

EMOTIONS, ARTS AND INTERVENTION: TRENDS, SYNERGIES AND PERSPECTIVES THROUGH A BIBLIOMETRIC ANALYSIS

EMOÇÕES, ARTES E INTERVENÇÃO: TENDÊNCIAS, SINERGIAS E
PERSPETIVAS ATRAVÉS DE UMA ANÁLISE BIBLIOMÉTRICA

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ABSTRACT

The connection between the arts, intervention and emotions promotes reflective thinking about new ways of intervening in society to improve socio-cultural relations. This article presents an analysis that seeks to understand the intersection of the concepts of intervention, arts and emotions, helping to map the relationships and scientific developments linked to these concepts. A descriptive and exploratory study was carried out using a bibliometric analysis with performance analysis and science mapping approaches to analyze scientific production on these concepts, identifying trends, influential authors, emerging themes and collaboration networks. The results of this investigation show the potential of the research field, the thematic synergies and the multidisciplinary nature involved in the research, making it possible to understand the dynamism of these concepts and the impact they have on the relationship with the 'human being'. The combination of these concepts results in scattered data and less concrete relationship networks, underlining the specificity of research in this context. Through this research, it is possible to observe broad patterns in diverse subjects such as 'human', 'performance', 'art', 'education', 'emotions', 'mental health', among others, with possibilities for future application. These results seek to open doors for further research and present the most important works, the authors and the fields of action with growth potential.

Keywords: arts; bibliometric analysis; emotions; intervention; trends.

RESUMO

A ligação entre as artes, o domínio da intervenção e as emoções promove o pensamento reflexivo sobre novas formas de intervir na sociedade para melhorar as relações socioculturais. Este artigo apresenta uma análise que procura compreender a interseção entre os conceitos de intervenção, artes e emoções, ajudando a mapear as relações e desenvolvimentos científicos a eles ligados. Foi realizado um estudo descritivo e exploratório utilizando uma análise bibliométrica com abordagens de análise de desempenho e mapeamento científico para analisar a produção científica sobre estes conceitos, identificando tendências, autores influentes, temas emergentes e redes de colaboração. Os resultados mostram o potencial do campo de pesquisa, as sinergias temáticas e a multidisciplinaridade envolvida na investigação, permitindo compreender o dinamismo destes conceitos e o impacto que têm na relação com o 'ser humano'. A conjugação destes conceitos resulta em dados dispersos e redes de relações menos concretas, sublinhando a especificidade da investigação neste contexto. Através deste estudo, é possível observar padrões alargados em diversos temas como 'humano', 'performance', 'arte', 'educação', 'emoções', 'saúde mental', entre outros, com possibilidades de aplicação futura. Estes resultados procuram, ainda, abrir portas para novas pesquisas e apresentar os trabalhos mais importantes, os autores e os campos de ação com potencial de crescimento.

Palavras-chave: artes; análise bibliométrica; emoções; intervenção; tendências.

1 INTRODUCTION: INTERCONNECTIONS BETWEEN ARTS, EMOTIONS, AND INTERVENTION

The importance of the arts and intervention in people's lives is not just about understanding artistic experiences for human development. It also provides a way to promote significant social and psychological changes in lifestyles and our ability to create with freedom and purpose. These elements help inspire, challenge, and connect us, crossing disciplinary boundaries and giving valuable insights that can positively influence how we see, feel, and act in the world. This work aims to contribute to understanding this specific context. The main objective of this work is to understand the relationship between art, emotion, and intervention, and to map the connections between these concepts in an academic context and their developments.

This study, based on bibliometric analysis (Donthu et al., 2021), presents the state of the intellectual structure and emerging trends that cross the fields of study of the "arts", "emotions" and "intervention". Thus, based on large amounts of data, the results of selecting and analysing a set of documents are presented to highlight and understand the interrelationship between these three themes. Potential avenues of research and scientific development are identified and suggested.

Emotions are fundamental to personal development, shaping our cognition, behaviour, and responses to the world. As Rusu (2017) mentions, emotions play a crucial role in several aspects of human life, both in individual life and adaptation, supporting social interactions. This connection between emotions and human life extends to the realm of the arts. The nature of arts and their roles has also been investigated in various dimensions of human life, emphasising that they are an integral part of human social life. For instance, according to Steven Mithen (2006), we can investigate music's ancestry through neurological, physiological, ethnographic, linguistic, ethnological and even archaeological analysis, underlying these dimensions. The Human Nature of Music points out the ideas of Malloch and Trevarthen (2018, p.1) as 'music is at the centre of what it means to be human' scientifically.

Research on the relationship between arts and emotions is diversified in the methodological approaches used and the themes explored. It has interested different disciplines, from philosophy, psychology, education, health and the arts domain-specific to art critics and neurosciences. In commenting on the work *Emotions and the Arts*, Sarah Worth (1999, p. 95) emphasizes the idea that the arts and emotions are closely linked, for instance, in the case of music, the author argues that it moulds our persona or the emotions that we have in response to paintings. In music, some studies emphasize the complexity of emotional responses to music listening and the need to employ and further develop diverse approaches to understand this relationship. As Hunter and Schellenberg (2010)

explain, a significant discussion revolves around the nature of affective reactions to music, questioning whether these reactions constitute “true” emotions, moods, aesthetic emotions, or simply preferences, suggesting that listeners respond affectively to music. This debate further explores whether emotional responses to music bypass typical cognitive appraisals or involve unique aesthetic emotions specific to music. Additionally, research highlights mood changes evoked by music, rather than temporary or enduring emotions. Studies have shown that listening to pleasurable music activates brain regions associated with emotion and reward. One key mechanism for music’s strong emotional impact is the unexpected change in features like intensity and tempo, which enhances tension and anticipation. The study developed by Arjmand, Hohagen, Paton and Rickard (2017) involved 18 participants (12 females, 6 males; 18–38 years) who listened to four types of stimuli: pleasant music, unpleasant music (dissonant versions of their music), neutral music, and silence, presented in a counter-balanced order, results offered empirical evidence supporting the idea that alterations in fundamental musical features are key triggers of emotional responses in listeners.

Researchers expressed the existence of limitations in the models and frameworks used within music and emotions. For instance, Hunter and Schellenberg (2010) pointed out the limitations of the circumplex model, which maps emotions on two dimensions (valence and arousal). They argued that emotional responses might vary along additional dimensions, suggesting that valence should be considered as two separate dimensions due to the evidence of mixed feelings (positive and negative affect coactivation). Eerola and Vuoskoski (2013) emphasized the importance of applications of conceptual frameworks that are consistent in this field of research, as well as the development of music-specific models with lists of music-specific emotion concepts. In this line of approach, Juslin (2013) aimed to create a unified theory of musical emotions, proposing a framework that accounts for everyday and aesthetic emotions. Juslin (2013, p.9) explains that dominant approaches in psychology categorise emotions (e.g., happiness, sadness, anger) or conceptualise them along broad and continuous dimensions (e.g., valence, activation, potency), suggesting that music can convey different types of emotional content through “multiple layers” of musical expression. Other studies focused on integrative approaches systematically comparing the characteristics of aesthetic experience concerning different arts-related emotions. Miu and Szentágotai-Tătar (2016) studied painting and music-related emotions as they seem to involve a similar interplay of factors related to stimulus, person and context. They concluded about the lack of empirical evidence on some issues, enabling them to generalize across experiences within these arts. They highlighted the multiple differences in painting and music listening perceived qualities, suggesting that painting may depend more on knowledge-driven information processing as it was perceived as less similar to emotions

in other everyday life situations when compared to music-induced emotions, associating listening to music with emotional and social motivation (Miu & Szentágotai-Tătar, 2016, p. 7).

As expressed, regardless of the approaches that seek to understand the relationship between the arts and emotions, we realise that they are intrinsically linked. In many situations, the arts transcend cultural and linguistic barriers, evoking and promoting various emotions through the artistic experience. Art can be considered “[...] a universal language, which conveys meanings impossible for any other type of language, be it semantic, dialogical or scientific” (Comissão Executiva do Plano Nacional das Artes, 2019, p.11).

It is important to consider that artistic intervention transforms spaces and arouses deep emotions, connecting viewers to new perspectives and feelings and art thus acts as an emotional catalyst, promoting reflection and empathy. Intervention, in the artistic context, refers to practices that seek to bring about change, whether in the spectator, the community, or the social environment. These can be carried out by artists to express ideas, provoke reflection or even promote social action. Artistic intervention can stimulate different forms of artistic language and active participation in social dynamics (Sousa, 2020, p. 7). As Magueta et al. (2022) indicate, within the perspective of artistic animation and social intervention, creative dynamics specific to the arts should be emphasized. These facilitate the development of personal and social skills, as well as the development of artistic literacy and knowledge of cultural heritage. In this dual perspective elucidated by Figueiredo et al. (2020), the dimension of artistic practices in social intervention takes on particular importance. The authors discuss animation and social intervention techniques in which two trends stand out, namely a first associated with artistic practices of an inclusive nature and, a second, associated with their practical learning. They emphasise artistic practices value as “a culture, form of human expression and social identity” (p. 30)

In the process of understanding thematic convergences and synergies between ‘arts’, ‘emotion’ and ‘intervention’ (Cantú et al., 2024), it is clear that the undergoing dynamics contribute both to the development of collective consciousness and to strengthening a sense of community and to stimulating forms of interaction and communication that encourage people to get involved in “situations of active participation, where everyone can be both author and spectator” (Magueta et al., 2022, p.132). In this relationship, it is also relevant to emphasise the idea of ‘change’, because the relationship between these themes is based on “a deeper understanding of individuals, their contexts and the culture that surrounds them (...) [and] because it allows them to work towards guaranteeing their identity, continuity and renewal to realise themselves as citizens” (Sousa, 2020, p. 9).

METHODOLOGY

This paper presents a bibliometric analysis carried out on the themes of “emotions”, “arts” and “intervention”. The analysis was supported by VOSViewer software, which is a data visualization and authorship relation software that allows one to build visual representations of bibliometric data sets, presenting maps that relate variables such as authors, places of publication, keywords, institutions, years of publication, occurrences of terms, among other data (van Eck & Waltman, 2010, 2014).

The research’s methodological protocol sought to select a set of documents for analysis to understand the interrelationship between the themes under analysis and to try to elucidate ways of working and the outlook for future scientific development. To this end, the data selected for analysis went through a series of sorting and selection stages, as explained below. In this research, the use of bibliometric analysis as a research method is grounded in its relevance for identifying emerging trends and research synergies related to the themes under study.

The advantage of bibliometric analysis lies in addition to its incisive approach, in its ability to read and demonstrate the plot related to the contents of the analysis, as well as in its capillarity. The increase in the use of this method is related to several factors. On the one hand, it is related to the democratization of access to analysis software and, on the other, to the need to analyse increasingly complex and widespread data in various areas. Bibliometric analysis makes it possible to find out about emerging trends in research topics and collaboration network patterns and to understand the intellectual structure of some fields. Here, the use of bibliometric analysis seeks to contribute to understanding thematic convergences and synergies on “art”, “emotion”, and “intervention”, given the relevance of these topics in various areas of research, particularly in artistic and educational contexts.

Given the interconnectedness of these themes and their relevance to the understanding of art and its multiple functions in society, this research offers valuable insights not only for the fields of art and education but also for other areas, to promote meaningful interventions that can broaden the understanding of art, its role in promoting individual and collective well-being, its role in the construction of cultural identity and its approach as a vehicle for communicating socio-cultural issues. It is important to emphasize that the choice of bibliometric analysis techniques is related to the objectives of the research in question. The study aims to provide a review of the most influential words and concepts, the current development of the themes, and the future of the research field within the bibliometric corpus. This requires a combination of citation analysis (impact), bibliographic coupling (present), and co-word analysis (future). The methodological protocol used in this research followed the guidelines defined by Donthu et al. (2021). It is summarised in four steps: (1) defining the objectives and scope of the bibliometric study;

(2) choosing the techniques for bibliometric analysis; (3) collecting the data for bibliometric analysis; (4) carrying out the bibliometric analysis and present the results. About (1) defining the objectives and the scope of the bibliometric study, it will seek to analyze scientific production in the Scopus database that is related to the themes of this research: “emotions, arts and intervention”, by collecting data through a research protocol and subsequent bibliometric analysis of the data using the VOSViewer software. With this research, we will be able to understand the field of artistic intervention through the study of authors, institutions, countries and relevant journals. Regarding the second step (2) techniques for bibliometric analysis, the following metrics and techniques were used in the context of performance analysis and science mapping (Donthu et al., 2021, p. 288): (1) the “performance analysis” (PA) technique, respectively the “total publications” (TP), “number of active years of publication” (NAY) and “total citations” (TC) metrics; and (2) the “science mapping” (SM) technique, from the perspective of citation analysis (CA), bibliographic coupling (BC) and co-word analysis (CWA) (Donthu et al., 2021).

Performance analysis technique (PA)	Science mapping technique (SM)
Total publications (TP)	Citation analysis (CA) Relationship among publications and Most influential publications
Number of active years of publication (NAY)	Bibliographic coupling (BC) Relationship among cited publications Periodical or present themes
Total citation (TC)	Co-word analysis (CWA) Existing or future relationships among topics

Figure 1. Categories of bibliometric analysis used in the study protocol. Own elaboration.

After defining the analysis techniques, we focused on (3) collecting data for analysis and, respectively, the research protocol. For this research, the data extraction protocol was applied to the Scopus database¹, the world’s largest scientific database which offers a comprehensive overview of the research output in various fields, with tools for monitoring, analyzing and visualizing scientific information (<https://elsevier.international/en-in/solutions/scopus.html>).

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the world's largest scientific database which offers a comprehensive overview of the research output in various fields, with tools for monitoring, analyzing and visualizing scientific information. The following keywords were searched using this index: "emotion", AND "art", AND "intervention" in the article title, abstract or keywords, resulting in a total of 697 documents (n=697). The results were then filtered by area of publication, namely "Social Sciences" and "Arts and Humanities", resulting in a total of 164 documents¹ (n=164) included in the analysis. A second data selection criterion then, helped to narrow down the data sample for analysis. In this regard, only documents from the last 10 years (2014 to 2024) were selected, which limited the sample of documents to 139 documents (n=139).

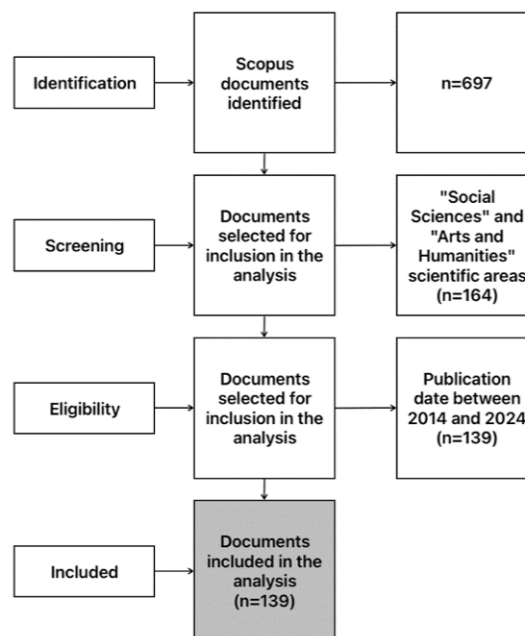


Figure 2. Diagram of the flow process for study selection for analysis, developed by the authors based on the PRISMA statement (Moher et al., 2010).

About the (4) bibliometric analysis carried out, two axes were followed, one of performance (Donthu et al., 2021, p. 294) and the other of science mapping (Donthu et al., 2021, p. 294). Donthu and his colleagues state that 'the first contributes to researching the constituents of the sample under analysis' while the second 'focuses on the relationship between the research data'.

RESULTS

Following the framework proposed by Donthu et al. (2021), presented in the four stages mentioned above, the results are available below in two axes: the first axe of "Performance Analysis" (PA), and, the second, of "Science Mapping" (SM). Concerning the first approach (PA), in terms of total publications (TP), the final sample that makes up this research has a total of 139 documents (n=139) and is divided into various types of documents: 113 scientific articles, 9 review articles, 7 book chapters, 6 conference papers, 3 books and 1 note. Concerning the state of publication, 129 documents have already been published, and 10 are in press. Regarding the language of the documents, 113 are written in English, 18 in Spanish, 3 in Polish, 2 in Italian, 2 in French, 2 in Mandarin, and 1 in Korean. Regarding the number of active years of publication (NAY), we can identify that, in the entire Scopus database, there are 697 publications dated between 1978 and 2024, in all scientific fields. However, our sample will be limited to the last 10 years, following the methodological framework mentioned above (Figure 2). In terms of the total number of citations (TC) of the sample under analysis, we can see fluctuations over the years, which shows that the field of study is dynamic and highly variable. The years with the highest number of citations within the themes stand out: 2011 (151 citations), 2015 (110 citations), 2018 (240 citations) and 2019 (115 citations), as can be seen in Figure 3.

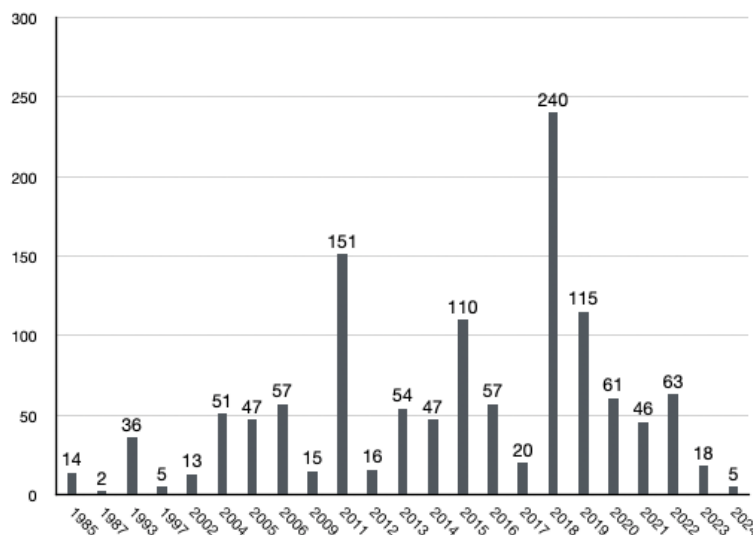


Figure 3. Quotes over the years. Own elaboration.

From a diachronic perspective (Figure 4), we can observe that the number of documents published each year is decreasing. Regarding the average number of documents, the years with the highest number

of publications stand out: 2015 (31 documents), 2016 (22 documents), 2017 (17 documents), 2018 (10 documents). The year 2015 was the period with a peak in terms of publications, which may indicate an increase in interest or some significant event related to the research topics that happened in that year. The reduction in the number of articles published on these topics over the years suggests a loss of interest in these topics. These data suggest that, although there has been a stabilization in the number of publications since 2019 (with an average of 6.8 articles), this pattern may reflect a change in the relevance given on the topic, in the availability of new information, or the research or the focus of the scientific community. It is relevant to point out that documents from the year 2024 are not yet fully accounted for, being this data conditioned by this time frame, which does not allow us to analyze the data for that year in depth.

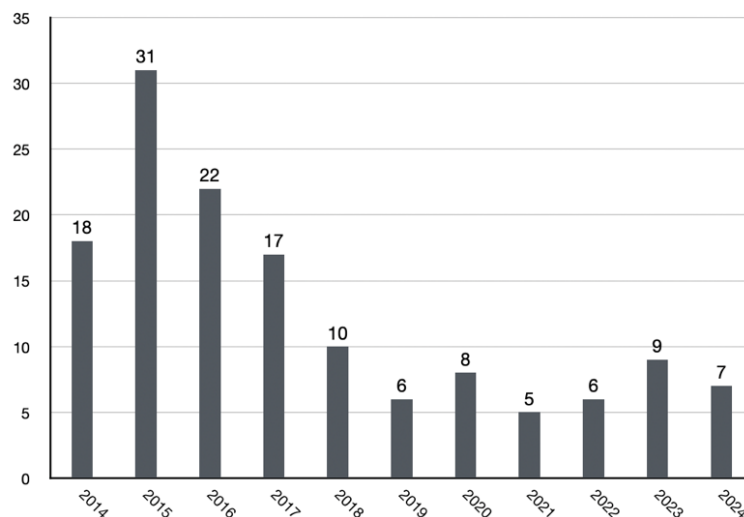


Figure 4. Publications per year. Source: Own elaboration.

The institutions that publish the most documents crossing the themes of arts, intervention and emotions are the University of Toronto (6 documents), Wilfrid Laurier University (6 documents), University of Liverpool (5 documents), Universidad Complutense de Madrid (4 documents), Université Laurentienne (4 documents), University of Florida (4 documents), University of Nottingham (3 documents), University of the West of England (3 documents), Uniwersytet Mikotaja Kopernika w Toruniu (3 documents), University College London (3 documents), respectively (Figure 5). These results not only highlight the main contributions of English-speaking universities to the academic literature in these specific areas but

also suggest possible centres of excellence and international collaboration in studies that explore the intersections between the arts, intervention and emotions.

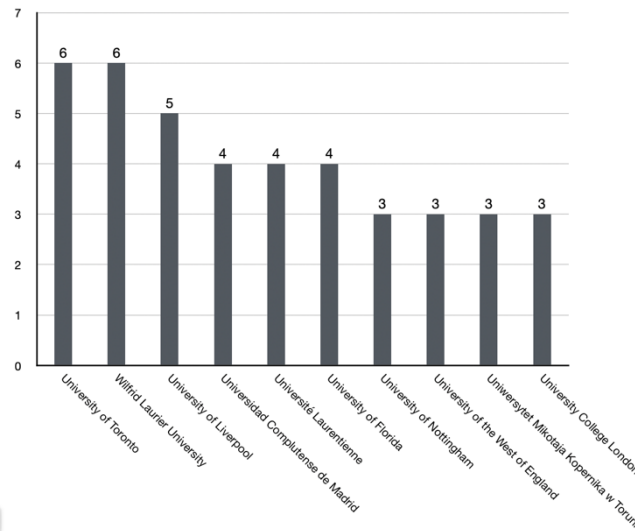


Figure 5. Publications by institution. Own elaboration.

The authors with the most significant research in these areas and with papers indexed in Scopus are Lewandowska, K., with 2 documents, Abma, T., with 1 document, Abrams, L., with 1 document, Adam Henet, P., with 1 document, Adamakis, M., with 1 document, Adamopoulou, E., with 1 document, Adams, A. K., with 1 document, Addie, Y. O., with 1 document, Agueli, B., with 1 document, Alberstein, M., with 1 document (see Figure 6). The fact that there are several authors with a publication on the subject may indicate that it is of interest to different research groups or that it is addressed in different contexts.

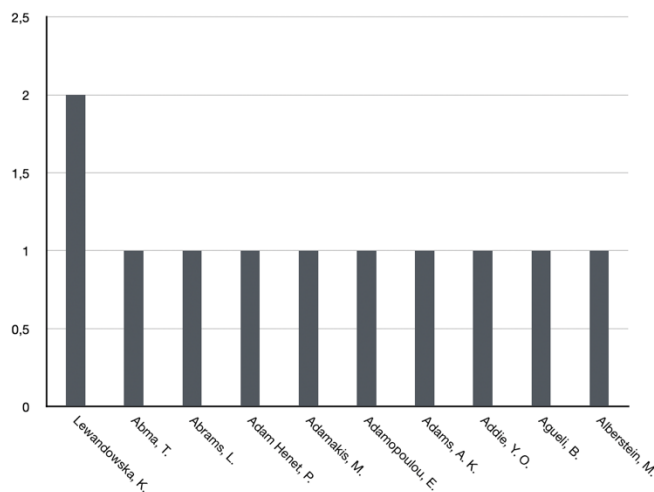


Figure 6. Publications by Author. Own elaboration.

The countries with the highest number of publications are as follows: the United States with 24 documents, the United Kingdom with 22 documents, Spain with 15 documents, Australia with 11 documents, Canada with 10 documents, Italy and Poland with 6 documents each, Germany and India with 5 documents each, and Greece with 4 documents (see Figure 7). The overall picture of countries publishing on this subject indicates global interest and contributions from various regions of the world, benefiting from diverse perspectives and research contexts. It's worth noting the presence of English-speaking countries and the predominant use of English as the primary research language.

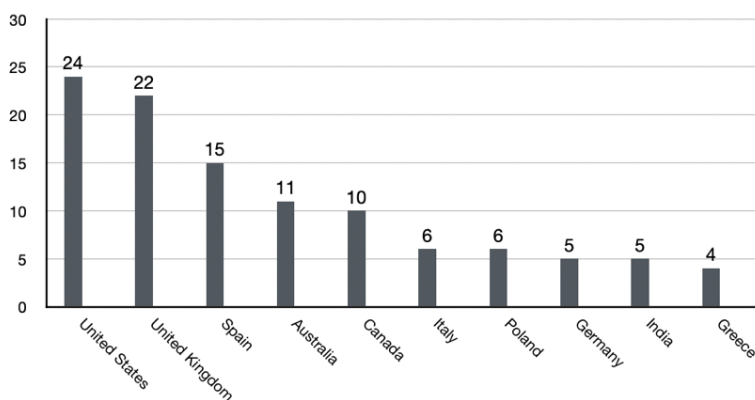


Figure 7. Publications by country. Own elaboration.

Citation analysis (CA) is a method of analysis that works with the indicator that citations reflect intellectual connections between publications when they are citing each other. In this analysis, the impact of a publication is determined by the number of citations it receives (Donthu et al., 2021, p. 288). In Table 1 we can see that the articles with the highest number of citations are the following: "Playing with feelings: Video games and affect" by Anable (2018), "Collective Narcissism: Political Consequences of Investing Self-Worth in the Ingroup's Image" by Golec et al. (2019), "An interdisciplinary HIV-adherence program combining motivational interviewing and electronic antiretroviral drug monitoring" by Krummenacher et al. (2011), "Feminist refugee epistemology: Reading displacement in Vietnamese and Syrian refugee art" by Espiritu and Duong (2018), "The art of letting go: Referral to palliative care and its discontents" by Broom et al. (2013), "Integrative problem-centred metaframeworks therapy II: Planning, conversing, and reading feedback" by Pinsof et al. (2011), e "The connection between social-emotional learning and learning disabilities: Implications for intervention" by Elias (2004).

Table 1. Most cited documents. Own elaboration.

Authors	Title	Year	Source title	Citations
Anable A.	Playing with feelings: Video games and affect	2018	Playing with Feelings: Video Games and Affect	125
Golec de Zavala A.; Dyduch-Hazar K.; Lantos D.	Collective Narcissism: Political Consequences of Investing Self-Worth in the Ingroup's Image	2019	Political Psychology	86
Krummenacher I.; Cavassini M.; Bugnon O.; Schneider M.P.	An interdisciplinary HIV-adherence program combining motivational interviewing and electronic antiretroviral drug monitoring	2011	AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV	56
Espiritu Y.L.; Duong L.	Feminist refugee epistemology: Reading displacement in Vietnamese and syrian refugee art	2018	Signs	53
Broom A.; Kirby E.; Good P.; Wootton J.; Adams J.	The art of letting go: Referral to palliative care and its discontents	2013	Social Science and Medicine	51
Pinsof W.; Breunlin D.C.; Russell W.P.; Lebow J.	Integrative problem-centered metaframeworks therapy II: Planning, conversing, and reading feedback	2011	Family Process	51
Elias M.J.	The connection between social-emotional learning and learning disabilities: Implications for intervention	2004	Learning Disability Quarterly	51
Schall A.; Tesky V.A.; Adams A.-K.; Pantel J.	Art museum-based intervention to promote emotional well-being and improve quality of life in people with dementia: The ARTEMIS project	2018	Dementia	48
Longden E.; Davis P.; Billington J.; Lampropoulou S.; Farrington G.; Magee F.; Walsh E.; Corcoran R.	Shared reading: Assessing the intrinsic value of a literature-based health intervention	2015	Medical Humanities	43

Coholic D.A.; Eys M.	Benefits of an Arts-Based Mindfulness Group Intervention for Vulnerable Children	2016	Child and Adolescent Social Work Journal	43
Voorhis F.L.V.	Costs and Benefits of Family Involvement in Homework	2011	Journal of Advanced Academics	43
Cox J.C.	Traditional Asian martial arts training: A review	1993	Quest	36
Keeling M.L.; Bermudez M.	Externalizing problems through art and writing: Experiences of process and helpfulness	2006	Journal of Marital and Family Therapy	33
Walsh S.M.; Chang C.Y.; Schmidt L.A.; Yoepp J.H.	Lowering stress while teaching research: A creative arts intervention in the classroom	2005	Journal of Nursing Education	33
Tröndle M.; Kirchberg V.; Tschacher W.	Is This Art? An Experimental Study on Visitors' Judgement of Contemporary Art	2014	Cultural Sociology	30
Bassachs M.; Cañabate D.; Nogué L.; Serra T.; Bubnys R.; Colomer J.	Fostering critical reflection in primary education through STEAM approaches	2020	Education Sciences	28
Özden Bademci H.; Figen Karadağı E.; de Zulueta F.	Attachment intervention through peer-based interaction: Working with Istanbul's street boys in a university setting	2015	Children and Youth Services Review	19
Maiese M.	Engaging the emotions in conflict intervention	2006	Conflict Resolution Quarterly	19
Stagg B.C.; Verde M.F.	Story of a Seed: educational theatre improves students' comprehension of plant reproduction and attitudes to plants in primary science education	2019	Research in Science and Technological Education	19
Mundet Bolós A.; Beltrán Hernández A.M.; Moreno González A.	Art as an educative and social tool; [Arte como herramienta social y educativa]	2015	Revista Complutense de Educacion	19
Blain S.; Kingsnorth S.; Stephens L.; McKeever P.	Determining the effects of therapeutic clowning on nurses in a children's rehabilitation hospital	2012	Arts and Health	15
Maiese M.	An enactivist approach to treating depression: cultivating online intelligence through dance and music	2020	Phenomenology and the Cognitive Sciences	15
Dewsbury J.D.	Affect	2009	International Encyclopedia of Human Geography	15
Mualem O.; Lavidor M.	Music education intervention improves vocal emotion recognition	2015	International Journal of Music Education	15
Pauly T.; Chu L.; Zambrano E.; Gerstorff D.; Hoppmann C.A.	COVID-19, Time to Oneself, and Loneliness: Creativity as a Resource	2022	Journals of Gerontology - Series B Psychological Sciences and Social Sciences	15
Turner J.; Greenawalt K.; Goodwin S.; Rathie E.; Orsega-Smith E.	The development and implementation of the Art of Happiness intervention for community-dwelling older adults	2017	Educational Gerontology	12

Regarding Bibliographic Coupling (BC), this axis of analysis seeks to analyze the relationship between publications, namely by trying to understand the current development of an area or research themes through groups of documents that share references (Donthu et al., 2021, pp. 288-289). In this sense, if two documents cite one or more common references, they are considered bibliographically linked.

The network of publications generated from the sample is organized by the authors of the documents analyzed in Figure 8. The network is more dispersed, with several clusters of publications that share common references (set of documents on the right in the image). The publications by Schall (2018), Golec de Zavala (2019), and Anable (2018) are notable for their centrality, which means they share numerous references with other publications, positioning themselves as key works in the context of the study. The centrality of these publications indicates that they are frequently used as a basis for new research, reflecting their ongoing importance and thematic relevance. This suggests that there is a body of theory around the research themes, and these themes are identified in several documents.

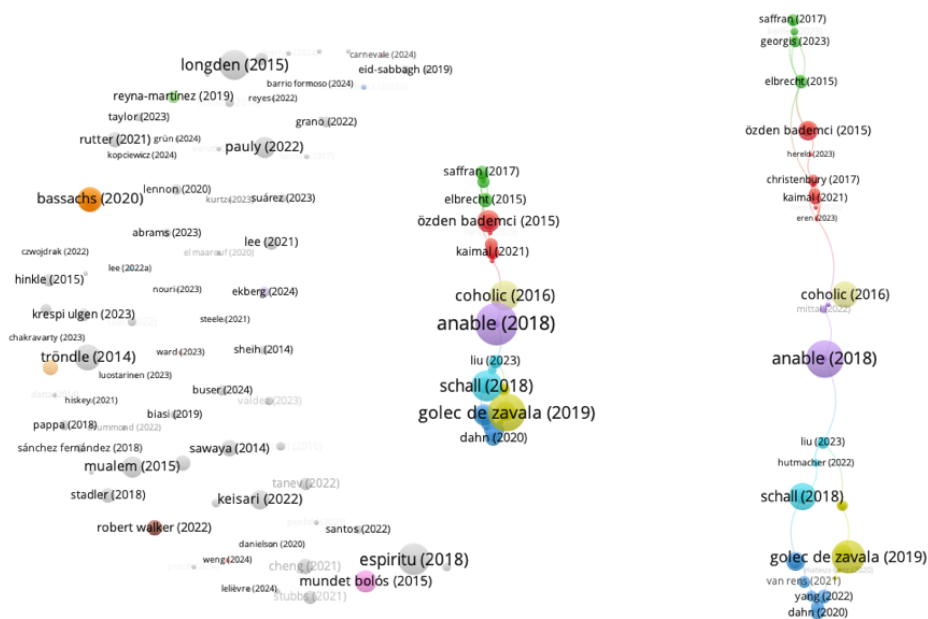


Figure 8A. Bibliographic coupling. Own elaboration.

Figure 8B. Bibliographic coupling. Own elaboration.

Co-word Analysis (CWA) is a technique that analyzes existing and future relationships between the topics researched (Donthu et al., 2021, pp. 288- 289). The research unit used for analysis in CWA is “words”. It analyzes the keywords defined by the author, assuming that words that appear frequently together

indicate related themes. CWA contributes to enriching and understanding the thematic clusters that circumscribe the research, supposing that the words that recur in a search have a conceptual relationship with each other. Through CWA it is possible to define clusters of activity within the themes, which proves very useful for unfolding conceptual relationships and increasing the level of understanding of a field through an analysis of the past and present to predict future research trajectories. In this study, the sample identified eight main thematic clusters (Figure 9): (1) red, (2) orange, (3) yellow, (4) green, (5) light blue, (6) purple, (7) brown and (8) dark blue. These clusters include the following themes, represented by the used keywords: (1) Multidisciplinary Research in Health and Human Well-being: "Imagination", "critical thinking", "public health", "domestic violence", "human experience", "support group", "children", "female", "therapy"; (2) Cultural Expression and Regional Studies: "eating", "drawing", "interview", "australia"; (3) Mental Health and Illness in Different Age Groups: "covid 19", "suicide", "adolescence", "mental disease", "prevention", "dementia", "aged 80 and over"; (4) Emotions and Empathy: "Autism", "martial arts", "empathy", "morality", "mindfulness", "emotions", "family"; (5) Emotional Education and E-learning through art and design: "e-learning", "emotional education", "art education", "design", "photography"; (6) Arts and creativity for well-being and culture: "Human", "cognition", "art", "creativity", "learning", "psychology", "wellbeing", "museums"; (7) intervening through music: "Trauma", "anxiety", "anxiety disorder", "human", "music"; e (8) by the authors. "Emotion", "intervention", "corporality", "exercise", "performance".

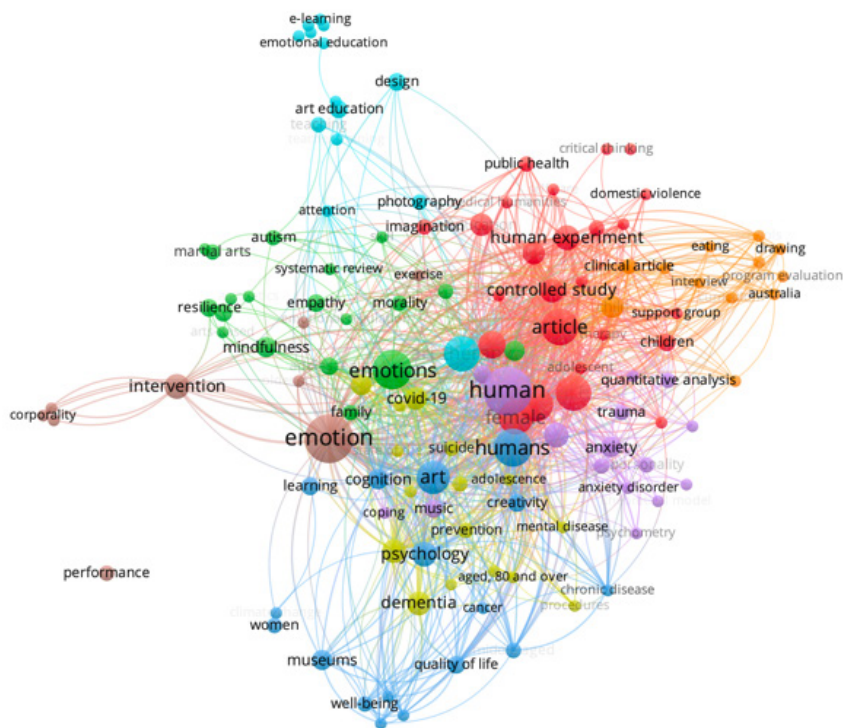


Figure 9. Co-word analysis. Own elaboration.

Regarding publication trends in the area, the analysis shows a strong interconnectivity between terms, highlighting the multidisciplinary nature of research. The more central keywords with a larger node (such as "human", "emotion", and "art") indicate areas of research of greater interest and relevance, however, they are not the most recently researched topics. The temporal distribution of the colours suggests an increase in interest in some topics over the years, especially in themes related to "drawing", "child", "creativity", "therapy", "family", "woman", and "emotional education", as can be seen in Figure 10.

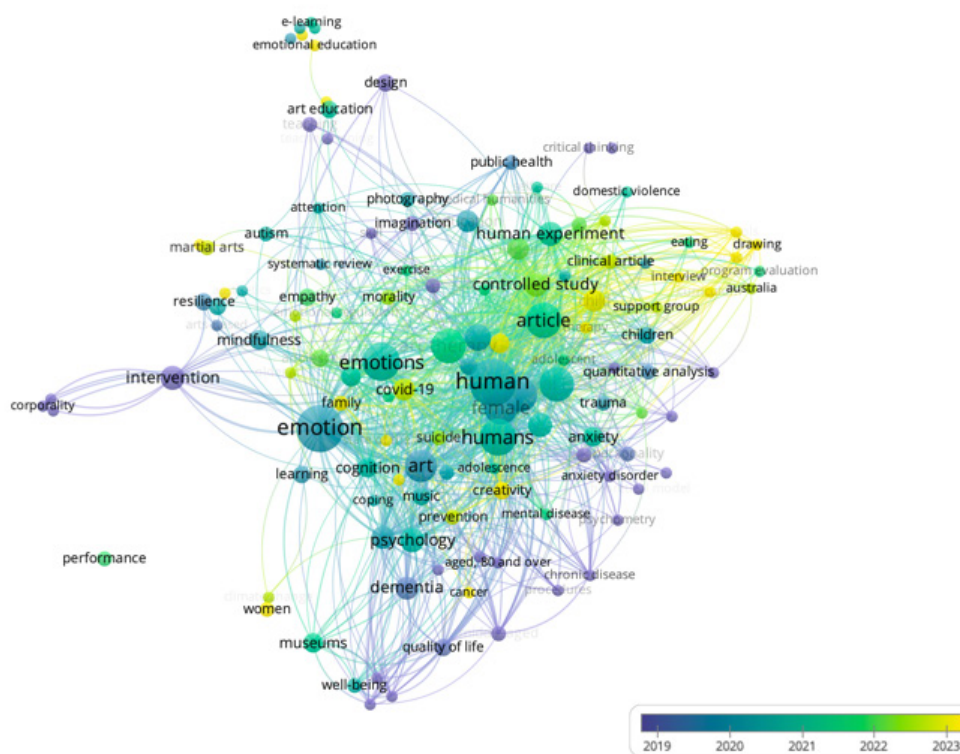


Figure 10. Co-word analysis trends. Own elaboration.

CONCLUSIONS

In this article, we analyze the themes of “arts”, “intervention” and “emotions”, looking for ways in which they intersect and building bridges between the most relevant existing literature, the research clusters and the traced bibliographical paths. The research was carried out within a specific theme and portrays the correlation of three relevant concepts in the context of the research: arts, intervention and emotions. It is pertinent to reflect that the combination of various concepts, in the light of bibliometric analysis, generates more dispersed data and less concrete networks of information, which translates into an understanding of the broad body of publications when related. This would not be the case in an analysis carried out individually on each of the concepts, but the dimensions of the individual studies would go beyond the limits of this research.

The results of this study suggest that research into the themes is carried out from a multidisciplinary perspective because, as can be seen, the eight clusters that originate from the CWA reflect a wide range of subjects. Even though English-speaking countries predominate in the research and research results, it is not very concentrated, and work can be identified from various countries, scattered around the globe, and in various languages, with many areas and research groups working on the themes continuously and in various axes.

The relationship between the themes and the concept of "human being" is something very present in the data collection. The relationship between the various research clusters and keywords such as "Humans", "Aged, 80 and over", "Adolescent" and "Children" indicates that individuals play a central role in this type of research.

There are works such as those by Anable (2018), Golec de Zavala, et al. (2019), Krummenacher (2021) and Espiritu and Duong (2018), which stand out within the themes, bringing perspectives and impact within this context. These studies not only broaden theoretical understanding but also have relevant practical implications, that can influence public policies and social practices in an interdisciplinary approach since they engage with how emotions and affection impact behaviour, human perception and group identities.

There have been several changes over the years in the research contexts of these themes, which allows us to understand their liquidity. The most recent trends indicate an emphasis on research into therapies and emotional education through creativity and drawing, which underlines the human development characteristic associated with the themes.

The implications of these findings can lead to concrete changes in the way artistic and emotional interventions are implemented in society. There is a growing appreciation of human development through creative approaches, which can open up new avenues for innovative educational interventions and practices.

Bibliometric analysis reveals that combining the three concepts results in more dispersed data and less concrete information networks. This implies that, although the joint analysis offers a broad and integrated view, there may be challenges in identifying specific patterns or direct connections between the concepts. Individual studies on each theme may offer more detailed and specific insights. These implications highlight the importance of continuing to investigate the intersections between arts, intervention and emotions, considering the complexity and multidimensionality of these areas. In addition, interdisciplinary and international collaboration, as well as a focus on human development, are essential to advance both theoretical understanding and practical applications of these themes.

Future research could be carried out to understand each of the concepts individually, as well as broadening the area of study by adding new concepts or extending the study to other databases and the timeline of analysis.

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