Malaysian Journal of Social Sciences and Humanities (MJSSH) (e-ISSN : 2504-8562)
2024, Volume 9, Issue 9, e002995
DOI: https://doi.org/10.47405/mjssh.v9i9.2995

REVIEW ARTICLE

Mapping the Intellectual Structure of Metaphor Research in Visual Communication: A Bibliometric Analysis

Xia Zhang[1], Saiful Akram Che Cob[2*], Chang Liu[3]

[1]College of Creative Arts, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.
Email: 2021226356@student.uitm.edu.my
[2]College of Creative Arts, Universiti Teknologi MARA, 42300 Puncak Alam, Selangor, Malaysia.
Email: saifulakram@uitm.edu.my
[3]College of Creative Arts, Universiti Teknologi MARA, 15050 Kota Bharu, Kelantan, Malaysia.
Email: Charlene_LiuChang@outlook.com

CORRESPONDING AUTHOR (*):
Saiful Akram Che Cob
(saifulakram@uitm.edu.my)

KEYWORDS:
Metaphor
Visual communication
Design research
Research trend
Bibliometric analysis

CITATION:
Xia, Z., Saiful Akram Che Cob, & Chang, L. (2024). Mapping the Intellectual Structure of Metaphor Research in Visual Communication: A Bibliometric Analysis. *Malaysian Journal of Social Sciences and Humanities (MJSSH), 9*(9), e002995. https://doi.org/10.47405/mjssh.v9i9.2995

ABSTRACT

Metaphor is a powerful rhetorical device used primarily in the field of visual communication, particularly in branding, advertising, book design, and packaging. Although metaphor is used so frequently, there is limited existing literature examining the area. Consequently, this study aims to address this gap by performing a bibliometric analysis to map the existing literature and identify key topics for future research. Using VOSviewer and CiteSpace software, we selected 217 related articles from the Web of Science for the period from 2000 to March 2023. The performance analysis shows a growing interest and a steadily increasing literature development before peaking in 2023. Metaphor research focuses primarily on the fields of communication, linguistics, and business. It is worth noting that the United States holds a dominant position in terms of publication quantity and academic influence. By scientific mapping with keywords coincidence, seven research themes were characterized, including conceptual metaphor, visual metaphor, and multimodal metaphor. In addition, themes such as visual rhetoric, consumer perception, and advertising play a central role in metaphor research, emphasizing metaphor as a strategy in visual communication that influences consumer attitudes and emotions. This study provides valuable insights for potential future research efforts endeavours to seeking to explore this area in more depth.

Contribution/Originality: This paper contributes the bibliometric analysis of metaphor research in visual communication (2000-2023) , providing a systematic overview through performance analysis and science mapping. It provides valuable insights for future research, particularly in exploring the role of visual elements in metaphor construction and new technological tools into metaphor research.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

1. Introduction

Metaphor is a linguistic device that represents one object by another to explain abstract concepts or define complex ideas (Lakoff & Turner, 1989). According to Lakoff and Johnson (1980) in their work "Metaphors We Live By"," metaphor not only exists in language, but also operates as a fundamental cognitive instrument that helps people understand something in the world, influencing their thoughts and behaviors (Lakoff & Johnson, 1980, p.3). According to Lakoff (1993), metaphors originate from conceptual mapping and then expressed in language or images. As Kovecses (2010) points out, metaphors serve a vital function in enriching communication by utilizing metaphorical elements like imagery, typography, and color. From this perspective, metaphor plays an indispensable role in visual communication.

Metaphors have garnered considerable attention in various areas of visual communication. As a rhetorical device, metaphors are widely used in advertising design to verbally anchor advertisements visuals (Cao et al., 2021) and affect consumers' emotional and cognitive responses regarding metaphors compared with the other elements of advertisement factors such as logos (Dehay & Landwehr, 2019). Within brand communication, metaphors play a vital role in enhancing consumers' grasp of brand concepts and bolstering their appeal (Ng & Koller, 2013). Moreover, metaphors help in the evolution of brand design and provide a better management practice (Brown, 2022). In packaging design, the position of images plays a pivotal role in influencing the metaphorical impact for the consumer (Fenko et al., 2018), where textual information and visuals are intricately interconnected (Gil-Pérez et al., 2019). Further, the use of packaging metaphors can substantially influence consumers' choice intention (Huang & Kang, 2017). In book design, the use of packaging metaphors can substantially influence consumers' choice intention (Kotkowska, 2018) and facilitate the depiction of specific themes to underscore their significance (Tseronis, 2021).

Existing research has been reviewed from a linguistic perspective using bibliometric analyses of metaphors, exploring trends in conceptual metaphors (Kraievska, 2016), metaphors over the past fifty years (Suryati et al., 2023), and trends in multimodal research (Jahameh & Zibin, 2023). Despite the importance of metaphor in visual communication, little research has explored this area in depth. To address this gap, this study conducts a bibliometric review of the literature on metaphors. The research focuses on answering the following three key questions:

i. What is the current publication trend in the field of metaphor in visual communication?
ii. Which scholars, institutions and countries are most active in researching the application of metaphor in visual communication design?
iii. What are the main research themes concerning metaphor in visual communication?

2. Research Methods

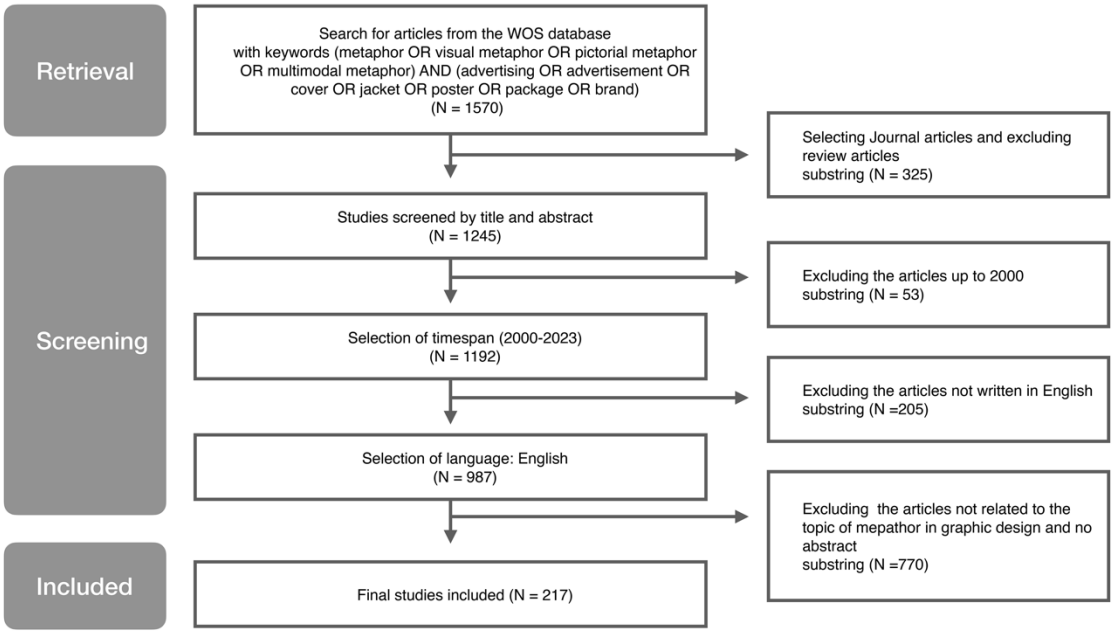
2.1. Data Retrieval

The Web of Science database provides a wide range of resource types, including full-text articles, reviews, editorials, chronologies, abstracts, conference proceedings and technical papers dating back to 1900 (Moral Muñoz & Herrera Viedma, 2020). The data come from the Web of Science (WoS) Core Collection, which focuses on metaphor areas

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

in visual communication design until December 10, 2023. The keyword command was entered as follows: TS = (metaphor OR visual metaphor OR pictorial metaphor OR multimodal metaphor) AND (advertising OR advertisement OR cover OR jacket OR poster OR package OR brand), which yielded a total of 1,570 records. Further narrowing down the search to articles published between 2000 and 2023, we were left with 1,192 articles. Subsequently, only English language articles were then considered, resulting in 987 relevant publications. After reviewing the titles and abstracts, we excluded the articles without abstracts and those that were irrelevant to our line of research, such as the use of metaphor in film, painting, comics, music, healthcare, and online learning. This process resulted in the identification of 217 papers suitable for review. The data selection process is outlined in Figure 1. All search terms from WoS were exported in TXT format along with full abstracts and references to ensure a thorough coverage of the relevant research literature. The analysis revealed that the 217 articles were published across 125 journals by authors hailing from 115 countries and 353 organizations.

Figure 1: Article selection process for bibliometric mapping analysis



Source: Gouda and Tiwari (2022)

2.2. Data Analysis Tools

To conduct data analysis, we used the bibliometric software tools VOSviewer (version 1.6.20) and CiteSpace (version 6.2.R4). VOSviewer, a bibliometric visualisation software created by the Centre for Science and Technology Studies at Leiden University in the Netherlands, extracts the key terms from the literature, builds co-occurrence networks and creates association maps of authors, institutions, countries, journals and keywords (Van Eck & Waltman, 2007). CiteSpace, an information visualisation software for citation analysis developed by Drexel University in the USA, facilitates a detailed analysis and intuitive presentation of trends and patterns within various research domains (Chen, 2006). By employing Bibliographic coupling functions, CiteSpace offers insights into keyword clusters, geospatial cooperation networks and international cooperation based on the keywords identified in citations (Chen, 2014).

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

2.3. Bibliometric Analysis

Bibliometric analysis applies quantitative methods on large data to reveal emerging trends, patterns of co-operation and research networks and to provide an objective overview of the development of a field (Persson et al., 2009). It involves examining the literature in two main dimensions: Performance analysis and science mapping. Performance analysis assesses the contributions of different research aspects, such as authors, institutions, countries, and journals in a particular field. Science mapping analyses the relationships between research constituents, including co-word analysis, thematic evolution, and co-occurrence analysis, which can provide insight into the intellectual structure of the research field (Donthu et al., 2021).

3. Results

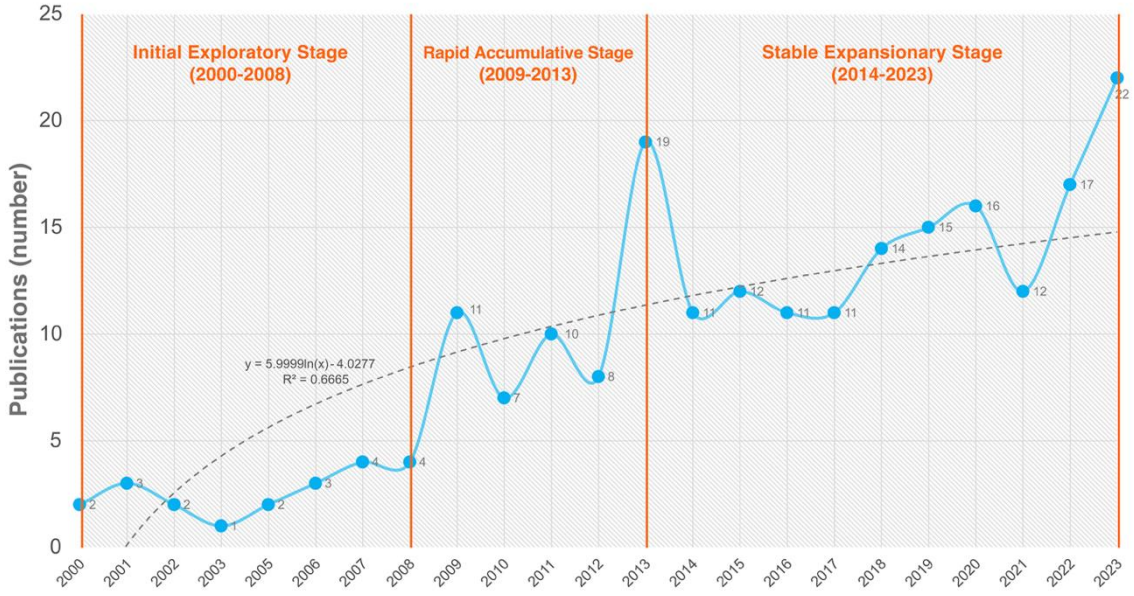
3.1. Performance Analysis

We utilized VOSviewer software to conduct the performance analysis, assessing the impact of various research components on the use of metaphor in graphic design between 2000 and 2023. The review covered research topics that included analyses of publication trends, countries with the most articles, journals with the most articles, most influential authors and institutions, and most influential articles.

3.1.1. Yearly Publishing Trend

There has been a consistent upward trend over the last two decades, as illustrated in Figure 2.

Figure 2**:** Published literature on metaphor in visual communication design



The research progress of these studies was classified into three stages based on the number of annual publications: initial exploration (2000-2008), rapid accumulation (2008-2013) and stable expansion (2014-2023). Between 2000 and 2008, the number of annual publications fluctuated between one and four, indicating that researchers were in the early stages of integrating metaphors into design analysis. The years 2008 to 2013 saw a sharp increase in publications, with notable peaks of 11 and 19 publications in

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

2009 and 2013, respectively, indicating substantial advancements during this timeframe. From 2014 to 2023, at least 11 publications were published each year, indicating increased improved levels of research practice. Notably, the number of publications grew substantially between 2021 and 2023, reaching the record high of 22 publications in 2023. In summary, metaphor research in design has shifted from exploratory to expansive - a trend that continues to gain traction.

3.1.2. Top Contributing Countries

We conducted the co-authorship analysis using VOSviewer among the 45 countries of authors contributing to these articles (N = 217). We performed the detailed analysis in six selected countries that published more than 10 articles, as shown in Table 1. Among the top publishing countries, the United States led with 59 articles (27%), accompanied by 1692 citations. Beyond the US, three countries produced over 20 publications each, accounting for more than 10% each. Spain contributed 36 articles (16.5%), China 32 articles (15%), and England 25 articles (11.5%). Despite Canada had the lowest number of articles among the six countries, it ranked second with 970 citations. Chinese articles, constituting nearly 15% of the total, garnered the fewest citations at 195. When assessing the link strength, the US was the country most highly linked to all others, a total of 25 links. Conversely, the Netherlands has the weakest connection with only four links. Undoubtedly, the United States stands out as one of the most influential countries in this field, boasting top publications, citations, and link strength.

Table 1: Top 6 countries/regions published more than 10 articles

	Country	TP	TC	TLS
1	USA	59 (27%)	1692	25
2	Spain	36 (16.5%)	258	9
3	China	32 (15%)	195	8
4	England	25 (11.5%)	375	16
5	Netherlands	16 (7%)	419	4
6	Canada	14 (6%)	970	8

Note: TP = total publications; TC= total citations; TLS= Total link strength.

3.1.3. Top Contributing Institutions

We selected seven institutions that published 5 or more articles from 253 institutions, as shown in Table 2. Seven articles were published by the University of Saskatchewan (Canada), Santa Clara University (USA) and Complutense University of Madrid (Spain). The University of Saskatchewan and Santa Clara University have the highest number of citations, with 750 and 726 times, respectively. In comparison, Complutense University of Madrid has been cited only 37 times. There are three Spanish institutions in the next four institutions: University of Almería (6 articles), Universidad Autónoma de Madrid (5 articles), and Universidad de La Rioja (5 articles). Also has only published 5 articles, the University of Birmingham (UK) has been cited 70 times, whereas this is more than any institution in Spain listed. In general, the University of Saskatchewan (Canada) and Santa Clara University (USA) are the most influential institutions in terms of amount articles published as well by citations received.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

Table 2: Top 7 institutions published more than 5 articles

	Organization	TP	TC	Country
1	University of Saskatchewan	7	750	Canada
2	Santa Clara University	7	726	USA
3	Complutense University of Madrid	7	37	Spain
4	University of Almería	6	34	Spain
5	Universidad Autónoma de Madrid	5	43	Spain
6	University of Birmingham	5	70	England
7	Universidad de La Rioja	5	16	Spain

Note: TP = total publications; TC= total citations.

3.1.4. Top Contributing Journals

We identified 124 journals publishing in related fields by analysing VOSviewer citations. We selected the eight most influential journals with at least five published articles, as shown in Table 3. From the analysis, metaphors appear in three main fields: communication, linguistics, and business. In communication, the Journal of Advertising is the leading journal with seventeen published articles and 1278 citations. Subsequently, the International Journal of Advertising, which published 9 articles but was cited only 105 times. In linguistics, Metaphor and the Social World had eight articles but the fewest citations (45), the lowest citation rate of the eight journals. The Journal of Pragmatics was the most cited linguistics journal with seven articles and 184 citations. The only business journal, the Journal of Business Research, published five articles and was cited 112 times. In general, the main areas of research are communication and the linguistics.

Table 3**:** Top 8 journals with more than 5 publications

	Journal	TP	TC	Disciplinary
1	Journal of Advertising	17	1278	Communication
2	International Journal of Advertising	9	105	Communication
3	Metaphor and the Social World	8	45	Linguistics
4	Journal of Pragmatics	7	184	Linguistics
5	Visual Communication	7	181	Communication
6	Review of Cognitive Linguistics	6	80	Linguistics
7	Metaphor and Symbol	6	113	Linguistics
8	Journal of Business Research	5	112	Business

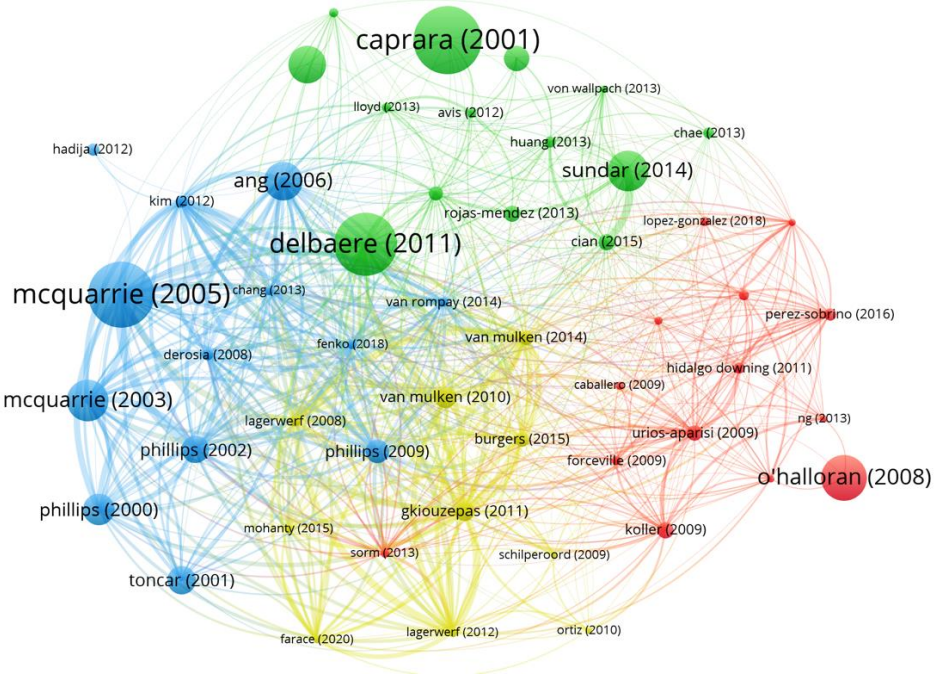
Note.TP = total publications; TC= total citations.

3.1.5. Most Influential Articles

We identified 51 network-generated maps from the VOSviewer bibliographic coupling with a minimum citation time of 20. The network map (Figure 3) is divided into three primary fields denoted by three distinct colors: blue cluster, green cluster and red cluster.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

Figure 3: The most cited articles (co-citation analysis)



We selected 9 articles with more than 100 citations for the next step, as shown in Table 4. To get a clearer overview of the articles in these three fields, we discussed each field toghter with Figure 3 and Table 4. In the blue cluster of the communication field, the articles are both highly cited and closely connected. McQuarrie and Phillips (2005) stand out with 209 citations and the link strength of 188, exerting significant influence in the field. Following closely are the two articles by McQuarrie and Mick (2003) with 133 citations and Ang and Lim (2006) with 121 citations. In the green cluster of the business field, there are three significant articles with high citations but limited links. Caprara et al. (2001) has the highest citation count at 214, but the lowest number of links with 14. Sundar and Noseworthy (2014) have garnered 128 citations with link frequency at 57. In the red cluster of the linguistics field, O'Halloran (2008) has amassed 146 citations but only link frequency at 5, making it the least interconnected article among these articles. In general, the communication field, represented by the blue cluster, appears as the most impact, with McQuarrie and Phillips (2005) article emerging as a potentially highly influential work due to its notable citation frequency and network's link strength.

Table 4: Top 9 articles with more than 100 citations

	Author	Title	TC	TLS
1	Caprara et al. (2001)	Brand personality: How to make the metaphor fit?	214	14
2	McQuarrie and Phillips (2005)	Indirect Persuasion in Advertising: How Consumers Process Metaphors Presented in Pictures and Words	209	188
3	Delbaere et al. (2011)	Personification in advertising	199	121
4	O'Halloran (2008)	Systemic functional-multimodal discourse analysis (SF-MDA): constructing ideational meaning using language and visual imagery	146	5
5	McQuarrie and Mick (2003)	Visual and Verbal Rhetorical Figures under Directed Processing versus Incidental Exposure to Advertising	133	132
6	Sundar and	Place the Logo High or Low? Using Conceptual	128	57

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

	Noseworthy (2014)	Metaphors of Power in Packaging Design		
7	Ang and Lim (2006)	The Influence of Metaphors and Product Type on Brand Personality Perceptions and Attitudes	121	158
8	Coulter et al. (2001)	Interpreting consumer perceptions of advertising: An application of the Zaltman Metaphor Elicitation Technique	118	6
9	Phillips (2000)	The Impact of Verbal Anchoring on Consumer Response to Image Ads	101	112

Note: TC= total citations; TLS= Total link strength.

3.2. Science Mapping

Science mapping was carried out utilizing Citespace software to examine the research trend through analyzing the co-occurrence of keywords and the thematic clustering of metaphors in visual communication.

3.2.1. Keyword Co-Occurrence Analysis

We extracted 344 keywords from 217 relevant articles published between 2000 and 2023 using Citespace software. We then selected keywords that appeared more than ten times, resulting in the 11 keywords presented in Table 5. The most frequently mentioned keyword was "advertising", which appeared 22 times with a centrality of 0.28. Notably, "metaphor", "visual metaphor" and "multimodal metaphor" were highlighted as significant terms with 12 or more occurrences. Among these, "metaphor" stood out as the most frequent with 18 occurrences with a centrality of 0.15. The average publication years for "multimodal metaphor" and "visual metaphor" were 2013 and 2019 respectively, indicating their growing importance as research topics in recent years. Additionally, the five terms "information", "comprehension", "figures", "persuasion", and "pictures" have remained important keywords in this field from the early 2000s to the present.

Table 5**:** List of keywords with more than 10 times

	Keywords	**Count**	**Centrality**	**Year**
1	advertisements	22	0.28	2003
2	metaphor	18	0.15	2007
3	visual metaphor	16	0.08	2019
4	information	15	0.18	2001
5	comprehension	14	0.1	2001
6	impact	14	0.21	2011
7	multimodal metaphor	12	0.1	2013
8	figures	11	0.06	2001
9	persuasion	10	0.04	2003
10	pictures	10	0.08	2000
11	rhetorical figures	10	0.05	2005

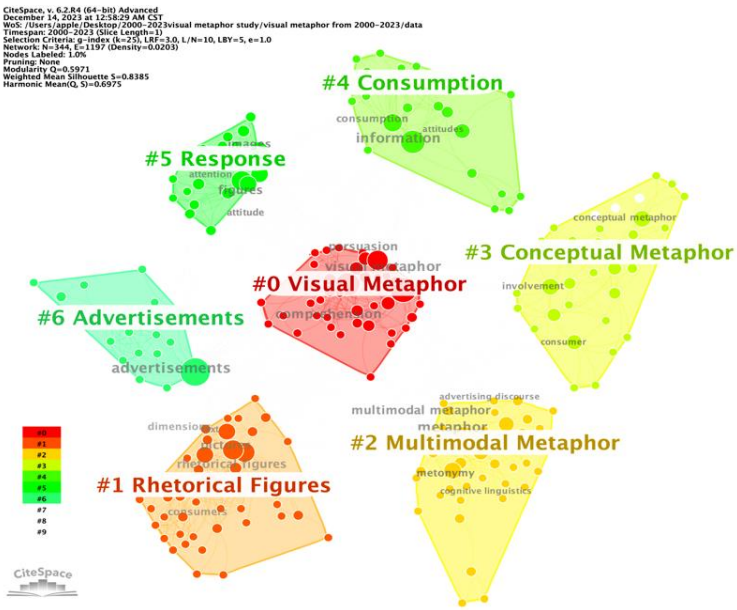
3.2.2. Bibliographic coupling: thematic clusters

Keyword cluster analysis is based on co-occurrence analysis, which uses statistical methods to streamline the relationships between keywords. It can help to identify themes through frequently occurring keywords and the development of disciplines within a research field (Newman, 2001). Using Citespace software, we obtained 40

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

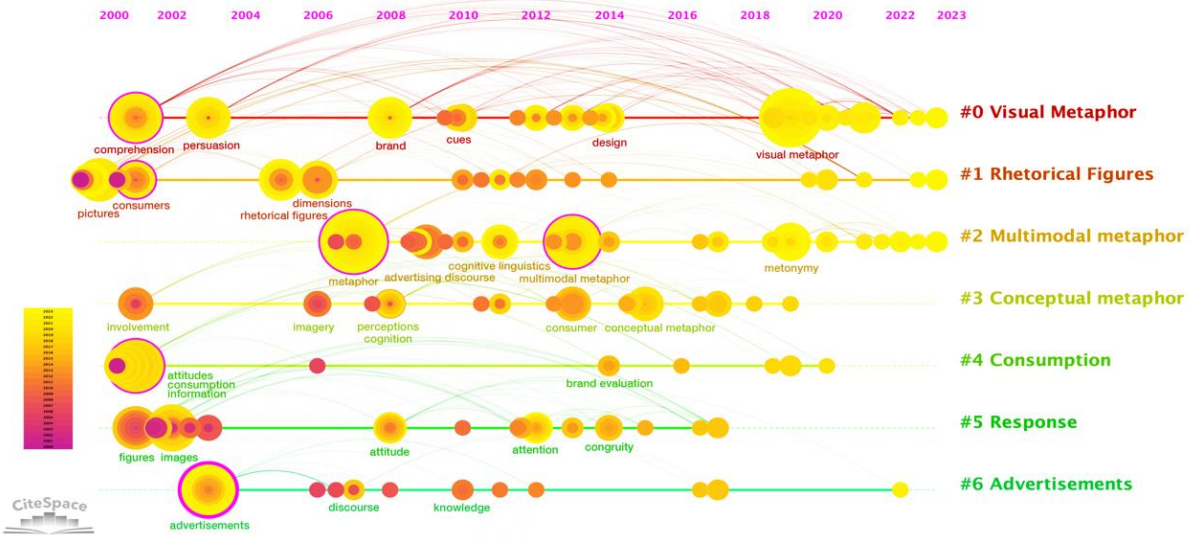
keyword clusters and then selected clusters with more than 20 articles for comprehensive analysis, culminating in the identification of 7 clusters as shown in Figure 4: #0 visual metaphors, #1 rhetorical figures, #2 multimodal metaphors, #3 conceptual metaphors, #4 consumption, #5 response, #6 advertising.

Figure 4: Co-occurrence clustering keyword network



In order to better understand the progress within each cluster, we created a timeline based on the 7 groups of keyword clusters using Citespace, as illustrated in Figure 5. And then we examined the thematic content of each cluster by analyzing the information provided in the two figures along with the relevant literature.

Figure 5: Keyword timeline of the seven clusters from 2000 to 2023



Cluster #0: Visual Metaphor. It contains 43 articles with a Silhouette score of 0.689. The average publication year for these articles is 2016. High-frequency keywords include "comprehension"(2001), "persuasion"(2003), “brand"(2006), "cues"(2010), "design"(2014) and "visual metaphor"(2019). This cluster directly refers to the use of visual metaphor as a rhetorical device in visual communication. Toncar and Munch

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

(2001) in particular, found that the metaphors used in print adverts significantly increases the advertisements' effectiveness and persuasiveness. McQuarrie and Phillips (2005) conducted a study on the effects of various types of indirect metaphor on consumer cognitive processing. Peterson (2019) proposed an innovative processing model that uses visual metaphors to directly describe graphic features. García-Madariaga et al. (2020) used the eye-tracking method to trace the audience's response to the metaphorical advertisements of varying complexity. Eventually, Margariti et al. (2022) studied how visual metaphors using white space in advertisements influence the audience's attitudes.

Cluster #1: Rhetorical Figures. The cluster consists of 42 articles with a Silhouette score of 0.82. The average publication year for these articles is 2010. High-frequency keywords include "text" (2000), "pictures" (2000), "consumers" (2001), "rhetorical figures" (2005), and "dimensions" (2006). This cluster is involved with the use of metaphorical methods in rhetorical images. Phillips (2000) proposed that descriptive titles can enhance consumers' comprehension of metaphorical adverts and thus increase preference. Subsequently, McQuarrie and Phillips (2005) investigated the metaphorical functions of rhetorical images. The imaginative metaphors in advertisements are able to alter individuals possibly beliefs and they also evoke emotions through a similar mechanism that activates brand preference (Delbaere et al., 2011). Some researchers have also analysed different rhetorical techniques that use both textual and visual modes. For example, Van Mulken et al. (2014) found that adhering to various compositional rules helps titles and images send information efficiently. Farace et al. (2020) outlined the advertising trope as a rhetorical device to increase persuasiveness.

Cluster #2: Multimodal Metaphor. It consists of 42 articles with a Silhouette score of 0.849. The average publication year is 2015. High-frequency keywords include "metaphor" (2007), "advertising discourse" (2009), "cognitive linguistics" (2011), "multimodal metaphor" (2013) and "metonymy" (2019). This cluster focuses on multimodal metaphorical expressions as an important tool in communication to increase persuasive effectiveness. Hidalgo Downing and Kraljevic Mujic (2011) found that metaphor plays a crucial role in public discourse by examining multimodal metaphors in English magazine adverts. Hernández (2013) analysed international automotive brand advertising and found that multimodal visual patterns contribute to brand communication globally. Jahameh and Zibin (2023) investigated multimodal metaphors used in restaurant advertisements on Facebook, finding that imaginative appeal positively affects consumer sales.

Cluster #3: Conceptual Metaphor. It comprises 33 articles, achieving a Silhouette score of 0.776. The average publication year for this cluster is 2013. High-frequency keywords include "involvement" (2001), "perceptions" (2008), "cognition" (2008), "consumer" (2013) and "conceptual metaphor" (2015). This cluster focuses on the utilization of conceptual metaphor theory within visual communication. DeRosia (2008) validated the application of conceptual blending theory in advertising communication. Lloyd and Woodside (2013) examined how animal metaphors are used in brand communication and posited that they perpetuate cultural patterns symbolized by brands. Cian et al. (2015) explored the impact of brand identity positioning on cognitive processes. Furthermore, researchers have investigated the function of images in shaping conceptual metaphors. Feng and O'Halloran (2013) found that visual images create conceptual metaphors influenced by context and cultural background. Freeman (2017)

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

demonstrated the bidirectionality of conceptual metaphors by integrating pertinent theories and emphasizing the correlation between metaphors and consumer cognition.

Cluster #4: Consumption. It consists of 26 articles with a Silhouette score of 0.899. The average publication year is 2010. High-frequency keywords include "attitudes" (2001), "consumption" (2001), "information" (2001) and "brand evaluation" (2014). In this cluster, researcher examine how metaphors influence consumers' attitudes and willingness to purchase. Coulter et al. (2001) found that metaphors in advertising are particularly effective in conveying information and stimulating sales. Lee et al. (2019) investigated the role of metaphors in influencing consumer behaviour and attitudes as well as the processing of metaphors by consumers. Lopez-Gonzalez et al. (2018) examined the role of metaphors in gambling advertisements to enhance awareness and drive consumption. Sundar and Noseworthy (2014) investigated the influence of conceptual metaphors on the perception of brands in packaging design.

Cluster #5: Response. It includes 21 articles with a Silhouette score of 0.838. The average publication year is 2009. High-frequency keywords include "figures" (2001), "images" (2002), "attitude" (2008), "attention" (2012), and "congruity" (2014). This cluster examines the impact of metaphors on consumer responses to design. Phillips (2000) pointed out that advertising texts are crucial for explaining complex images. Gkiouzepas and Hogg (2011) argued that consumers' attitudes towards a brand can be influenced by the similarity of metaphors. Rieger et al. (2015) investigated the effects of image-text congruence in advertisements on consumer cognition and attitudes. Farace et al. (2020) investigated the effects of ad headlines and metaphor patterns on consumers' product evaluations and emphasised the importance of product placement in advertising.

Cluster #6: Advertisements. It consists of 20 articles with a Silhouette score of 0.838. The average publication year is 2009. High-frequency keywords include "advertisements" (2003), "discourse" (2007) and "knowledge" (2010). The cluster is dedicated to exploring metaphorical rhetorical strategies used in advertising. According to McQuarrie and Mick (2003), consumers tend to remember adverts with anthropomorphism. Gkiouzepas and Hogg (2011) observed that conceptual metaphor techniques stimulate consumer thinking and promote a more positive attitude towards the brand. Burgers et al. (2015) argued that traditional metaphors effectively convey abstract product attributes. In recent years, more recent studies within this cluster have pushed boundaries further. Margariti et al. (2022) emphasised that empty space has the potential ability to evoke aesthetic pleasure in consumers. Additionally, Suseno and Nguyen (2023) examined how digital advertising strategically conveys cultural values through metaphorical expressions.

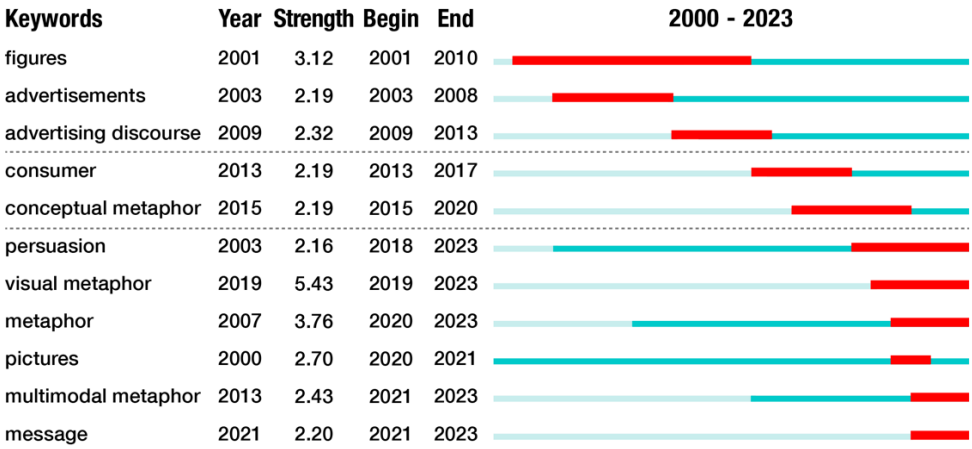
3.2.3. Research Trends Analysis

Burst keywords, as defined by Chen (2006), refer to the sudden appearance of a specific keyword in some period. Monitoring these spikes in usage can provide valuable insights into the current trends and potential areas for future research. In this study, the burst analysis used the Citespace software to identify keyword trends in this metaphor field. By setting the recognition model with a γ-value of 0.65, we detected 11 burst keywords with intensity levels surpassing 2, as depicted in Figure 6. By observing the distribution of these bursts, we identified the progression of metaphor development with three

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

phases: the early phase (2001-2013), the middle phase (2013-2020) and the advanced phase (2018-2023).

Figure 6: Keywords with the Strongest Citation Bursts



The early phase (2001-2013). During this period, there were three key words: "figures" (S=3.12), "advertisements" (S=2.19) and "advertising discourse" (S=2.32). From 2001 to 2018, the research has predominantly focused on examining the metaphorical rhetoric present in advertising. For example, metaphors in advertising images have the potential to positively influence consumers' attitudes and purchase intentions (Ang & Lim, 2006), as well as facilitate more cognitive processing (Lagerwerf & Meijers, 2008). Between 2009 and 2013, research has paid more attention to advertising discourse. Metaphor not only plays an important role in consumers' perception of marketing messages (Hidalgo Downing & Kraljevic Mujic, 2011), but also as valuable tools for effective communication (Downing et al., 2013).

The middle phase (2013-2020). There were two keywords emerged: "consumer" (S=2.19) and "conceptual metaphor" (S=2.19). In the years 2013 to 2017, the research investigated consumers' cognitive and emotional responses to metaphors whin advertising and branding. It was found that metaphors can enhance consumers' positive emotions and brand favourability (Delbeare, 2011), as well as reduce the complexity of advertising to achieve a persuasive effect on purchase behaviour (Burgers et al., 2015). From 2015 to 2020, conceptual metaphor theory has guided the analysis of metaphor design. For example, many researchers have examined how the metaphorical positioning of brand logos on packaging (Sundar & Noseworthy, 2014), the metaphorical cover images (De Souza, 2020) and the symbolic arrangement of text in advertisements influence consumers' emotional and cognitive responses (Cian et al., 2015).

The last phase (2018-2023). The period included six keywords: persuasion (S=2.16), visual metaphor (S=5.43), metaphor (S=3.76), pictures (S=2.70), multimodal metaphor (S=2.43) and message (S=2.20). During the period from 2019 to 2023, visual metaphor was researched from various angles. These include the integration of advertisements (Peterson, 2019), the shaping of brand stickiness (Beard et al., 2022) and the activation of psychological imagery (Pan & Tay, 2023). Furthermore, there was considerable attention dedicated to metaphors between 2020 to 2023. The metaphorical approach was applied when analysing economic crisis reports on the front pages of The Economist (de los Ríos, 2010) and in the assessment of moral implications in tobacco advertisements (Tjandra et al., 2022). In addition, multimodal metaphors became a new

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

research trend from 2021 to 2023. Multimodal theory was applied to design cases such as Chinese military recruitment advertisements (Sun et al., 2021) and COVID-19 public service advertisements (Feng & Wu, 2022). Notably, the use of rhetorical images retained importance in conveying messages effectively. "Pictures" emerging from 2000 to 2023 became the hottest keyword between 2020 and 2021, focusing on how images and texts influence consumers' attitudes and emotions (Farace et al., 2020; Phillips, 2000). "Persuasion" is another keyword from 2018 to 2023, influencing consumers' attitudes and purchase intentions through metaphorical rhetoric (Cao et al., 2021; Chang et al., 2018). Moreover, "message" appears more frequently between 2021 and 2023 as it is closely associated with metaphorical messages (Beard et al., 2022; Margariti et al., 2022).

4. Discussion

4.1. Findings

In this study, a total of 217 articles obtained from the WOS system spanning from January 2000 to December 2023 were analysed in detail. The study reveals that metaphors are widely discussed as an important rhetorical device of propaganda within visual communication fields such as advertising, brand communication, and packaging design. Research interest has shown a consistent rise, peaking in 2023. By examining the performance analysis and scientific mapping in visual communication, we deduce the following four findings.

Firstly, the analysis of the most important journals in metaphor research is mainly in the field of communication, such as "Journal of Advertising", "International Journal of Advertising" and "Visual Communication". Additionally, a substantial number of research articles are found in the field of linguistics, such as "Metaphor and the Social World", "Journal of Pragmatics" and "Review of Cognitive Linguistics". This indicates that advertising and linguistics are currently the primary fields for metaphor research. Although metaphor is recognised as a rhetorical device in graphic design, it has not yet received adequate attention in other areas of design. This could mean that there is still an unexplored field for the study of metaphor within the field of design.

Secondly, the study of metaphor in visual communication has grown rapidly over the last twenty years. Initially, research focused primarily on image metaphor used as rhetorical expressions in advertising. By 2013, the research perspective had shifted to understanding how consumers perceive metaphors in design. By 2019, research explored the impact of visual metaphor on consumer cognition and perception, specifically in brand design and product packaging. From 2021, attention turned to multimodal metaphors, applying this approach to case studies such as public service advertisements and magazine covers. It can be said that metaphor research in visual communication has grown from image metaphor to more specialized branches such as conceptual metaphor and multimodal metaphor, which have also been applied in related subfields.

Thirdly, the cluster analysis reveals that apart from metaphorical terms, there are also related business terms such as "consumption" and "response". This suggests that metaphor as a rhetorical device in visual communication is mainly aimed at influencing consumers' purchase intention. Apart from this, anthropomorphic metaphors often help to make product features to be well-known to target consumers. And visual

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

metaphorical expressions in design can enhance consumers' aesthetic engagement with the product and stimulate their willingness to buy. Nevertheless, metaphor is not always effective. In some instances, metaphors may be exaggerated or inappropriate, leading to consumer discomfort. Subsequent research should therefore investigate how metaphors can be used effectively to communicate information and elicit positive responses from consumers.

Finally, research methods have gradually evolved over the last twenty years. There has been a move from studying metaphor theory to using modern tools such as interviews, surveys, eye tracking and neuroscientific methods to investigate how metaphors affect advertising and branding. Research tends to use quantitative and mixed methods to better understand consumer responses through well-designed experiments and surveys. To some extent, there has been little systematic research into the elements that carry metaphor in visual communication, such as the metaphors embedded in text, images, layout and colour.

4.2. Future Research

Based on the review analysis and the findings outlined above, this section presents three recommendations for future research on the use of metaphors in visual communication.

Broaden the scope of metaphor research within the design field. The examination of the most important journals shows that metaphor research is centered around in the field of communication, as evidenced by publications like "Journal of Advertising", "International Journal of Advertising" and "Visual Communication". Concurrently, there are numerous articles within the realm of linguistics, such as "Metaphor and the Social World", "Journal of Pragmatics" and "Review of Cognitive Linguistics". The trend indicates that metaphor research is primarily concentrated in advertising and linguistics at present. Although metaphor is recognised as a rhetorical device in graphic design, it has not yet received sufficient attention in other areas of design. This suggests that there are still many unexplored fields for the study of metaphor in graphic design.

Explore the role of visual elements in metaphor construction. Future research should pay more attention to the significance of visual components in metaphor expression. Specifically, understanding how visual elements such as images, fonts, layouts, and colors impact the audience's comprehension and emotional responses to specific metaphors is crucial. This exploration could provide insights into visual communication practices by revealing the operational mechanisms of visual elements and the mapping of metaphors.

Integrate new media tools into metaphor research. Over the past two decades, advancements in technology have significantly impacted research on metaphors. During this time, the research has rapidly progressed from the initial development of metaphor theory to the utilization of various experimental methods enabled by advanced technology. In this perspective, the future research could benefit from incorporating innovative media tools such as artificial intelligence. This would enable researchers to conduct comprehensive analyses of design works, facilitating empirical and quantitative assessments of design metaphors.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

4.3. Limitation

The study also has some limitations that need to be acknowledged. Firstly, the bibliometric analysis was only performed on articles in the Web of Science database, excluding other important databases such as Scopus, Google Scholar, and Index Medicus. Perhaps only used one database may be incomplete. It may be better for future studies to consider using a combination of databases. Secondly, the accuracy of the bibliometric analyses is reliant on the selection of publications and keywords, potentially resulting in differences between studies. Therefore, future research could refine the main keywords, determine the weighting of journals, and standardize the inclusion criteria to improve the validity. Despite these limitations, this bibliometric analysis provides valuable insights into the development of metaphor research in design across the last two decades. The findings could serve as a roadmap for future studies, inspiring the advancement of metaphor research within visual communication.

5. Conclusion

In summary, this study conducted a bibliometric analysis of metaphor research used within the field of visual communication. Utilizing VOSviewer for performance analysis, we examined annual publications, influential institutions, countries, and journals spanning the last two decades. The study revealed that metaphors are prevalent in communication, linguistics, and business by the analysis of the citation network. The most influential journal is the Journal of Advertising with the most publications, citations and strong links strength. Using CiteSpace software for scientific mapping, we identified the key research topics and trends through the analysing high-frequency keywords and theme clusters. The high-frequency keywords include metaphor-related concepts such as "visual metaphor"," "metaphor" and "multimodal metaphor". Through the coupling analysis, we obtained the seven major thematic clusters, centered around the use of metaphor in visual communication. It also highlighted those metaphors not only impact consumers' attitudes toward brands and products but also influence their purchase intentions. Overall, this analysis offers insight into the developing trends and emerging areas of interest in the field, offering valuable suggestions for future studies.

Acknowledgement

The authors thank the Academy of College of Creative Arts, Universiti Teknologi MARA, for technical support.

Funding

No funding.

Conflict of Interest

The authors declare no conflict of interest and no potential conflicts of interest concerning the research, authorship, or publication of this paper.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

References

Ang, S. H., & Lim, E. A. C. (2006). The influence of metaphors and product type on brand personality perceptions and attitudes. *Journal of Advertising*, *35*(2), 39-53. https://doi.org/10.1080/00913367.2006.10639226

Beard, E., Henninger, N. M., & Venkatraman, V. (2022). Making Ads Stick: Role of Metaphors in Improving Advertising Memory. *Journal of Advertising*, 1-18. https://doi.org/10.1080/00913367.2022.2089302

Brown, S. (2022). Figures in the carpet of branding. *Journal of Service Management*, *33*(3), 428-436. https://doi.org/10.1108/JOSM-06-2021-0222

Burgers, C., Konijn, E. A., Steen, G. J., & Iepsma, M. A. (2015). Making ads less complex, yet more creative and persuasive: The effects of conventional metaphors and irony in print advertising. *International Journal of Advertising*, *34*(3), 515-532. https://doi.org/10.1080/02650487.2014.996200

Cao, S., Zhao, X., & Xu, Z. (2021). The Effect of Verbal Anchoring on the Processing of Advertising Pictorial Metaphors. *Chinese Journal of Applied Linguistics*, *44*(1), 68-89. https://doi.org/10.1515/CJAL-2021-0005

Caprara, G. V., Barbaranelli, C., & Guido, G. (2001). Brand personality: How to make the metaphor fit? *Journal of economic psychology*, *22*(3), 377-395. https://doi.org/10.1016/S0167-4870(01)00039-3

Chang, C.-T., Wu, Y.-C., Lee, Y.-K., & Chu, X.-Y. (2018). Right metaphor, right place: choosing a visual metaphor based on product type and consumer differences. *International Journal of Advertising*, *37*(2), 309-336. https://doi.org/10.1080/02650487.2016.1240468

Chen, C. (2006). CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *Journal of the american society for information science and technology*, *57*(3), 359-377. https://doi.org/10.1002/asi.20317

Chen, C. (2014). The citespace manual. *College of Computing and Informatics*, *1*(1), 1-84.

Cian, L., Krishna, A., & Schwarz, N. (2015). Positioning rationality and emotion: Rationality is up and emotion is down. *Journal of Consumer Research*, *42*(4), 632-651. https://doi.org/10.1093/jcr/ucv046

Coulter, R. A., Zaltman, G., & Coulter, K. S. (2001). Interpreting consumer perceptions of advertising: An application of the Zaltman Metaphor Elicitation Technique. *Journal of Advertising*, *30*(4), 1-21. https://doi.org/10.1080/00913367.2001.10673648

de los Ríos, M. E. C. (2010). Cognitive devices to communicate the economic crisis: An analysis through covers in The Economist. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos*(20), 81-106.

De Souza, A. M. B. (2020). Women's representations in advertisements: conceptual explorations. *Revista de Estudos da Linguagem*, *28*(2). https://doi.org/10.17851/2237-2083.28.2.747-776

Dehay, E. K., & Landwehr, J. R. (2019). A MAP for effective advertising: the metaphoric advertising processing model. *AMS Review*, *9*(3-4), 289-303. https://doi.org/10.1007/s13162-018-0131-1

Delbaere, M., McQuarrie, E. F., & Phillips, B. J. (2011). Personification in advertising. *Journal of Advertising*, *40*(1), 121-130. https://doi.org/10.2753/JOA0091-3367400108

DeRosia, E. D. (2008). The effectiveness of nonverbal symbolic signs and metaphors in advertisements: An experimental inquiry. *Psychology & Marketing*, *25*(3), 298-316. https://doi.org/10.1002/mar.20210

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285-296. https://doi.org/10.1016/j.jbusres.2021.04.070

Downing, L. H., Mujic, B. K., & Núñez-Perucha, B. (2013). Metaphorical creativity and recontextualization in multimodal advertisements on e-business across time. *Metaphor and the Social World*, *3*(2), 199-219. https://doi.org/10.1075/msw.3.2.05hid

Farace, S., Roggeveen, A., Villarroel Ordenes, F., De Ruyter, K., Wetzels, M., & Grewal, D. (2020). Patterns in motion: How visual patterns in ads affect product evaluations. *Journal of Advertising*, *49*(1), 3-17. https://doi.org/10.1080/00913367.2019.1652120

Feng, D., & O'Halloran, K. L. (2013). The visual representation of metaphor: A social semiotic approach. *Review of Cognitive Linguistics*, *11*(2), 320-335. https://doi.org/10.1075/rcl.11.2.07fen

Feng, D., & Wu, X. (2022). Coronavirus, demons, and war: Visual and multimodal metaphor in Chinese public service advertisements. *SAGE Open*, *12*(1), 21582440221078855. https://doi.org/10.1177/21582440221078855

Fenko, A., De Vries, R., & Van Rompay, T. (2018). How strong is your coffee? The influence of visual metaphors and textual claims on consumers' flavor perception and product evaluation. *Frontiers in Psychology*, *9*, 53. https://doi.org/10.3389/fpsyg.2018.00053

Freeman, M. H. (2017). Multimodalities of metaphor: A perspective from the poetic arts. *Poetics Today*, *38*(1), 61-92. https://doi.org/10.1215/03335372-3716228

García-Madariaga, J., Moya, I., Recuero, N., & Blasco, M.-F. (2020). Revealing unconscious consumer reactions to advertisements that include visual metaphors. A neurophysiological experiment. *Frontiers in Psychology*, *11*, 760. https://doi.org/10.3389/fpsyg.2020.00760

Gil-Pérez, I., Rebollar, R., Lidón, I., Piqueras-Fiszman, B., & van Trijp, H. C. (2019). What do you mean by hot? Assessing the associations raised by the visual depiction of an image of fire on food packaging. *Food Quality and Preference*, *71*, 384-394. https://doi.org/10.1016/j.foodqual.2018.08.015

Gkiouzepas, L., & Hogg, M. K. (2011). Articulating a new framework for visual metaphors in advertising. *Journal of Advertising*, *40*(1), 103-120. https://doi.org/10.2753/JOA0091-3367400107

Gouda, G. K., & Tiwari, B. (2022). Mapping talent agility: a bibliometric analysis and future research agenda. *Management Decision*, *60*(12), 3165-3187.

Hernández, L. P. (2013). Approaching the utopia of a global brand: The relevance of image schemas as multimodal resources for the branding industry. *Review of Cognitive Linguistics*, *11*(2), 285-302. https://doi.org/10.1075/rcl.11.2.05per

Hidalgo Downing, L., & Kraljevic Mujic, B. (2011). Multimodal metonymy and metaphor as complex discourse resources for creativity in ICT advertising discourse. *Review of Cognitive Linguistics*, *9*(1), 153-178. https://doi.org/10.1075/ml.9.1.08hid

Huang, Y., & Kang, N. (2017). Relationship Between Kansei Value and Recognition on Abstract Metaphorical Beverage Packages. *Advances in Affective and Pleasurable Design*, 317. https://doi.org/10.1007/978-3-319-41661-8_31

Jahameh, H., & Zibin, A. (2023). The use of monomodal and multimodal metaphors in advertising Jordanian and American food products on Facebook: A comparative study. *Heliyon*, *9*(5). https://doi.org/10.1016/j.heliyon.2023.e15178

Kotkowska, M. (2018). To, co pomiędzy słowem a obrazem–znaki, symbole i metafory wizualne w autorskich książkach Iwony Chmielewskiej. *Annales Universitatis Paedagogicae Cracoviensis. Studia Poetica*, *6*(1), 112-134.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

Kovecses, Z. (2010). *Metaphor: A practical introduction*. Oxford university press.

Kraievska, O. (2016). Modern Trends of Conceptual Metaphor Study in Cognitive Linguistics. *Типологія мовних значень у діахронічному та зіставному аспектах*(31-32), 59-70.

Lagerwerf, L., & Meijers, A. (2008). Openness in metaphorical and straightforward advertisements: Appreciation effects. *Journal of Advertising*, *37*(2), 19-30. https://doi.org/10.2753/JOA0091-3367370202

Lakoff, G. (1993). The Contemporary Theory of Metaphor. *Metaphor Thought*, *2*.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. University of Chicago press.

Lakoff, G., & Turner, M. (1989). More than cool Reason: a Field Guide to Poetic Metaphor Chicago/Londres. In: Unversity of Chicago Press.

Lee, S. Y., Jung, S., Jung, H. Y., Choi, S. T., & Oh, S. (2019). Imagination matters: do consumers' imagery processing and self-regulatory goals affect the persuasiveness of metaphor in advertising? *International Journal of Advertising*, *38*(8), 1173-1201. https://doi.org/10.1080/02650487.2019.1596445

Lloyd, S., & Woodside, A. G. (2013). Animals, archetypes, and advertising (A3): The theory and the practice of customer brand symbolism. *Journal of Marketing Management*, *29*(1-2), 5-25. https://doi.org/10.1080/0267257X.2013.765498

Lopez-Gonzalez, H., Guerrero-Solé, F., Estévez, A., & Griffiths, M. (2018). Betting is loving and bettors are predators: A conceptual metaphor approach to online sports betting advertising. *Journal of Gambling Studies*, *34*, 709-726. https://doi.org/10.1007/s10899-017-9727-x

Margariti, K., Hatzithomas, L., Boutsouki, C., & Zotos, Y. (2022). A path to our heart: Visual metaphors and "white" space in advertising aesthetic pleasure. *International Journal of Advertising*, *41*(4), 731-770. https://doi.org/10.1080/02650487.2021.1914446

McQuarrie, E. F., & Mick, D. G. (2003). Visual and verbal rhetorical figures under directed processing versus incidental exposure to advertising. *Journal of Consumer Research*, *29*(4), 579-587. https://doi.org/10.1086/346252

McQuarrie, E. F., & Phillips, B. J. (2005). Indirect persuasion in advertising: How consumers process metaphors presented in pictures and words. *Journal of Advertising*, *34*(2), 7-20. https://doi.org/10.1080/00913367.2005.10639188

Moral Muñoz, J. A., & Herrera Viedma, E. (2020). Software tools for conducting bibliometric analysis in science: An upto-date review. *Profesional De La información Information Professional*, *29(1)*. https://doi.org/10.3145/epi.2020.ene.03

Newman, M. E. (2001). Scientific collaboration networks. II. Shortest paths, weighted networks, and centrality. *Physical review E*, *64*(1), 016132. https://doi.org/10.1103/PhysRevE.64.016132

Ng, C. J. W., & Koller, V. (2013). Deliberate conventional metaphor in images: The case of corporate branding discourse. *Metaphor and Symbol*, *28*(3), 131-147. https://doi.org/10.1080/10926488.2013.797807

O'Halloran, K. L. (2008). Systemic functional-multimodal discourse analysis (SF-MDA): Constructing ideational meaning using language and visual imagery. *Visual Communication*, *7*(4), 443-475. https://doi.org/10.1177/1470357208096210

Pan, M. X., & Tay, D. (2023). The effectiveness of metaphors in Chinese video advertisements for depression: An experimental study. *Lingua*, *293*, 103584. https://doi.org/10.1016/j.lingua.2023.103584

Persson, O., Danell, R., & Schneider, J. W. (2009). How to use Bibexcel for various types of bibliometric analysis. *Celebrating scholarly communication studies: A Festschrift for Olle Persson at his 60th Birthday*, *5*, 9-24.

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

Peterson, M. O. (2019). Aspects of visual metaphor: an operational typology of visual rhetoric for research in advertising. *International Journal of Advertising*, *38*(1), 67-96. https://doi.org/10.1080/02650487.2018.1447760

Phillips, B. J. (2000). The impact of verbal anchoring on consumer response to image ads. *Journal of Advertising*, *29*(1), 15-24. https://doi.org/10.1080/00913367.2000.10673600

Rieger, D., Bartz, F., & Bente, G. (2015). Reintegrating the Ad. *Journal of Media Psychology*, *27*(2), 64-77. https://doi.org/10.1027/1864-1105/a000131

Sun, Y., Zhang, M., & Chen, L. (2021). Join the Army. Become the Power of China" Multimodal metaphors in military recruitment advertising–"The Power of China. *Review of Cognitive Linguistics, 19*(1), 142-171.

Sundar, A., & Noseworthy, T. J. (2014). Place the logo high or low? Using conceptual metaphors of power in packaging design. *Journal of Marketing*, *78*(5), 138-151. https://doi.org/10.1509/jm.13.0253

Suryati, N. M., Jirnaya, I. K., Kardana, I. N., & Satyawati, M. S. (2023). A Bibliometric Analysis of the Five-Decade Publications on Metaphor. *Journal of Language Teaching and Research*, *14*(2), 521-533. https://doi.org/doi.org/10.17507/jltr.1402.28

Suseno, Y., & Nguyen, D. T. (2023). Culture is in the eye of the beholder: using metaphoric representations of cultural values to enhance consumer digital engagement. *Journal of Strategic Marketing*, *31*(2), 321-342. https://doi.org/10.1080/0965254X.2021.1902373

Tjandra, N. C., Garavan, T. N., Aroean, L., & Prabandari, Y. S. (2022). Understanding the ethical legitimacy of tobacco advertising, promotion and sponsorship in Indonesia in the context of increased government regulation: a legitimacy-as-perception perspective. *European Journal of Marketing*, *56*(4), 1042-1064. https://doi.org/10.1108/EJM-06-2019-0512

Toncar, M., & Munch, J. (2001). Consumer responses to tropes in print advertising. *Journal of Advertising*, *30*(1), 55-65. https://doi.org/10.1080/00913367.2001.10673631

Tseronis, A. (2021). From visual rhetoric to multimodal argumentation: exploring the rhetorical and argumentative relevance of multimodal figures on the covers of The Economist. *Visual Communication*, *20*(3), 374-396. https://doi.org/10.1177/14703572211005498

Van Eck, N. J., & Waltman, L. (2007). VOS: A new method for visualizing similarities between objects. Advances in Data Analysis: Proceedings of the 30th Annual Conference of the Gesellschaft für Klassifikation eV, Freie Universität Berlin, March 8–10, 2006,

Van Mulken, M., Van Hooft, A., & Nederstigt, U. (2014). Finding the tipping point: Visual metaphor and conceptual complexity in advertising. *Journal of Advertising*, *43*(4), 333-343. https://doi.org/10.1080/00913367.2014.920283

© 2024 by the authors. Published by Secholian Publication. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).