What are food media (messages)?: A scoping review to clarify food media, food messages and food content in academic writing

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What are food media (messages)? A scoping review to clarify food media, food messages and food content in academic writing

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Abstract

Purpose – This scoping review aims to explore how "food media", "food messages" and "food content" are referred to in scholarly writing to enhance a shared understanding and comparability.

Design/methodology/approach – Following the PRISMA, ScR-guidelines, four scientific databases were screened on published manuscripts in academic journals, books and doctoral theses mentioning food media, content and messages within the prevalent meaning as in human communication.

Findings – Of the 376 included manuscripts, only a small minority ($n = 7$) provided a conclusive definition of at least one of the three earlier-mentioned concepts; 40 others elucidated some aspects of food media, messages or content; however, they emphasized different and, sometimes even, contrasting aspects. In addition, the review explores in which disciplines the manuscripts mentioning food media, messages or content occur, which methodologies are used and what target groups and media are most common.

Originality/value – Based on this aggregated information, a definition of food media, messages and content is proposed, aiming to enhance the comparability of diverse academic sources. This contribution invites scholars to critically reflect on the included media and content types when comparing studies on food media, messages or content.

Keywords Food media, Food messages, Food content, Scoping review, Definition

Paper type General review

1. Introduction

The role of food in life extends beyond mere survival; it is a source of enjoyment, a means of social bonding and a component of identity (Albala, 2013). This significance is mirrored in the media landscape, where food-related topics have consistently garnered attention (Ferguson, 2014). Despite the popularity and growth of food content in the media (Rousseau, 2013; Phillipov, 2017), there is a lack of consensus in academic literature regarding the terms "food

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Author notes

All authors declare to have contributed to this article and to have approved this version of the article.

No financial/personal interest or belief could have affected our objectivity.

Considering the encouragement of open science practices, the data used in the research are available, and the research protocol has been shared via OSF https://osf.io/jst5m/. All references used in the scoping review are shared in the online Appendix.

No figures or tables used in this manuscript were not original content.

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media", "food messages" and "food content". This ambiguity hinders the comparability of studies and muddles the understanding of these concepts.

Recognizing this gap, this paper aims to contribute to the field by systematically reviewing and mapping the current literature that mentions these three concepts. The goal is to discern patterns in their usage and disclosure, thereby fostering a more nuanced understanding that can guide future research. This aim is crucial as it will enable scholars to make more accurate comparisons and interpretations when dealing with umbrella terms like "food media".

1.1 Food media in academia

Food culture and media are inextricably intertwined, from cookery shows on TV to food magazines. Digital evolutions have expanded this even more, enabling online purchases of groceries or take-away (Nguyen *et al.*, 2019), digital word-of-mouth via social platforms (Jaeger and Höhler, 2021), online searches for food information (Ramachandran *et al.*, 2018) and exposure to numerous online images of food porn (Spence *et al.*, 2016).

The impact of these food media is profound. They influence people's attitudes towards food, their eating habits and their purchasing behavior. For example, Food-related social media posts can positively affect attitudes, consumer knowledge and information, but also raise individual intentions toward unhealthy food consumptions (Ventura *et al.*, 2021). They also are proven to have the potential to change opinions on food, and replace true food news with false information (Lynn *et al.*, 2020). Cookbooks and cooking shows shape consumers' lifestyle habits, and understanding of food values on, for example, trendy or traditional or everyday versus luxurious foods (Matwick and Matwick, 2023). Also, viewing food images can stimulate physiological responses such as insulin production (Wallner-Liebmann *et al.*, 2010), and psychological reactions including pleasure, positive emotions and a willingness to eat (Ouwehand and Papies, 2010; Spence *et al.*, 2016). Finally, food media are known to impact eventual decision making, such as the choice of restaurant (Okumus, 2021).

Since food plays such a fundamental role in human existence, and since media and food culture seem so interwoven, it is unsurprising that many scholars from various disciplines are working on food and media and, thus, that this topic has attracted scholars from various disciplines, resulting in a diverse range of academic work (Albala, 2013; Ferguson, 2014; Leer and Povlsen, 2016; Rousseau, 2013).

The "aims and scopes' of interdisciplinary food journals confirm such a wide array of research areas and interests (Appetite, 2023; British Food Journal, 2023; Food and Foodways, 2023). These range from communication scholars analyzing components of the communication process (Piper, 2013). To marketing researchers investigating the economic impact of food media, to political scientists who investigate how media are deployed by political organizations to promote certain foods (Linné, 2016; Phillipov, 2017), for example lobby groups on milk, meat- or plant-based foods. Additionally, sociologists, health scientists and sustainability scholars each bring their unique perspectives to the study of food media (Steils and Obaidalahe, 2020, Bodenlos and Wormuth, 2013; Mc Carthy *et al.*, 2022; Pope *et al.*, 2015). Despite this comprehensive list of the academic disciplines involved, the inquiry remains incomplete, as other pertinent research fields have yet to be accounted for (e.g. computer scientists, psychologists, tourism researchers, historians, linguists and educational scientists). This highlights the need for a more systematic and critical review of the literature to better understand the discourse surrounding food media, messages and content.

Given different vocabulary of all these fields, comparing their interpretations of food media is crucial. Are they talking about the same media, with the same intentions and foci? An initial search on descriptions of food media does not seem to confirm shared conceptualizations; some referring in a very niche way to food media as "an exploration of

appropriating food and food activities as a medium for family communication and entertainment, across generations and over a distance" (Wei *et al.*, 2011, p. 1), others to food media as "communicative spaces where consumers can 'creatively produce and enact their own food identities" (Abbots, 2015, p. 224; Xu and Lee, 2020, p. 100) and again others as "a relatively ubiquitous form of entertainment on television, in books and magazines across the world." (Piper, 2013, p. 347).

All three examples illustrate the disagreement regarding both the form (literal food on its own without additional platforms, transcending communicative spaces or focusing on media as television, books and magazines) and the function (remote communication for sharing emotions, entertainment or identity building), highlighting the need to work toward a general, shared understanding of food media and the associated food messages and food content.

To delineate these three concepts, understanding the context in which they are used is key. When and by whom were these concepts described, what are often recurring themes when talking about food media and which samples are most often studied with that?

Therefore, our first research questions are:

(1) The academic context in which food media/messages/content are mentioned:

- How has the frequency of academic manuscripts mentioning food media, food messages or food content evolved over time?
- Which countries for data collection and fields of study are most represented in this research?
- Which applied methodologies are primarily mentioned in food media research?

(2) Content analysis:

- What are the most frequently mentioned words and keywords in the academic literature referring to food media, food messages or food content? Can these terms provide insights into the main themes and foci of the research?

(3) Samples of audiences and media:

- What are the most common audiences included in this research?
- What are the most common media included in this research?

Investigating these three research questions is crucial for several reasons. The first research question, focused on understanding by whom and when food media are researched, can help us in gaining a better understanding of the historical context and influential sources that have shaped the three key concepts. It sheds light on the background of who is researching the phenomenon, revealing potentially underrepresented voices and possible over-reliance on certain methods and thereupon highlighting opportunities for future directions for research to fill in these gaps. This information also encourages us to be critical about the input when constructing our own definition: which zeitgeists, geographical cultures and research fields are most represented and therefore bias the building blocks for our definition?

The second research question on content analysis, can add to this by providing insights into the main themes and focus areas of the research. This helps to synthesize the vast body of literature and identify common threads, facilitating the development of a cohesive body of until now often fragmented knowledge and facilitating interdisciplinary dialogue, guiding researchers to frame their studies within broader contexts. It also sheds light on which foci have received less attention so far, again indicating future research opportunities and helping us reflect on our own concept clarifications.

The final research question makes us reflect critically upon the potential underrepresentation of certain audiences or media, implying the need for inclusive future research and potentially informing future research on the research gaps regarding samples, leading to more generalizable findings.

1.2 The meaning of media, messages and content

Based on Fauconnier's handbook for studying mass communication (1995), we define a "medium" as "a technical or physical means of converting a message into signals that can be sent and received through a channel that spans time and/or space (p. 49). Signs then refer to "physical factors that give expression to psychic realities" (Fauconnier, 1995, p. 27), which, in the form of signals such as, for example, vibrations, or electrical impulses, get to the recipient. This means that the medium is the carrier of a message rather than the message or content itself. Examples include traditional media such as television, radio, newspapers, magazines, books or comics, as well as newer media such as smartphones, laptops or other digital devices. These media can host various platforms, such as social media, online video-sharing platforms and recipe websites, which are spaces created by software to collect and transfer content (Shoemaker and Reese, 2013).

Next, the other concepts "media content" and "media messages" refer to "that what is presented or signified by the signs" (Fauconnier, 1995, p. 28), or to "the complete range of visual and verbal information carried in what were once called the mass media and increasingly by smaller, more interactive and targeted channels" (Shoemaker and Reese, 2013, pp. 2–3). The content/messages are according to them the coded version of information and symbolic meaning as meant by the sender, shaped into signs or characters, upon which the receiver decodes these symbols and interprets them. Shoemaker and Reese (2013) use the terms "content" and "messages" alternately to refer to the same concept, Fauconnier (1995) doesn't provide a clarification on his interpretation of "content". Therefore, we treat "content" and "message" as words referring to the same idea, namely the message referred to by the signs carried by media that become meaningful (information) after being interpreted by the signs' receiver.

What happens to these three concepts' interpretations when combined with the prefix "food"? Food refers to the subject matter of the information presented in the media. According to Hansen (2008), "the term food media refers broadly to the form and content of food in the media" (p. 50), which, in her definition, are seen as separate, though interrelated, elements of food media. Therefore, a medium can only be labeled "food medium" if its current content is about food. Some examples of food content/messages are cooking competitions, food travels, how-to videos, documentaries, food porn, food-related ASMR (i.e. listening and watching people eat or cook), fitspiration, etc (Kim and Carter, 2019; Matwick and Matwick, 2019; Ngqangashe *et al.*, 2021). Given the plethora of media and types of food content, it is expected that scholars do not commonly interpret food media, content and messages similarly. Therefore, our final research question is:

(1) How are food media, food messages or food content defined?

- Which manuscripts provide a definition or clarification?
- What are recurring elements in the presented definitions/clarifications?

An independent literature review seems fitted for answering these research questions, as it helps identify hidden patterns and themes in large amounts of data during the literature review process (Kraus *et al.*, 2022).

2. Methodology

This scoping review was conducted following the PRISMA Scr. Guidelines as advised by the Johanna Briggs Institute (JBI) (Peters *et al.*, 2022; Tricco *et al.*, 2018). The PRISMA protocol is a

commonly used instruction set for scholars to systematically conduct and report review studies' aim, methodology and results (Peters *et al.*, 2022). The protocol of this scoping review was also pre-registered via the Open Science Framework (OSF). https://osf.io/jst5m/.

2.1 Search strategy

The search strategy included all scholarly manuscripts published in academic journals or conference proceedings, as well as books or book chapters by scholarly authors and doctoral theses, that is all academic texts that have been peer-reviewed. An initial limited search of Scopus and Web of Science was undertaken to determine and test inclusion and exclusion criteria with the support and expertise of one of the university's librarians. The databases' topic terms were used to exclude manuscripts that mentioned food media/messages/content within the interpretation or context of biology, chemistry, physics or mathematics and other fields undoubtedly unrelated to human communication, such as veterinary. When in doubt if a topic term might be irrelevant, this category's manuscripts were checked manually. The topic terms were adapted to the ones specific to that database, the search query was kept consistent.

Search terms consisted of "food media", "food medium", food content", "food media content", "food messages" and "food message" (See OSF page). Each combination was repeated with the addition of "-related" after food, so "food-related media", content, message and so on. Finally, studies mentioning media, content or message and food within the margin of one sentence were also included to check whether they used variations of the same concepts. These studies were reviewed case by case to decide whether they mentioned a synonym of food media, message or content. Including all key terms in one search for broad research questions is appropriate, as it leads to greater sensitivity in the search.

The databases searched included Web of Science, Proquest, Scopus and EbscoHost, all interdisciplinary databases with a wide geographic and thematic reach. Relevant manuscripts found via other sources (e.g. Google Scholar, snowball sampling) were also included if they were not in the original databases. The search was conducted in February 2022; therefore, manuscripts published after February 2022 were not included. There was no time restriction concerning the start date. The search was limited to English-written manuscripts which is a shortcoming as it leads to a language bias. However, English is also known to be the dominant language among academics, resulting in a large majority of academic manuscripts being English-written (Hamel, 2007).

2.2 Study/source of evidence selection

Next, all references found in the databases (1738) were uploaded into the online software Rayyan, recommended by Mak and Thomas's (2022) guideline for scoping reviews, as it allows for blinding the results of each team member's review. Upon this, duplicates were removed (366). After a pilot with 50 manuscripts to test the inclusion procedure, all references were checked via title and abstract, or manuscript in case of no abstract, by two independent reviewers to decide whether they met the inclusion criteria: manuscripts had to mention one of the exact search terms in the main text or keywords, or report the two words of a search term within the proximity of one sentence and then indicating the same concept of "food media" "food messages" or "food content", referring to media, messages or content as applied in human communication. This addition is necessary to prevent confusion with other interpretations of the concepts of food media, messages and content, as, for example, the nutritional elements in a food product can also be referred to as "food content", and similar examples exist for "food media". When a full version of a manuscript could not be obtained, the authors were contacted. If there was no response, this manuscript was excluded from the scoping review. Master's degree level dissertations were also omitted ($n = 15$). Any reviewer

disagreements were resolved through discussion; no additional reviewers were necessary. Supplementary scholarly sources were identified by reviewing the references in the included texts and consulting other scholars. This process resulted in the inclusion of 60 more manuscripts, resulting in a sample of 376 texts, consisting of 301 manuscripts published in academic journals or conference proceedings, 62 books or book chapters and 13 doctoral theses (see Figure 1).

2.3 Data extraction

Two reviewers independently extracted data from all manuscripts included in the scoping review using a data extraction tool developed based on research questions. This tool comprised a codebook created and expanded within Nvivo (version 1.6.1). Following a grounded theory approach (Chun Tie *et al.*, 2019), The two reviewers initially coded the same ten manuscripts, making revisions to the extraction tool as they coded and refining and evaluating it during follow-up meetings. Next, each reviewer coded the same 41 manuscripts (10,93% of the sample) independently to further refine the codebook. Intercoder reliability was calculated, showing a kappa of 0.75, surpassing the benchmark of 0.62 (Emam, 1999). Further discrepancies were resolved through group discussion and potential categorization by a focused search of academic texts.

2.4 Analysis and presentation of results

To answer the first set of research questions (RQ1-RQ3), we primarily utilized Nvivo features such as queries, word frequencies and crosstabs to comprehensively analyze the data quantitatively and qualitatively. For the second set of research questions (RQ4), a more qualitative approach was used, as the low number of definitions did not allow quantitative comparisons, and the nature of this research question implied a more approach. A thematic content analysis extracted the various recurring themes from the text's concept clarifications to distinguish repeating patterns and, subsequently, create building blocks for the definitions of food media, messages and content.

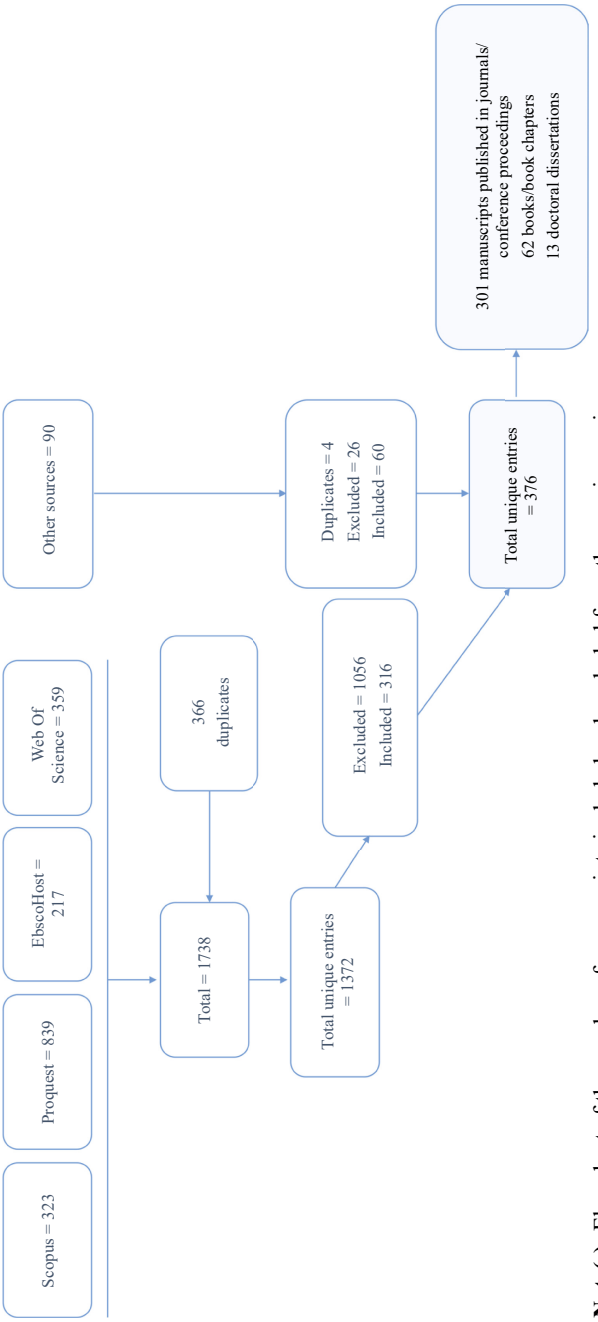
3. Results

3.1 The context of academic literature mentioning food media, messages or content

We start by discussing the results regarding the first research question on mapping the academic literature mentioning food media, messages and/or content.

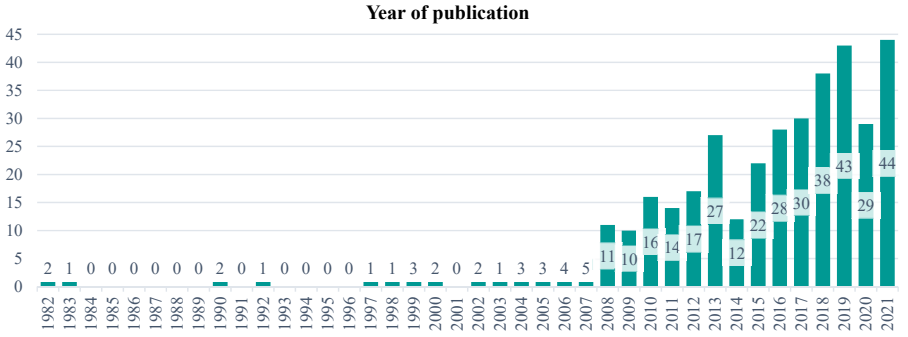
To comprehend the historical context in which these three key concepts have evolved, the timeline below shows when the concepts were first utilized and when they gained prominence. "Food messages" first appeared in academic manuscripts in 1982. Yet, the rise in mentions of the three food media concepts only started in the early 2000s. Since then, except for a slight decline in 2020, an increasing number of scholars have mentioned one of the three concepts, indicating a growing interest in the topic within the academic community, as well as the fact that the majority of the literature is relatively recent, and the examples are therefore built on a context where the diversity of food media was already extensive and varied (see Figure 2).

The location of data collection also holds significant information about how the concept of food media/content/messages is conceptualized. It undeniably influences the examples attributed to or the framing of the concepts, often inspired by the researchers' or participants' personal experiences. A geographic analysis examined the distribution of countries of data collection to determine whether studies referencing food media, messages or content exhibited regional concentration or dispersion. As books and theses consist of multiple



Note(s): Flowchart of the number of manuscripts included and excluded from the scoping review
Source(s): Authors elaboration

Figure 1.
Overview of the sampling procedure of the manuscripts



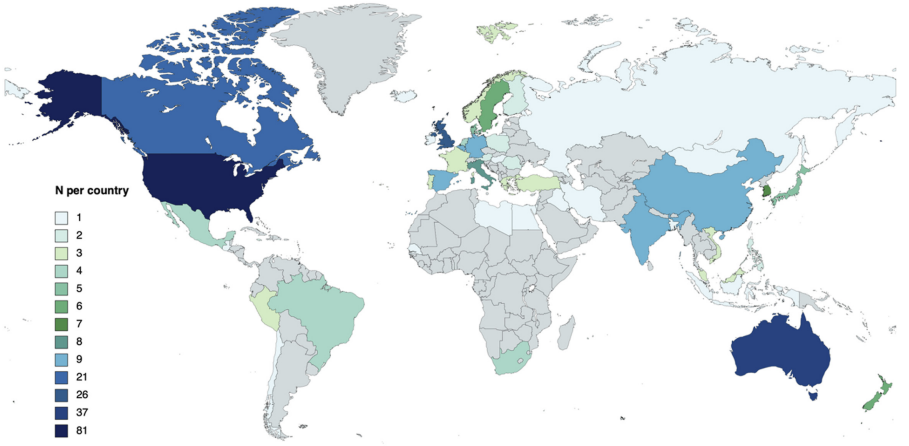
Note(s): Graph showing the number of mentions of food media, messages, and/or content in academic manuscripts. Since data selection ran until February '22, 2022 was not included, as it would distort the graph (n2022 = 4)

Source(s): Authors elaboration

Figure 2.
Publication year of included manuscripts

studies, only the regions included in the chapters mentioning one of the three search terms were incorporated (see Figure 3).

The sample demonstrates a disproportionate representation of Anglo-Saxon regions, namely the United States, Canada, the United Kingdom and Australia, with the former being a significant outlier (n = 81). However, it is essential to reiterate that the sample is exclusively composed of English-written manuscripts. Western Europe and Asia receive considerable attention, with several countries in these parts of the world featuring in eight to nine



Note(s): Color map indicating the absolute number of data collections per country. In the case of books, only the data collection locations of chapters mentioning a search term were included. Studies referring to regions expanding countries' borders (Asia, n = 2; Europe, n = 2; Soviet Union, n = 1) were not indicated on this map due to a lack of exact geographic information

Source(s): Authors elaboration

Figure 3.
Country of data collection of the included manuscripts

manuscripts. In contrast, African and South American countries are cited less frequently, with some nations referenced in only one to four studies and many countries not being mentioned at all. This strong overrepresentation of Anglo-Saxon culture is also reflected in the specific examples celebrities mentioned when food media or food messages are described in academia. For instance, looking at the names of celebrity chefs provided, there is a significant dominance of examples from English-language shows, occasionally featuring a celebrity chef with a non-American, British, Canadian, Australian or New Zealander ethnic background. Examples from the strongly represented Anglo-Saxon culture include Nigella Lawson, Jamie Oliver, Rachel Ray, Anthony Bourdain, Julia Child, Guy Fieri, Heston Blumenthal, Curtis Stone, Mary Berry, Jeff Smith, Rick Stein, Hugh Fearnley-Whittingstall, Gordon Ramsay, Alice Waters, Martha Stewart, Emeril Lagasse, Graham Kerr, Mario Batali, Kylie Kwong, Peter Kuruvita, Ina Garten and David Chang. In contrast, the list of examples of well-known names with a different ethnic background mentioned in the conceptualization of food media/messages/content is considerably shorter (often involving individuals active in Anglo-Saxon countries but born elsewhere), namely, Ettore Boyardee, Luke Nguyen, Peter Kuruvita, Poh Ling Yeow, Adam Liaw, Jacques Pepin, Giada de Laurentiis and Wolfgang Puck. Therefore, in further analyses and conclusions, it is essential to consider that many cultures are underrepresented, and the actual landscape of food media globally is much more diverse than generally studied or reported in academia.

The field of study of the included articles was coded according to the journals in which they had appeared. Journals were classified into fields of study based on their descriptions, aims and scope, as referred to on their websites. If a journal indicated to be multidisciplinary, and the article's keywords could also be classified under several fields of study, then manuscripts were coded under all applicable fields. For books or book chapters, the field of study was decided according to the labels given by the online library and the books' table of content. For the doctoral dissertations, this was determined based on the discipline in which the doctoral degree would be obtained.

The top five disciplines are health research (29.52%, $n = 111$), communication sciences (25.80%, $n = 97$), sociology, anthropology and human geography (25.80%, $n = 97$), marketing and advertising (10.64%, $n = 40$) and sustainability studies (6.38%, $n = 24$). Journals related to computer sciences, psychology, agriculture and food policy, business and economics, tourism, education sciences, methodologies, history, linguistics and literature and gastronomy also occurred several times (See Table 1).

If we look more closely at the manuscripts published in journals (e.g. articles, book reviews and conference proceedings, $n = 301$), we observe that the most popular journals are *Sustainability* ($n = 16$), and *Nutrients* ($n = 12$), followed by *Appetite* ($n = 7$), *Food, Culture and Society* ($n = 7$), *Agriculture and Human values* ($n = 6$), *Feminist Media Studies* ($n = 5$), *Plos One* ($n = 5$), *International Journal of Behavioral Nutrition and Physical Activity* ($n = 5$), *BMC Public Health* ($n = 5$), *British Food Journal* ($n = 5$), *Foods* ($n = 5$) and *Journal of Applied Communications* ($n = 5$). These results indicate a significant variation in different research fields within our sample, allowing us to rule out an overrepresentation of one specific field. In addition, it is also notable that quite a few of the journals mentioned above are interdisciplinary, which is an additional confirmation of the cross-boundary relevance across different research fields, and consequently further highlights the importance of a shared interpretation of the three key concepts. Finally, the methodologies of the articles published in journals were screened, revealing content analysis as the most frequently employed technique (27.91%, $n = 84$), followed by surveys (15.61%, $n = 47$), experiments (11.96%, $n = 36$) and interview studies (11.63%, $n = 35$). Other research methods that occur at least five times in the sample include review studies (5.65%, $n = 17$), focus groups (5.32%, $n = 16$), ethnographic and contextual analysis (4.98%, $n = 15$), observation (2.99%, $n = 9$), big data research (2.33%, $n = 7$), photography and visual methods (1.99%, $n = 6$), usability studies

Field of study	Number of manuscripts (%) $n = 376$
Health sciences and dietary studies	111 (29.52)
Communication sciences	97 (25.80)
Sociology, anthropology, and human geography	97 (25.80)
Marketing and advertising	40 (10.64)
Sustainability studies	24 (6.38)
Computer sciences and technology	15 (3.99)
Psychology	13 (3.46)
Agriculture and food policy	13 (3.46)
Literary studies and linguistics	12 (3.19)
Business, management and economics	11 (2.93)
Tourism studies	9 (2.39)
Methodological research	9 (2.39)
History	5 (1.33)
Education sciences	4 (1.06)
Gastronomy	3 (0.80)

Note(s): Overview of the absolute number and percentage of the research areas of the included manuscripts. The percentages were calculated considering the full sample ($n = 376$)
Source(s): Authors work

Table 1. Field of study based on the journals, key words, library labels, and abstracts

(1.66%, $n = 5$) and real-life campaign intervention and evaluation research (1.33%, $n = 4$). These findings suggest that our sample comprises a well-balanced representation of both qualitative and quantitative methodologies, indicating a significant level of interest from researchers employing either approach.

3.2 Global content analysis of the included manuscripts

A word cloud based on the most frequently occurring words in the journals' included manuscripts, confirm the research fields mentioned in the previous result section (Figure 4). Research interests in food media can be linked to health (healthy, health, diet, obesity), sociology (culturing, tradition, community), marketing (advertisement, markets, industry, brand), sustainability (environment, nature, locals) communication (media, television, program, videos, labels) and food production (producing, agricultures, processing). Interestingly, in this word cloud, the social aspect of nutrition (family, participative, community) and the importance of informing (informs, knowledge, educators, school) stand out.

Complementing these findings with a wordcloud of the keywords of the included articles, the same foci recur (See Figure 5). Besides the logical word "food(s)", which occurs 228 times, and "media", which appeared 95 times in the keywords, a few previously mentioned foci stand out. Among the most frequent keywords are health-related words – health ($n = 54$), nutrition ($n = 27$), diet ($n = 14$), obesity ($n = 15$) – next to marketing-related concepts; marketing ($n = 36$), advertising ($n = 20$), consumer ($n = 14$), promotion ($n = 10$), consumption ($n = 7$), packaging ($n = 5$). Prominent media-related terms included media ($n = 95$) and messages ($n = 17$), unsurprising given the search terms of the scoping review, but also communication ($n = 16$), television ($n = 16$), blogs ($n = 10$), labels ($n = 8$), Instagram ($n = 6$), video ($n = 5$), magazines ($n = 5$) and social ($n = 44$), of which 29 times in the context of social media/social network. In addition, keywords indicative of various stages of the persuasion process commonly occurred; behavior ($n = 16$), choice ($n = 7$), willingness ($n = 6$), perceptions ($n = 6$) and intention ($n = 5$). There was some mention of keywords regarding food media's informative function; information ($n = 11$), school ($n = 8$), education ($n = 5$), literacy ($n = 5$), knowledge ($n = 5$). Another important theme is sustainability, which is reflected in keywords like organic ($n = 14$), sustainable ($n = 17$), local ($n = 7$). On a social level, recurring concepts are norms ($n = 11$),

Note(s): Word cloud based on word frequency in the included manuscripts published in journals. Books and doctoral dissertations were not included in this word cloud given their extensive manuscript from which often only a chapter was included. These words were mentioned between 38,000 and 1,312 times. Stemmed words were included. Stop words were automatically excluded from the word cloud by Nvivo. Common words not related to the research topic (e.g., common verbs such as to be, to become, or typical words in articles such as author or journal) were manually excluded from the word cloud by the researcher

Source(s): Authors elaboration

Figure 4.
Word cloud of the most frequently mentioned words in the included manuscripts

domestic (n = 10), race (n = 7), globalization (n = 6), family (n = 6). Notable, certain target groups are more often included in the keywords than others. In terms of age, there appears to be a stronger focus on younger audiences; children (n = 29), adolescents (n = 15), childhood (n = 6), young (n = 4). Gender also stands out as a theme with recurring words such as gender (n = 12), feminine (n = 6), women (n = 6) and masculinity (n = 4).

These results confirm the previously-mentioned multifaceted ways in which food media are being studied in academia, highlighting the various societal, economic, social and environmental factors that influence people's relationship with food, as well as underlining the common vision in academia that media play a critical role in perceptions and behaviors related to food.

3.3 Included participants and media samples

In contrast to the age-related findings of the word cloud, analysis of the included samples reveals that all age groups are represented as participants/topics in the sample. 15.47% (n = 58) of the texts encompassed children (0–11 years old) in their studied respondents'

Note(s): Word cloud based on word frequency within keywords. These words were mentioned between 227 and 4 times. Stop words were automatically excluded from the word cloud by Nvivo
Source(s): Authors elaboration

Figure 5.
Word cloud of the most frequent words among the key words

group, 9.60% ($n = 36$) did so for adolescents (12–17 years old) and 16.27% ($n = 61$) of the studies comprised young adults (18–25 years old). 19.20% ($n = 72$) of the manuscripts included adults (18–65) and 6.13% ($n = 23$) covered older adults (65+) (See Figure 6). If studies included multiple target groups, all age groups were coded.

When a manuscript mentions gender, most include all genders (25.27%, $n = 95$). If there is a specific focus on one gender, it is more often on women (7.71%, $n = 29$) than men (2.13%, $n = 8$). Socioeconomic status (SES) is highlighted less often than gender and age, but when included, the sample consists primarily of a mix of low, medium and high SES (11.17%, $n = 42$). When the focus is on one segment, the differences in numbers are minor: Low SES (1.33%, $n = 5$), Middle SES (0.80%, $n = 3$)) and high SES (1.60%, $n = 6$). So, overall there is a balance in included genders and SES groups among the participant samples. Only regarding age there is a higher percentage of the sample consisting of individuals younger than 26 than would be the case in an average cross-section of society, and an underrepresentation of the segment older than 65.

Next, looking at the type of media studied, researchers show a strong tendency to focus on TV and streaming platforms (33.24%, $n = 125$) or on digital media, including social media (32.71%, $n = 123$) (See Table 2). Print media like magazines and newspapers also receive considerable academic attention (12.77%, $n = 48$), as do (cook)books (12.50%, $n = 47$) and media commonly used for purely commercial messages, like billboards or point-of-purchase communication (8.24%, $n = 31$). Radio and podcasts are far less popular (2.93%, $n = 11$). These results indicate that academia focuses rather on newer than on more traditional types of food media.

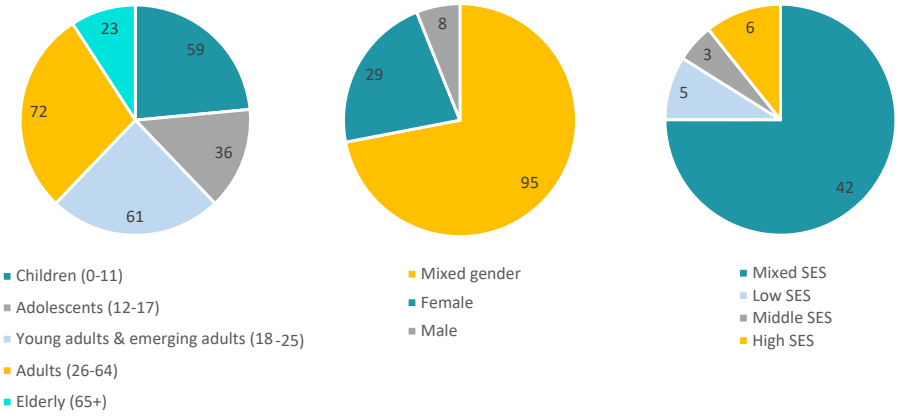


Figure 6.
Overview of target groups/participants included in manuscripts based on age, gender, and SES

Note(s): Pie charts on the absolute number of included age groups, genders, and socioeconomic status (SES) groups in the scoping review's sample

Source(s): Authors elaboration

Studied media within the manuscript sample	Studied in manuscripts in journals (%), $n = 301$	Studied in books (%), $n = 62$	Studied in doctoral dissertations (%), $n = 13$
(Cook)books	26 (8.64)	20 (0.32)	1 (7.69)
Digital (including social media)	97 (32.23)	23 (37.10)	3 (23.08)
TV, streaming platforms and cinema	93 (30.90)	27 (40.30)	5 (38.46)
Radio and podcasts	9 (2.99)	2 (3.22)	0 (0.00)
Printed press (printed newspapers, magazines)	35 (11.63)	11 (17.74)	2 (15.38)
Purely commercial media (billboards, product packaging, point-of-purchase, brochures, menus)	25 (8.31)	4 (6.45)	2 (15.38)

Table 2.
Studied media in the included manuscripts

Note(s): Overview of the absolute number and percentage of the methodology applied in the included manuscripts. The percentages were calculated considering the full sample ($n_{journals} = 301$, $n_{books} = 62$, $n_{dissertations} = 13$)

Source(s): Authors work

3.4 Comparing definitions of food media, food messages and food content

In total, for the concept of "food media," 46 manuscripts provided additional clarifications on their interpretation of the concept, that is they provided "an explanation or more details that makes something clear or easier to understand" (Cambridge Dictionary, 2023), a small minority of them ($n = 6$) shared a precise definition or they "explained and described the meaning and exact limits of the concept" (Cambridge Dictionary, 2022). For "food messages", there were seven clarifying descriptions and one precise definition, for "food content" there were just three clarifications (see Tables A-C in Appendix). Furthermore, our analysis revealed a lack of differentiation between the categories of food media, messages or content by the authors. For example, in the following definition, the terms are used interchangeably: "While the term food media refers broadly to the form and content of food in the media, my specific focus here is on contemporary celebrity chefs." (Hansen, 2008, p. 50).

When defining or clarifying food media, we found some recurring elements. First, and most logically, food media carry content about food. However, the conception of what this subject precisely entails is not unanimously shared. Some authors discuss nutrition in general, while others delve more specifically and include the addition of food-related activities such as shopping, cooking or eating. Still, others add that food brands also belong here, even when only the brand's logo is displayed. This could be attributed to the fact that the logo of a food brand inevitably conveys a nutritional connotation. In addition, specific actions distinct to the theme of food content are mentioned, namely cooking, eating and buying food. Second, frequent references are made to the people who create the content or are featured, mainly celebrities or celebrity chefs, but also online content creators (bloggers, YouTubers, influencers), food manufacturers or retailers, health specialists and governmental organizations. A third element highlights the communicative aspect typically associated with media. Food media are communicative spaces constructed through media consumption and media practices (Xu and Lee, 2020). However, these spaces take different forms according to various academics: most see the term more broadly, not seeing media only as a technology, but as their content as well. To give some examples, Goodman *et al.* (2017) state that food media are "a *multitude of circulating texts* and images teaching us what 'good food' is and where it comes from, what we should be eating, how to prepare it and how to share it?" (p. 161). On the other hand, De Solier (2017) refers to food media as "a genre", a concept that communication scholars would use to describe types of content rather than the carrier of these contents:

> Food media is a genre of what I call material media (de Solier, 2013). This refers to forms of media that take material objects as their focus, such as clothes, homes, gardens, and food.(p. 55).

Others mention that food itself is the medium:

> There is a form of recursive mediation occurring in digital food media texts: *food itself is medium for cultural meaning and communication, digital food texts remediate the medium of food*, which in turn can influence practices of mediation, such as people's creation of content for social media or websites or their food purchasing and cooking practices, which they may choose to share on digital media sites . . . and the cycle flows on. (Leer and Krogager, 2021, p. 220).

> Or an exploration of appropriating food and food activities as a medium for family communication and entertainment, across generations and over a distance (Wei *et al.*, 2011, p. 1).

And finally, again other authors prefer to define the shape of food media holistically as: "*any media format*, *content*, or *featured persona* (e.g. celebrity chefs or food influencers) that *focuses on food*". (Decorte *et al.*, 2022, p. 273).

Fourth, there are various examples of what food media do. First of all, food media pass on knowledge, for example, about food preparation, food safety or the food production processes. The majority of researchers agree on this, although the framing of this informing is sometimes presented as positive, sometimes as negatively. Positive, for example, as food media offer an opportunity to "purvey practical knowledge of cookery skills" (Xu and Lee, 2020, p. 101) or to make audience members more critical on food:

> Some mention that food media reflect (and help produce) growing consumer interest in the pleasures of food and cooking, and increasing media and consumer concern about food risk. In the case of the latter, there are now large media and food industries devoted to critiquing the negative health, environmental, animal welfare, and broader food systems impacts of industrialized foodways. (Cavicchi and Santini, 2018, p. 256).

Negatively as they are framed as manipulative tools for influencing standards and morals, an aspect receiving most often the attention of sociologists or anthropologists: "Food media, with its growing penchant for moralization, pedagogy and boundary-making, is, thus,

a powerful force in 'tuning' us to whom and what we should care about – and how to do this – across our foodscapes." (Goodman, 2015, p. 217).

An associated contrast is the focus on who benefits from this: the producers of food, governments, shops or creators of the content or the audience members as individuals themselves. For example, the following quote related to direct marketing cite food media as a way to give consumers a sense of connection to producers.: "While it has been noted that television cooking shows and other food media can also perform functions akin to direct marketing – for example, giving consumers a sense of connection to producers, or helping them to understand how food and beverages are produced and by whom" (Phillipov, 2017, p. 592).

Next, food media entertain. They are described as "ubiquitous form of entertainment on television, in books and magazines across the world." (Piper, 2013, p. 1). Food media also allow consumers to create and express their identities related to food and build a gastronomic community. Here too, a difference in a positive versus a critical approach can be observed: "Food media are communicative spaces where consumers can 'creatively produce and enact their own food identities" (Abbots, 2015, p. 224) versus "food media encourage identification with certain priorities through an active process of distraction from political, economic, and social responsibilities" (Naccarto and Lebesco, 2013, p. 48).

In sociology, anthropology and human geography researchers emphasize the transmission of norms, standards and ideologies, and consequently, how that food media mediate and shape food practices. Some example clarifications state that "Food media has both an empirical and a normative-aspirational dimension in that it frames and mediates what foodscapes could and should be, how they could and should operate, and for whom they could and should work" (Johnston and Goodman, 2015, p. 209), or as very briefly summarized by Rodney *et al.* (2017): "In short, food media provide normative culinary ideals—not just detailed instructions for piping a macaron or preparing the perfect pot-au-feu."(p. 686). Both sociologists as communication scientists also focus on the economic impact of food media, mentioning that food media create "a base of consumers whose appetites are literally and figuratively kept wanting" (Hansen, 2008, p. 50) and "food media more generally, as producing a captivated, economically productive audience." (Piper, 2013, p. 347).

Fifth, it is apparent that in the context of food media, their omnipresence is repeatedly cited: terms such as "ubiquitous", "repetitive", "worldwide" and "popular" point to the vital place that food media occupy in everyday life.

Occasionally, specific exceptions are included in the definitions, for example, in the study of Ngqangashe *et al.* (2021): "Food media refer to all food content portrayed across mass media excluding traditional advertising, which refers to brand-initiated or brand-incentivised communication that is designed with the intent of having an effect on people." (p. 9). When clarifying terminology, some authors keep their description very open-ended: "food media refers broadly to the form and content of food in the media," (Hansen, 2008) while others refine it strictly to media that have to tick very specific boxes, for example, this clarification on food media of Piper (2013), narrowing them down to purely related to entertainment and restricted to three types of media: "Food media are a relatively ubiquitous form of entertainment on television, in books and magazines across the world." (p. 347). Consequently, in some studies, we found descriptions that, in our interpretations of food media based on the literature section, are so restrictive to be faulty. For example, one manuscript mentioned that food media were "an intuitive multimodal interaction platform" (Wei *et al.*, 2011, p. 1). The specificity of this definition assumes that all food media are interactive platforms, ignoring the wide range of non-interactive mass media like print media and linear television. Another example is Meiser and Pantusinchai's (2021) study that describes food media as a recent phenomenon, stating that: "*Food media is young. Prior to the 1990s*—when media infrastructure became capable of peddling food as a commodity—*media interest in food was*

minimal" (p. 13933). This excludes a wealth of important food media that have been around for decades, including 1930s radio cooking shows and the first printed cookbooks, which can be traced back as far as the Middle Ages (Collins, 2009; Mennell, 1996; Notaker, 2017).

A similar examination of definitions and descriptions was carried out for manuscripts that made reference to food messages or content. Like food media, food was broadly construed. However, specific activities or intentions were less frequently attributed to the content, resulting in a relatively less restrictive interpretation when compared to that of food media. Notably, messages are not limited to the content on a medium created by media organizations, as scholars point out that messages can also consist of mediated actions of individuals or institutions.

> When using the term "food messages," we refer to all kinds of messages, i.e. written and verbal information, as well as information or messages delivered in pictures and peoples' actions. Thus, sources of messages include actors as persons or institutions and artifacts including books, advertisements, films, and the Internet. (Rendahl *et al.*, 2017, p. 2714)

Content or messages can occur in the form of graphics, photographs, videos, verbal texts and emojis, which all carry meaning. All messages on food are included "regardless of type, frame, design, content, strength, or medium" (Moradi and Hort, 2021, p. 2).

Again, the senders of the messages are addressed because they affect the meaning of the message/content through, for example, their authority or (in)formality.

Also here, definitions from different sources could sometimes be contradictory, for example, the description of Dorey and McCool (2009): "Specifically, we undertook a qualitative study to explore how adolescents interpret food or nutritional messages in media, which *might include food advertising and food-related health-promotion messages*" (p. 645), which contradicts Decorte *et al.*'s (2022) explanation (to their participants) of food media messages as "any media message about food or nutrition, *excluding traditional advertisements and health campaigns*" (p. 279).

Overall, there is a noticeable divergence in how the various research fields depict food media. Sociological and anthropological scholars ($n_{\text{clarifications}} = 22$) tend to emphasize the function of food media (content) in shaping societal norms surrounding what is deemed "common", "healthy," "tasty," or "sustainable," as well as the discourse that accompanies such norms. Communication scholars ($n_{\text{clarifications}} = 6$) tend to concentrate more on the formal requirements that messages and media must fulfill to qualify as food media, messages or content.

Numerous studies do not explicitly define food media, content or messages, instead offer examples to give some insight into their intended meaning. Since the theoretical split between medium and message/content was often not employed (e.g. media mentioned but defined as what communication scholars would call message or content), the provided examples of the three concepts are analyzed together. This example list is extensive and, in some cases, very specific, such as mentioning one particular website or television channel. The most common examples are television ($n = 112$), social media ($n = 60$; mainly Facebook ($n = 14$), Instagram (21), YouTube ($n = 20$) and Twitter ($n = 10$)), advertising/marketing messages ($n = 55$), magazines ($n = 42$), newspapers ($n = 24$), cookbooks ($n = 38$), blogs ($n = 30$), Internet/websites without further clarification ($n = 33$), movies and documentaries ($n = 26$), recipes ($n = 17$), print media (without further clarification) ($n = 17$), books (other than cookbooks) ($n = 16$), restaurant reviews ($n = 7$), radio and podcasts ($n = 9$), food packaging and labels ($n = 8$), cartoons ($n = 5$), owned media of supermarkets ($n = 5$), apps ($n = 4$), food porn ($n = 4$) and Pinterest ($n = 4$), followed by a lot of rather specific examples that were only cited once or a few times. The list of shared individuals shaping these messages is also comprehensive: celebrities, well-known chefs, famous athletes, bloggers, educators and professors, consumers, family members and friends, advertisers, health professionals such as doctors and dieticians, food producers, both

farmers and industries and food institutes, supermarkets, government organizations and policymakers, influencers, journalists and schools. Again, a few specific and therefore little-mentioned individuals further complete the list.

4. Discussion

This study aimed to better understand what is meant by "food media", "food content" and "food messages" in scholarly publications. The results of the first three research questions provide the necessary input to critically examine this study's sample: the examples of food media and the included descriptions are mainly inspired by recent examples and strongly influenced by Anglo-Saxon culture. Yet the latter is an unsurprising finding as the scoping review had an English-language restriction and focused on well-known international databases over smaller local ones. However, it remains noteworthy that despite English being the common language in academia, a more diverse regional perspective is lacking, which constitutes a significant research gap in the current literature on food media.

Regarding different research fields and methodologies, we do see a more diverse variation, and the themes connected to food media research appear highly diverse, suggesting that seemingly divergent research areas find common ground in the topic of food media. This also implies that closing the gap and working toward a shared interpretation and knowledge of various viewpoints on food media is crucial. The richness in combining the knowledge and perspective of a sociologist, for example, regarding transmitted norms, with all the health, sustainability, political and economic aspects linked to food media is crucial to better understand the complete picture and make more targeted choices for food media.

As for the third research question regarding samples, it was noted that younger participant groups (0–25) were overrepresented compared to adults (26–64) or the elderly (65+). A possible explanation could be that younger age groups are a flexible and thus attractive target group due to their not-yet developed cooking habits (Ambrosini *et al.*, 2009; Hertzler, 1983), or because researchers assume that they are more vulnerable to persuasive media messages (De Pauw *et al.*, 2018). It might also be due to the popular research practice to use convenience samples consisting of students (Hooghe *et al.*, 2010). Gender disparities appeared moderately prominent, with women being more frequently represented in the studies compared to men. This may be attributed to (researchers starting from) conventional gender roles where women are still predominantly expected to be responsible for cooking and grocery shopping, despite significant gender progressions in recent years (Wolfson *et al.*, 2021). A note to make here is that most included manuscripts in our sample discuss gender as a dichotomy, while social sciences increasingly implement a more nuanced gender categorization system (Lindqvist *et al.*, 2021).

Regarding the final research questions, results indicate that most studies do not clarify food media, messages or content; among those that do, (most often social scientists) there are contrasting interpretations of the same concepts, even within the same research field. This lack of defining or clarifying food media/messages/content is unsurprising, as they may be considered commonly understood in some fields. Yet, this failure to clarify food media, messages and content and the assumption of a shared interpretation of these three concepts, creates confusion and challenges in comparing results across research disciplines. This again highlights the necessity for more precise clarifications of the concepts related to food media.

Also, the theoretical split between medium as a carrier and content/messages as the transmitted signs, explained in the literature section of this paper (Fauconnier, 1995; Shoemaker and Reese, 2013), is often done sloppily if at all, once more creating ambiguity around the three concepts. In these situations, the role of communication scholars becomes apparent. They are equipped to elucidate the interplay between medium and a particular subject matter, such as food and media, thereby enabling scholars from diverse fields to

maintain a shared understanding. This enhances comparability and fosters knowledge exchange and interdisciplinary collaboration among different research domains.

Upon examining the definitions and clarifications presented, it is apparent that, while our results show some contradictions, many aspects are reiterated multiple times. Drawing from these elements, we want to present an initial effort to establish a shared definition. However, we want to make two preliminary remarks. First, defining a term requires a delicate balance between specificity and generality. Overly specific definitions may result in exclusion of certain aspects of food media or content, for example when their form does not fit the preconceived criteria, even though their topic is food-related. In this study's sample, a definition rarely deliberately excludes a group using words like "exception". However, some definitions indirectly rule out a large group of possible media due to a detailed list of inclusion criteria. This might have been appropriate for a specific study's set-up but is less opportune for an overall definition. Contrastingly, overly general definitions lack the necessary detail to effectively inform. So, it is a balancing act between being specific without being exclusionary, which calls for working with examples rather than conditions. Second, it is essential not to rigidly define the terms so that the definitions are future-proof, that is can incorporate evolutions in food media and messages/content. With these two caveats in mind, we combine the building blocks found in the analysis with the theoretical descriptions of medium and message/content from the literature overview:

> Food messages or food content are all messages that carry meaning related to food or beverages, food activities (e.g. cooking, eating or buying food) or food brands. These messages can exist in any form, such as text, images, videos or emojis, carried by any medium. They can, among other things (but not exclusively), entertain, connect, allow people to create food identities, transmit knowledge and information, and thereby influence norms, standards, ideologies, (brand) preferences, food practices and food politics. They can feature or be produced by any source (human, institutions or AI), of which celebrities and (celebrity) chefs are the most commonly mentioned examples, followed by online content creators (bloggers, YouTubers, influencers), food manufacturers or retailers, health specialists, and governmental organizations. The majority of these messages are made by authors with commercial intents.

> Food media are communicative technologies that transfer food messages/food content as defined above and are often labeled as popular and having a widespread reach among a very diverse audience.

As key theoretical contributions, this paper highlights the need for more precise delineations of food media/messages/content by adding to the theoretical understanding and reducing ambiguity by proposing the definitions above, contributing to clarity and consistency in the research field. Related to this, this study critically examines the theoretical split between food media versus food messages/content, proposing the role communication scholars can play in elucidating this interplay and thereby contributing to the theoretical discourse in this area. At the same time, we underscore the importance of a second proposition, namely an interdisciplinary approach in studying food media, combining the knowledge and perspectives of diverse fields into a comprehensive understanding of food media/messages/content. Finally, this study also identifies research gaps, such as the underrepresentation of non-English and diverse regional perspectives in food media research, and the overrepresentation of younger participant groups, and the low presentation of elderly age groups (+65), proposing future scholars to fill in this research gap with more diverse samples, both geographically as age-wise. Next, future scholars are also invited to build upon our proposed definitions. It would be beneficial for subsequent research to investigate whether our initial conceptualization has been comprehended accurately by other researchers, whether there are missing building blocks from the definitions or whether some elements may need to be more sharply or openly worded.

Next to theoretical implications, it also contains practical implications. For example, for professional communicating parties such as content creators, broadcasters or the advertising industry, it is useful to be aware of the overrepresentation of younger age groups and Anglo-Saxon culture when building their communication strategies on previous food media research. Furthermore, being cognizant of all the potential outcomes of food media can enhance the awareness of food activists, campaigners and other professionals communicating on food about the potential side effects of their content. Educating a marketer or TV producer about the values and norms that may be unconsciously conveyed can make a difference in imposed standards that certain target audiences might feel excluded by; demonstrating to governments or health professionals the individual consequences such as growth in knowledge or connection can inspire them to incorporate this into their communication strategy around nutrition.

This study's open approach included all academic journal manuscripts, resulting in a broad overview of food media elements. The rigorous manuscript search adhered to JBI guidelines, ensuring confidence in the sample (Peters *et al.*, 2022; Tricco *et al.*, 2018). However, limitations must be acknowledged, such as the inclusion of only English-written studies, which was based on practical reasons related to translatability but excluded relevant studies in other languages. However, as mentioned prior, English is a dominant language within academia, with most manuscripts written in or translated into English (Hamel, 2007). Another limitation is that, during coding, manuscripts were divided into categories that are not 100% mutually exclusive and, thus, may partly overlap. In these cases, double coding was applied. Consequently, double-coded studies naturally outweigh studies that had only one label.

To conclude, this study indicates that the concepts of food media, messages and content are rarely clarified and used in various contexts in the diverse food-related scholarship field. The few existing descriptions, moreover, contained contradictory elements. This combination of few explanations, contradictory elements and diverse contexts makes it hard to truly capture food media, messages and content, risking confusion and making it hard to compare studies on food media. We propose an initial definition to enhance comparability between studies and encourage future researchers to expand upon our proposed concept clarifications to increase the rigor of the food media field.

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Appendix

The supplementary material for this article can be found online.

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