nodes or in small clusters. This pattern suggests that research in this field may not be conducted in intense collaborative settings, leading to a predominance of individual or small team efforts rather than comprehensive networks. This fragmentation highlights a research gap, underscoring the potential for increased collaboration among scholars focusing on IQ, EQ, and SQ, especially regarding the role of educators in these contexts. Such collaboration could significantly impact educational institutions endeavoring to foster cross-disciplinary synergy, thus enriching the perspectives inherent in these areas of research (Fonseca et al., 2016; Osareh et al., 2022).

The existence of small clusters or isolated authors can imply that the research area is still nascent, indicative of independent researchers or minor teams facing geographic or institutional fragmentation that impedes broader collaborative efforts. This stands in stark contrast to expectations for a more integrated and comprehensive academic literature. If key figures in this domain lack robust collaboration networks, it may impede innovation and the dissemination of knowledge across the field. Moreover, while some authors' names appear in this visualization, the absence of information regarding their institutional or national affiliations presents a challenge in identifying where productive research is taking place. Gaining insight into these affiliations is vital for constructing a complete portrait of the research ecosystem, as knowing the affiliations of researchers could elucidate influential institutions (Velden et al., 2010; Vanni et al., 2014).

In conclusion, upon evaluating the co-author collaboration network, it becomes evident that the landscape of research related to IQ, EQ, and SQ is fragmented. The innovative aspect of this study lies in its effort to detect collaboration patterns among authors and institutions, suggesting that limited collaborative efforts in existing research might contribute to the scarcity of thorough assessments mapping the development of these three intelligences in academic realms. Promoting collaboration may emerge as a strategic initiative to bridge this research gap and enhance the body of scientific literature in the future. Consequently, this investigation emphasizes the imperative need to advocate for increased collaboration and the establishment of research networks to advance the understanding of these intelligences in higher education contexts (Wallace et al., 2012; Uddin et al., 2011).

5. CONCLUSIONS AND SUGGESTIONS

Conclusions

This bibliometric research entitled "From Mind to Soul: A Bibliometric Analysis of IQ, EQ, and SQ in Academic Research" has successfully mapped the intellectual structure and current research trends on Intellectual Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) in an academic context, especially involving the role of lecturers, with a focus on publications in 2023. The results of the keyword cluster analysis indicate a strong focus on conceptual aspects, theory development, and a comprehensive framework for understanding these three dimensions of intelligence, which is in line with the research objective to understand IQ, EQ, and SQ comprehensively as a foundation for human resource development in higher education. This finding significantly fills the identified research gap, namely the lack of comprehensive and visual mapping of the development of these three concepts in an academic context, which previously tended to be separate and descriptive. The bibliometric approach that is the novelty of this research, with keyword co-occurrence analysis, overlay visualization, and density visualization, objectively identifies central themes and concentrations of intellectual activity around these concepts.

However, the finding of irrelevant physics keywords in clusters and visualizations (such as "electron", "ion", "nuclei", and "physics") indicates challenges in the data filtering process or uniqueness of terminology across disciplines. The analysis of the collaboration network between authors indicates that this field still shows a fragmented collaboration pattern, implying that there is a large room to encourage more collaboration between researchers to strengthen and accelerate the development of the literature. Overall, this study emphasizes the importance of integrating IQ, EQ, and SQ as indicators of complete human intelligence, in line with theories put forward by experts such as Wechsler, Goleman, and Zohar and Marshall, in shaping the character and performance of lecturers holistically. Thus, this study contributes to strengthening scientific literature and provides a basis for formulating a more comprehensive lecturer capacity development strategy.

Suggestions

Based on the findings and discussion, this study recommends several strategic suggestions for the development of research and practice related to IQ, EQ, and SQ in the academic context. First, there needs to be a collective effort from researchers to develop a more integrated and multidimensional theoretical framework, overcoming the thematic fragmentation seen in the cluster analysis. This can be achieved through interdisciplinary

research involving psychologists, education experts, and management to create a comprehensive model that examines the interaction and impact of these three intelligences on lecturer performance. Second, universities and research institutions are encouraged to facilitate and encourage collaboration between authors, both nationally and internationally, to overcome the fragmented collaboration patterns identified in the author collaboration network. Collaborative research funding programs or the formation of integrated research groups can be concrete steps. Third, future researchers need to tighten the process of searching and filtering bibliometric data, perhaps by using a more specific combination of keywords or more detailed inclusion/exclusion criteria, to minimize the emergence of irrelevant keywords from different disciplines, as is the case with physics terms. This will increase the validity and relevance of research findings. Fourth, considering the importance of IQ, EQ, and SQ in shaping the character and performance of lecturers, higher education institutions are advised to integrate the development of these three dimensions of intelligence into lecturers' training and professional development programs. This includes not only increasing intellectual capacity, but also emotional intelligence training to build healthy and spiritual relationships for integrity and meaningful goals.

Limitations

This bibliometric study, although making significant contributions, has several limitations that need to be acknowledged. First, the data of this study is limited to articles published in 2023 from the Scopus and Google Scholar databases, and only includes articles written in English. This limitation, although intended to capture current academic discourse and global relevance, may not fully reflect trends and publications from previous years or literature written in other languages, which may potentially have different insights. Second, despite efforts made through the PRISMA filtering process, there were still keywords that were not thematically relevant to the main focus of IQ, EQ, and SQ in the context of lecturers, such as terms from the field of physics ("electron", "ion", "nuclei", "physics"). The presence of these keywords in the results of the cluster analysis and visualization implies that the keyword search method used, although it already involves Boolean operators, may not have fully filtered out interdisciplinary noise that uses the same terms but in different contexts. This can affect the accuracy of mapping central themes and intellectual concentrations. Third, the collaboration network analysis only includes authors and does not explicitly identify institutional or country affiliations in detail in the visualization, mak-

ing it difficult to directly determine the most productive institutions or countries. This limitation limits the ability to provide a complete picture of the geographic and institutional landscape of IQ, EQ, and SQ research. Finally, the visualization overlay in Figure 2 displays a year range that is inconsistent with the methodology, stating that the data were collected in 2023, which is a fundamental misrepresentation of the data and hinders accurate interpretation of the temporal trends of the research topic.

Implications

The implications of this research are very significant, both for academic and practical areas, especially in the context of human resource development in higher education.

Theoretical Implications

The findings of this study reinforce the idea that IQ, EQ, and SQ are complementary dimensions of intelligence that are crucial to understand in an integrated manner, in line with the theory developed by Goleman, Zohar, and Marshall, as well as the need for synergy between the three in shaping the character and performance of lecturers. This study fills the research gap by providing objective and quantitative bibliometric mapping, which has not been done comprehensively before, allowing researchers to identify under-researched areas and build a more robust theoretical framework.

Practical Implications

Practically, the findings on the fragmentation of collaboration between authors imply the importance of encouraging closer scientific interaction and cooperation among researchers in this field, whether through collaborative funding, knowledge-sharing platforms, or special conferences. This is very relevant to the research objective to support the formulation of a more holistic lecturer capacity development strategy. Higher education institutions can utilize the mapping of central themes to design training and professional development programs that balance the three aspects of intelligence, not only focusing on intellectual intelligence, but also improving the emotional and spiritual competence of lecturers. For example, training that focuses on empathy, conflict management, ethical integrity, and the development of transcendental values can be integrated into the lecturer development curriculum. In addition, an understanding of emerging themes can help policy

makers allocate research resources more effectively to advance studies on the integration of IQ, EQ, and SQ, which will ultimately produce lecturers who are not only academically competent but also emotionally and spiritually mature.

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