



Food security and food insecurity in Europe: An analysis of the academic discourse (1975–2013)



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ABSTRACT

In this paper we address the academic discourse on food insecurity and food security in Europe as expressed in articles published in scientific journals in the period 1975 to 2013. The analysis indicates that little knowledge has been produced on this subject, and that the limited research that has been produced tends to focus on the production of food rather than on people's access to food. The lack of knowledge about European food insecurity is particularly alarming in these times, which are characterised by increasing social inequalities and poverty, as well as shifting policy regimes. More empirical, comparative and longitudinal research is needed to survey the extent of food security problems across European countries over time. There is also a need to identify groups at risk of food insecurity as well as legal, economic, practical, social, and psychological constraints hindering access to appropriate and sufficient food.

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1. Introduction¹

It is often taken for granted that people in Western countries are 'food secure' in terms of having enough food for an active, healthy life (Anderson, 1990; Hamelin, Beaudry, & Habich, 2002). Studies indicate, however, that up to 14 percent of the population of the United States (US) (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2014) and 9 percent of the EU27 population have experienced food insecurity (Eurostat, 2010). The prevalence of food insecurity varies between states and countries. Most at risk are low-income groups and other social groups associated with poverty, such as single mothers and ethnic minorities (Coleman-Jensen et al., 2014; Tarasuk, Mitchell, & Dachner, 2012). The terms food insecurity and poverty are often used synonymously, but it should be noted that they are not the same phenomenon (Rose, 1999). Poor people may be food secure if they compensate for their limited financial resources with high levels of food literacy, knowledge and experience about how to procure and prepare cheap, high quality food. Moreover, high-income groups may be food insecure if other expenses have to be prioritised, for example, mortgages and

transportation. In addition, income measures are usually aggregated for a year, whereas food insecurity captures periodic food shortages that may reflect transient income shortfalls and/or shock expenses. Food needs are acute and limited access even for shorter periods of time represent a problem.

Whereas food in/security in the US, Canada and, to some extent, Australia has been subject to systematic studies for many years, research on people's access to food in Europe has been sporadic and fragmented, based on a variety of definitions and methodologies. To obtain an overview of the academic literature that does exist in this area, we will, in this paper, address academic contributions on food insecurity in Europe. We ask the following questions. What academic discourses can be identified over the recent decades? What characterises these discourses? Have they changed over time? Scientifically based knowledge about food in/security and its development in Europe is particularly important in times which are characterised by the shifting regulation of the food market, unstable and partially increasing food prices, and reduced purchasing power due to unemployment, migration, increased social inequality, and changing social security systems. These are all changes that may challenge household food security.

In this paper, we concentrate on articles published in scientific journals. In contrast to other forms of knowledge, articles published in scientific journals have been critically reviewed by anonymous experts, and represent in this respect one of our most reliable sources of information. Inspired by Foucault's theories, we analyse

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these articles as academic discourses, taken to represent historically and culturally based knowledge about food in/security, its possible causes and consequences. A more detailed description about what discourses are and how they are constructed will be given in a later section (see the Analysis section in the description of methodology). However, already at this point some considerations about these phenomena are worth noticing.

First, there is not just one, but many academic discourses of food in/security. Some of these discourses may be stronger than others, being exposed more frequently and analysed more thoroughly. A weaker discourse may be represented by articles in which food in/security is mentioned only once, with vague definitions, and with limited or missing empirical data on the subject. The more robust they are, the more influential they may be as sources of information. Studying academic discourses on food in/security and their relative strength is, in this sense, important as it indicates the kinds of knowledge which dominate in society in a given period.

Second, academic discourses on food in/security will not only compete with each other, but also with related discourses taking place in other arenas, such as political discourses on food in/security. Like political discourses, academic discourses tend to be public in the sense of being performed in public spaces. However, whereas political discourses largely take place in public media, such as political documents and news media, academic discourse takes place at scientific conferences, and in dedicated journals and books. Public and political discourses partially overlap and are mutually dependent in the sense of justifying and strengthening each other. For example, without references to scientific discourses, political discourses would not be sufficiently substantiated; without reference to political discourses, academic discourses would most likely not be funded. Studying academic discourses of food in/security in Europe is, in this respect, important because it indicates not only how food insecurity is generally perceived, but also, and more concretely, how it is politically handled in society.

Third, even though publications in scientific articles represent one of our most prominent sources of information, they are, in line with Foucault's theories, socially constructed in terms of being formed through social practices and institutions, including the social practice of funding 'socially beneficial' research and the institutions managing and controlling these practices. Since the definition of socially beneficial research is not given in a society, but most likely varies between interest groups, an analysis of academic discourses on food in/security may also indicate the structures of interests and power in society. For example, research on food insecurity legitimised by the need to counteract unequal access to food is most likely a response and a contribution to the interests of social and political groupings promoting social equality. Moreover, research on how to increase the supply of food justified by food security is most likely influenced by, and influencing, social interests connected to the agricultural sector. By legitimising and promoting different interests in society, academic knowledge will not only reflect the structures of interests and power in society, but also contribute to their stabilisation or change.

In the next section we discuss the definition of food insecurity and how it evolved. This is followed by a section describing the methods that are used. Sections four and five present the findings and the analysis, respectively, followed by concluding remarks on the discourses that have been identified, their significance, and the needs of future research.

2. Food insecurity and its development

Food insecurity exists when people have limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable

ways, for example without resorting to emergency food supplies, begging, scavenging, stealing, or other coping strategies (Bickel, Nord, Price, Hamilton, & Cook, 2000). Food security, in contrast, refers to a condition where all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary preferences for an active and healthy life (Food and Agriculture Organization, 2006; Maxwell, 2001). Severe food insecurity will result in hunger or malnutrition. Hunger, referring to the uneasy and painful sensation caused by the recurrent and involuntary lack of food, can occur in many situations, such as dieting or being too busy to eat. Malnutrition refers to a lack of, or imbalance in, protein, calories, vitamins, or minerals, including unbalanced diets leading to diseases of over-nutrition and obesity. Hunger or malnutrition caused by food insecurity is a condition resulting from legal, economic, practical, social, and psychological constraints hindering access to food. As such, food insecurity is not necessarily the result of limited food production or supply, but focuses instead on access at the household level.

In a recent article, Hadley and Crooks (2012) describe how food insecurity emerged onto the public agenda after the world food crisis of 1972–74. Even though the crisis was a multifaceted phenomenon, the authors maintain that it was generally accepted to be the result of supply-side factors. The response was therefore to develop policies aimed at ensuring a sufficient and stable global food supply. A number of global institutions were established to monitor the world situation and improve agricultural productivity, including the World Food Program, the Consultative Group on International Agricultural Research, the International Fund for Agricultural Development, and the Global Information and Early Warning System (Pinstrup-Andersen & Watson, 2011).

In 1982, Amartya Sen published the book *Poverty and Famines* showing that, in the majority of cases of widespread famine-related death since World War II, food had been available within the famine-affected area. People had died not for want of food, but for want of entitlement to access it. One of the most enduring misconceptions about hunger is that it is primarily the result of a deficit in global food production. If this were so, we might expect food to be absent at times and in places where people die from hunger. Patel (2012) argues that questions about hunger and its attendant pathologies ought to begin with questions about social and political configurations around power over food, rather than about the mere presence or absence of food in the vicinity of a hungry individual.

The organization Via Campesina suggested in 1996 replacing the term 'food security' with the term 'food sovereignty'. To Via Campesina, food security stands for 'the dominant global discourse on food provisioning and policy', whereas 'the main demand of food sovereignty is that decisions about the shape of the food system ought to be in the hands not of powerful corporations or geographically dominant governments, but up to the people who depend on the food system' (Patel, 2012). People demanding that their interests are realised include, however, not only consumers and environmental organisations, but also, and more frequently, small food producers. Hence, although the term food sovereignty was formed as a reaction against a food system favouring big, multinational food producers, it has remained oriented towards production. From the consumers' point of view the concept of food sovereignty can therefore be criticised for being conventional in terms of being oriented towards food production rather than towards households and consumers of food.

Since Sen's groundbreaking work, it has been argued that the public discourse on food security has changed. In Maxwell, 1996, identified three main shifts in the thinking about food security in mainstream academic and agency policy: from the global and the national to the household and the individual; from a food first perspective to a livelihood perspective, and from objective indicators

to subjective perceptions. The three shifts imply, to some extent, a shift from the sphere of production to the sphere of consumption, and hence a shift of focus from supply to access. This assumed shift from production and supply to consumption and access has recently been confirmed by [Hadley and Crooks \(2012\)](#), who argue that the supply-oriented view of food security which dominated in 1974 has been replaced with a view emphasising that food security is primarily an issue of access as well as supply. Today, the issue of access is key in understanding the 2007–8 global food crisis and the resulting responses to food insecurity.

Following the work of [Maxwell \(1996\)](#) and [Hadley and Crooks \(2012\)](#), we might expect that the academic discourse of food security, to some extent, has shifted from being production-oriented to become more oriented towards household and consumption. By production-oriented discourses we mean discourses focusing on global or national food production, on the availability of raw material, production and supply. By consumption-oriented discourses we mean discourses focusing on food consumption, on limitations on household access to food due to legal, economic, practical, cultural, social, or psychological constraints. Furthermore, if the academic discourse on food security, to some extent, has changed along the suggested lines, we may expect that the public discourse has led to an increased number of studies measuring the prevalence of food insecure households and individuals.

One problem with these hypotheses is, however, that they are based on research addressing food insecurity in the US or on a global scale and only to a limited extent, if at all, relate to the situation in Europe. Consequently, we do not know if the historical shift outlined above also takes place in Europe or if it only describes the situation overseas. Exploring dominant orientations in the academic discourse is important, since a global and production-oriented approach to food insecurity may draw attention away from the possibility that parts of the European population may lack access to food. Too strong an emphasis on availability may lead to an over-reliance on agricultural solutions to problems that actually have other origins ([Webb et al., 2006](#)).

3. Methods

3.1. The sample

Academic discourses are expressed in a variety of media, including books, book chapters, research reports, and articles published in scientific journals. However, as the quality of the review process in books and book chapters is often unknown, the analysis concentrates on academic discourses expressed in peer-reviewed articles. In general, articles published in journals are more rigidly structured than contributions expressed in books and book chapters. The interpretations of the findings must therefore take into account that the academic discourses expressed in scientific journals do not necessarily cover all academic discourses on food in/security.

More specifically, the academic discourse analysis is based on 28 peer-reviewed articles published in scientific journals primarily selected from Web of Science and then from Google Scholar. Web of Science is an online citation index covering leading scholarly literature. The oldest reference is from 1975. Google Scholar is a search engine dealing with academic literature. The searches were made on 28 August 2013.

To find the articles, we first searched on the terms 'food security', 'food insecurity', 'food poverty' and 'food sovereignty'. [Table 1](#) shows the number of hits on Web of Science.

Statistics from Web of Science indicated that the first article mentioning food security was published in 1976, the first dealing with food insecurity in 1980, and the first dealing with food sovereignty was published in 2000. The number of articles dealing

Table 1

Number of hits on Web of Science on the terms, 'food security', 'food insecurity', 'food poverty', and 'food sovereignty'.

Search terms	No. of hits
Food security	
"Food security"	7193
"Food security" and Europe	129
"Food security" and Nordic	0
"Food security" and Scandinavia	0
"Food security" in articles	5704
"Food security" in book chapters	8
"Food security" in title	1855
"Food security" in title, articles	1092
Food insecurity	
"Food insecurity"	2141
"Food insecurity" and Europe:	13
"Food insecurity" and Nordic	0
"Food insecurity" and Scandinavia	0
"Food insecurity" in articles	1709
"Food insecurity" in book chapters	2
"Food insecurity" in title	813
"Food insecurity" in title, articles	490
Food poverty	
"Food poverty"	67
"Food poverty" and Europe	3
"Food poverty" and Nordic	0
"Food poverty" and Scandinavia	0
"Food poverty" in articles	60
"Food poverty" in book chapters	0
"Food poverty" in title	35
"Food poverty" in title, articles	25
Food sovereignty	
"Food sovereignty"	156
"Food sovereignty" and Europe	5
"Food sovereignty" and Nordic	0
"Food sovereignty" and Scandinavia	0
"Food sovereignty" in articles	132
"Food sovereignty" in book chapters	0
"Food sovereignty" in title	49
"Food sovereignty" in title, articles	33

with food security and with food insecurity increased from 1993, and the number of articles dealing with sovereignty and food poverty increased from 2011.

Interestingly, the statistics also indicate that articles dealing with 'food insecurity' and 'food security' were, for the most part, published in nutrition dietetics journals. Whereas articles dealing with 'food insecurity' tended to be published in public environmental occupational health journals as well, articles dealing with 'food security' tended to be published in food science, technology, and economics journals. Articles dealing with 'food poverty' tended to be published in nutrition dietetics, food science technological, and sociological journals. Articles dealing with 'food sovereignty' tended to be published in agricultural, multidisciplinary, anthropology, planning development, and sociological journals. As disciplines seemed to prefer different terms to some extent, the use of different terms could be an indicator of research interests and disciplinary traditions.

The search was then further limited to articles which (1) dealt with 'food insecurity', 'food security' or 'food poverty', 'food sovereignty' in the title, (2) were published in the form of articles, and (3) dealt with food insecurity, food security, food poverty or food sovereignty in European countries. No articles dealing with food sovereignty fulfilled these criteria. The number of articles dealing with food insecurity or food security meeting the criteria was 352, most of them addressing developing countries. Reading the abstracts, we found that only 28 studies actually dealt with food in/security in Europe. In addition, searches were made in Google Scholar. Of 100 hits, two peer-reviewed articles dealt with food in/security in Europe. These were added to the sample. Our final sample dealing with food insecurity in Europe comprises 30 articles. Because some journals (and hence articles) are

Table 2

The sample of articles on food in/security in Europe, by year of publication.

No. Authors	Title	Journal/publisher	Year of publ.
1. von Ah	Food security and ecology in conflict—minimum data needs for pragmatic problem- solving in Switzerland	Mountain Research and Development	1984
2. Sturgess	Self-sufficiency and food security in the UK and EC presidential-address	Journal of Agricultural Economics	1992
3. Dowler	Food poverty and food policy	IDS Bulletin	1998
4. Sarlio-Lähteenkorva & Lahelma	Food insecurity is associated with past and economic disadvantage and body mass index	Journal of Nutrition	2001
5. Sellen et al.	Food insecurity among refugee families in East London: results of a pilot assessment	Public Health Nutrition	2002
6. Tingay et al.	Food insecurity and low income in an English inner city	J Public Health Med.	2003
7. Brunstad et al.	Multifunctionality of agriculture: an inquiry into the complementarity between landscape prevention and food security	European Review of Agricultural Economics	2005
8. Monaghan	United Kingdom and European approach to fresh produce food safety and security	HortTechnology	2006
9. Jones et al.	REVIEW: Nutrient stripping: the global disparity between food security and soil nutrient stocks	Journal of Applied Ecology	2007
10. Malco et al.	Food poverty and health among school children in Ireland: findings from the Health Behaviour in School-aged Children (HBSC) Study	Public Health Nutrition	2007
11. Lee et al.	Organic farming in Europe: A potential major contribution to food security in a scenario of climate change and fossil fuel depletion	Agriculture and Forestry Research	2008
12. Melchior et al.	Mental health context of food insecurity: A representative cohort of families with young children	Pediatrics	2009
13. Dodić et al.	Biomass energy in Vojvodina: Market conditions, environment and food security	Renewable and Sustainable Energy Reviews	2009
14. Mahmuti et al.	Controlling crop disease contributes to both food security and climate change mitigation	International Journal of Agricultural Sustainability	2009
15. Dehnen-Schmutz et al.	The role of regulatory mechanisms for control of plant diseases and food security-case studies from potato production in Britain	Food Security	2010
16. Collet	Storage and starvation: Public granaries as agents of food security in Early Modern Europe	Historical Social Research	2010
17. Dowler et al.	Thinking about 'food security': engaging with consumers critical public health	Public, Environmental and Occupation Health	2011
18. MacMillan & Dowler	Secure and sustainable? Examining the rhetoric and potential realities of UK food security, 1951–2011	Journal of Agriculture and Environmental Ethics	2011
19. Simmons	Food security and infectious animal and plant diseases: a UK government perspective	The Geographical Journal	2012
20. Dowler & O'Connor	Rights-based approaches to addressing food poverty and food insecurity in Ireland and UK	Social Science and Medicine	2012
21. Enticott et al.	Biosecurity and food security: spatial strategies for combating bovine tuberculosis in the UK	The Geographical Journal	2012
22. Howden et al.	Farming for water quality: Balancing food security and nitrate pollution in UK river basins	Annals of the Association of American Geographers	2013
23. Nicklasen et al.	Conceptualizing and contextualizing food insecurity among Greenlandic children	International Journal of Circumpolar Health	2013
24. Brunori et al.	Trade-off or convergence? The role of food security in the evolution of discourse in Italy	Journal of Rural Studies	2013
25. Fish et al.	A license to produce? Farmers' interpretations of the new food security agenda	Journal of Rural Studies	2013
26. Dibden et al.	Framing GM crops as a food security solution	Journal of Rural Studies	2013
27. Tomlinson	Doubling food production to feed the 9 billion: A critical perspective on a key discourse of food security in the UK	Journal of Rural Studies	2013
28. Kirwan & Maye	Food security framing within the UK and the integration of local food systems	Journal of Rural Studies	2013
29. Kneafsey et al.	Consumers and food security: Uncertain or empowered	Journal of Rural Studies	2013
30. Khairulzaman et al.	Food security risk level assessment: A fuzzy logic-based approach	Applied Artificial Intelligence	2013

not covered by Web of Science, and because the sample only covers articles that mention the terms 'food insecurity' or 'food security' in the title, the sample cannot be regarded as representative for all articles dealing with food in/security in Europe. Table 2 lists the articles, ordered by year of publication.

All the included articles deal with food in/security in Europe. 'Food in/security in Europe' means either that the situation of food in/security is located in Europe, or that the aim of research is to reduce food in/security in Europe. The object of research is not necessarily food in/security. For example, Dibden, Gibbs, and Coclin (2013) published an article dealing with the framing of GM crops in the United Kingdom (UK) and Australia as a food insecurity solution at national and global level.

As stated by Hadley and Crooks (2012), the publication year of the articles, shown in Table 2, indicates that there has been a renewed interest in the topic due to events such as the financial crisis erupting in 2008.²

² A search on Web of Science (search phase: 'food security OR food insecurity AND Europe', conducted 16 December 2015) indicates that the number of articles addressing this issue has increased since 2013. In 2013, the number of hits were 344, in 2014, the number was 400 and in 2015, it was 421.

3.2. The analysis

Inspired by Foucault's (1972) archaeological methodology, four assumptions are made about the academic discourses on food/insecurity. First, we assumed that the smallest components in discourses are *statements*. The statements addressed the following:

1. *The topic*, for example, the production of new types of crops, the prevalence and risk groups of food insecurity, or the food policy in a given nation. The topic indicates that which is worth researching. The topic of a discourse is one of the most important statements of a discourse and will, in most discourses, work as 'the privileged sign', the statement around which other statements evolve (Laclau & Mouffe, 2002).
2. *Spokespersons of the statement*, indicated by the disciplinary background of the researcher(s) (e.g., natural scientist or social scientist), and the discipline within which the journal was published in Web of Science (e.g., a natural science journal or a social science journal). The spokespersons play a decisive role in the establishment, maintenance and dissolving of a discourse.
3. *The term used in the title or in the abstract* (e.g., 'food security' or 'food insecurity'). By virtue of being potential expressions of

interests and power (Patel, 2012), the term used may represent an important characteristic of academic discourses of food in/security.

4. *Level of food insecurity.* Whether the analysis of food/insecurity operates at a household or a national/global level indicates whether the phenomenon is regarded as a problem for families or for the nation or the world.

5. *The localization of food insecurity.* The area in which food in/security is located may indicate in which parts of Europe food in/security is regarded as a problem, e.g. in liberal, conservative, or social-democratic (Esping-Andersen, 1990) regimes in Western Europe, in the Mediterranean or in East-European countries (Steurer & Hametner, 2010).

6. *The methods used* (e.g., experiments, surveys and qualitative interviews). The methods will influence the kind of knowledge upon which a discourse is based, for example, whether it is dealing with existing data (literature reviews) or new knowledge (surveys, interviews). Since some methodologies are more expensive and/or acknowledged than others, the method used may also indicate the assumed importance of the research in society. For example, nationally representative surveys conducted on a regular basis indicate that a subject is regarded as more important than qualitative interviews in a small group of the population conducted at one point in time.

In addition to these five points, academic discourses on food in/security may be characterised with typical statements addressing how the studies are legitimised, the assumed causes and mechanisms of food in/security, the main conclusion(s) of the research, to what extent the policy implications are discussed, and, if so, in what way.

Second, we assume that such statements tend to cluster into *discourses* that constitute seemingly logical reasoning. A discourse dealing with the need to increase food production to ensure food security will, for instance, include a different logic than a discourse addressing consumers lacking access to food.

Third, we assume that discourses are not formed by chance, but that they are organised alongside dimensions constituting a *discursive order*. For example, one dimension may go from production- to consumer-oriented discourses, another from discourses operating on global/national scale to discourses operating at a household level.

Fourth, it may be assumed that a discourse about food in/security is not only linked to other food in/security discourses, but also to discourses addressing related phenomena, such as poverty. Furthermore, power may flow between discourses, increasing in some discourses at the expense of others. It is, for example, less use in conducting big, national surveys mapping prevalence and risk groups of food in/security on regular basis if food in/security is generally perceived merely as an indicator of poverty. Overall, the discourses on food in/security are part of a formation that may be described as a movable web, in which statements flow between discourses that partially overlap and partially contradict each other, and in which discourses and statements are constantly established, maintained and dissolved (Borch, 2012). The stronger a discourse is, the more influential it may be on ways food in/security is general perceived and politically handled in society.

A template was developed requesting the statements needed. The articles were read and the statements were entered into the template. Most of the requested statements could be found by reading the articles. An exception was the disciplinary background of the researcher(s). These were found by reading the presentation of the named researchers on website(s), found by searching for their name on Google. As some of the researchers were not present on the internet, any strict conclusions regarding the researchers'

disciplinary background cannot be made.

The template could be read vertically (the characteristics of each article) or horizontally (the distribution on each characteristic). The analysis largely followed the horizontal reading. First, we recorded the discipline of the respective journals according to the Web of Science classifications, then statements about the disciplinary background of the researchers, and so forth. Whereas the statement types 1 to 5 are information presented in the forms of figures and tables, the rest was recorded as text. The total number of observations made in the quantitative analyses is, in many cases, more than 30, reflecting that the articles score on more than one characteristic, for example, operating at both global, national and household levels, not either/or.

4. Identifying statements, discourses and a discursive order

Table 3 shows the recorded statements on food in/security in the sample of articles:

Most articles (16) deal with agricultural systems, including animal and plant diseases (4). Nine articles deal with human beings, in particular, national populations and risk groups, and six deal with other subjects such as discourses and food in/security policies.

As previously mentioned, some of the authors' disciplinary background, in all 33 individuals, could not be traced on the internet. Among those who could be traced, most (39) were educated within natural/technology sciences, for the most part within agriculture/ecology/biology (18), or within nutrition/medicine/public health/epidemiology (13). Overall, 115 authors were included in the sample.

Table 3 also shows that most articles (25) are published within natural/technology oriented journals and geography, 15 and 10 respectively. The natural/technological sciences are divided between agricultural/ecology oriented journals and nutrition/medicine oriented journals. Only five articles are published within social sciences/humanity oriented articles.

Twenty-one articles used food security in the title, the remaining nine used food insecurity or food poverty. Food sovereignty was not used in the title. It was mentioned in the ingress twice and in the main text once. Interestingly, whereas all articles with 'food insecurity' in the title had food in/security as the main subject, as many as 10 articles with 'food security' in the title did not actually focus on the topic, rather using the term to legitimise their research. For example, Mahmuti, West, Watts, Gladders, and Fitt (2009) address how to control crop diseases in order to contribute to food security and climate change mitigation. Even though food security tended not to be defined or otherwise problematised in these articles, the articles were included in the sample, as the use of the term in the title so clearly placed the articles within the academic discourse of food insecurity. After all, the legitimisation of research is a decisive part of the research without which the research may not be conducted. Whether the term is only used in the title or a main subject of research, it is, in this paper, seen as an indicator of how deeply food in/security is analysed in the articles. The more focused, the more deeply analysed they are.

Most articles (22) dealt with food/insecurity at a national/global scale and only nine addressed the phenomenon at a household level.

As many as 24 out of the 30 articles explored in this research deal with liberal regimes, of which 22 deal with food in/security in the UK. The corresponding numbers of articles dealing with food in/security in conservative/Mediterranean, social democratic, and East European countries are three, three and one, respectively. Only three dealt with food in/security on a broader European scale. The geographical context of the food in/security explored does not

Table 3

Characteristics of the academic discourse of food in/security, in general and by discourse (N = 30).

Types of statements	Total no. of statements
The object of study	
Production	16
Consumption	9
Policy-making	6
Researchers' disciplinary background	
Natural/technology science	39
- Agriculture/ecology	18
- Nutrition/medicine/public health/epidemiology/veterinary	13
- Others (engineering/physics/chemistry/technology)	8
Natural/social science (geography/rural science)	12
Social science/humanities	31
Unknown	33
Discipline in the web of science	
Natural/technology science	15
- Agriculture/ecology	6
- Nutrition/medicine	9
Natural/social science (geography)	10
Social science/humanities	5
Terms used in title	
Food security	21
Food insecurity	7
Food poverty	3
Level of food insecurity	
Global/national	22
Household	9
Localization of food in/security	
- Europe	3
- Liberal (UK, Ireland)	24
- Conservative/Mediterranean (Italy, Prussia, Switzerland)	3
- Social-democratic (Finland, Norway, Greenland)	3
- East European Countries (Serbia)	1
The methods used	
Desktop studies	20
Surveys	9
Economic/simulation models	5
Focus groups/workshops	4
Personal interviews	2
Experiments	2
Case-studies	1

seem to vary by disciplinary approach.

Most articles are desktop-studies, for the most part reviews of previous research but also including policy documents. There seems, in other words, to be little empirical research that is based on data that are specifically collected to answer a question about the situation of food in/security.

Overall, the various statements seem to cluster into three different discourses, which can be placed along two dimensions: going from being production- to consumer-oriented, and from operating at household level to operating at a national or global level (Fig. 1).

Fig. 1 shows that most articles (16) were production-oriented, addressing food insecurity at global or national level, that is, food supply rather than access. Fifteen articles are consumption-oriented, of which nine address food in/security at the household level. Interestingly, there were no 'home-growing' or 'small allotments' discourses addressing production at the household level, despite that these kinds of solutions has been promoted as a possible (and, for some people, a desirable) way of moving society in a more sustainable direction (Emmert, Luiten, & van de Lindt, 2014). Table 4 shows the frequency of articles published within the discourses of production, consumption, and policy published before and after the financial crisis of 2008.

Table 4 shows that the number of articles published within the discourse of production has increased since the financial crisis, whereas the number of articles published within the

discourse of consumption has been relatively stable. All articles published within the discourse of policy were published after the financial crisis, indicating that this is a new and developing discourse.

5. The discourse of production

The discourse of production tends to address agricultural systems, and animal and plant diseases and is, for the most part, published in agricultural/ecological or geographical journals. Spokespersons of the discourse of production are for the most part researchers with a background within agricultural/ecological/biological disciplines.

The discourse of production comprises at least three typical ways of understanding food security. One is 'food safety', where food security refers to the availability of safe raw materials and supply of food. A second is as 'food sufficiency and preparedness', where food security refers to the availability of nationally produced food in situations of crisis when the availability of food from other countries is reduced. Third, it is also argued that food security is about 'tackling the complex relationship between ... productivity objectives and environmental obligations' (Simmons, 2012, p. 348), indicating that food quality, production and supply will not be efficient and 'secure' unless it is also environmentally sustainable. Environmental concerns seem to represent a new element in the discourse of production that may be strengthened in the future. The

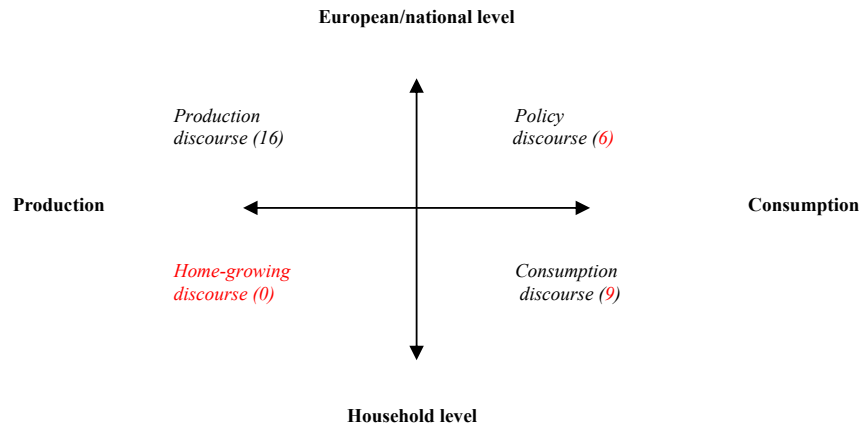


Fig. 1. The order of academic discourses of food in/security in Europe.

Table 4

The number of articles published within the discourse of production, consumption and policy before and after the financial crisis of 2008. Cross table. N = 28.

	1975–2008	2009–2013
Production	6	10
Consumption	5	4
Policy	1	5

studies are often legitimised by referring to the need to increase productivity and reduce environmental problems in the agricultural system. It is worth noticing that as many as seven out of 19 articles in the production discourse do not define food security. This may reflect that most articles of this discourse tend not to have food security as the primary object of research, rather as the social context of which the object of research is part, primarily serving a legitimisation function.

A basic assumption in the discourse of production seems to be that food security is threatened by animal and plant diseases (Simmons, 2012), climate change (Mahmuti et al. 2009), environmental degradation caused by manufacture and the use of fertilisers, long-term losses of macro- and micronutrients from the ocean, groundwater and the atmosphere, export of nutrient resources from the soil of rural landscape (in developing countries) to feed a growing urban population (in developed countries) (Jones, Cross, & Withers, 2007), and poverty, conflict, terrorism, and corruption (Dodi, Popov, & Dodi, 2009). Food security can, however, be achieved if agricultural skills in the animal production of meat, eggs and milk are improved (Brunstad, Gaasland, & Vardal, 2005).

A typical conclusion in the discourse of production is that existing agricultural systems have to change to make farming more efficient, safe and self-sufficient:

There needs to be greater emphasis upon regional, resource-based organic production, with a special focus on energy and water use efficiency (Lee, Haneklaus, Philips, Rahmann, & Schnug, 2008, p. 145).

Identification of best practices at local, national and international levels offers the prospect of reducing the risk of animal and plant diseases (Simmons, 2012, p. 350).

It will be more efficient to support land-extensive production than production per se (Brunstad et al., 2005, p. 469).

The articles addressing production issues are most frequently based on reviews and economic/simulation modelling, such as

models estimating the balance between food production and the protection of water resources (Howden, Burt, Worrall, Mathias, & Wehlan, 2013), and models estimating the level of risk in the food supply (Khairulzaman et al., 2013). Only four articles on production seem to be empirical in terms of collecting new data based on surveys, interviews, experiments, or case studies.

6. The discourse of consumption

The discourse of consumption tends to deal with human beings and is typically published in nutrition/medical journals. Most spokespersons have a disciplinary background from the nutrition/medical/public health/epidemiology/veterinary disciplines or social sciences/humanities.

The discourse of food consumption puts more emphasis on consumers' access to food and the studies were often legitimised by the need to identify risk groups for better targeting of public policies. In this discourse, food security was being defined most often in line with, or similar to, World Health Organization or Food and Agriculture Organization definitions.

On food security: 'Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (Dowler, Kneafsey, Lambie, Inman, & Collier, 2011, p. 5, referring to Defra, 2006).

Or:

On food insecurity: 'Limited or uncertain availability of nutritionally adequate safe food, or limited or uncertain ability to acquire food in socially accepted ways' (Tingay et al., 2003, p. 156, referring to Blumberg, Bialostosky, Hamiltorn, & Briefel, 1999)

In the discourse of consumption, food insecurity is also described as an experience, including fear of running out of food or money to buy food, and actually running out of food or money to buy food, skipping meals, experiencing hunger and being unable to buy food, or buying cheaper food because of financial constraints (Sarlio-Lähteenkorva & Lahelma, 2001; Tingay et al., 2003). The worry of not having enough food is often the first experience of food insecurity, followed by reduced quality and, lastly, by reduced quantities of food (Sarlio-Lähteenkorva & Lahelma, 2001).

Food insecurity is further assumed to be caused by consumer mental capabilities (Melchior et al., 2009) or economic constraints

(low income) (Sarlíio-Lähteenkorva & Lahelma, 2001; Tingay et al., 2003). Increased food prices is one of several factors influencing consumers' economic constraints, caused by rising oil prices, droughts in grain-producing nations, increased use of crops for bio-diesel, increased demand for meat, collapse in the sub-prime mortgage market, and increased commodity speculation in financial markets (Dowler et al., 2011).

The conclusions usually focus on the prevalence of food insecurity in certain risk groups. Typical examples include the following quotes:

Experience of food insecurity may be common in households with income at the level of UK national minimum wage or lower (Tingay et al., 2003, p. 156).

Among families with young children, food insecurity is frequent, particularly when the mother experiences mental health problems (Melchior et al., 2009, p. e564).

Articles contributing to the consumption discourse most often present primary empirical data, the most frequently used methodological approach being a combination of surveys and focus groups/workshops. Yet the focus is often on individual experiences and explanations. This may be associated with the disciplinary background of the authors, which tends to be nutrition or medicine, that is, disciplines which traditionally focus on biological and psychological rather than social processes. Still, some authors with a background in social sciences or the humanities, offer social and political explanations.

7. The discourse of policy

The discourse of food policy focuses on dominant perceptions of food insecurity in food policymaking and how they change over time. The need to reveal misconceptions and to reduce food insecurity is emphasised. Both production- and consumer-oriented contributions are taken into consideration. Where some argue that the term 'food security' shifted focus away from availability and technology, and towards accessibility and entitlement, and political, socioeconomic and cultural factors (Hadley & Crooks, 2012; cf. Maxwell, 1996), others argue that the term is still more closely associated with production and availability than consumption and accessibility (e.g., MacMillan & Dowler, 2011). Environmental concerns are also present in this discourse. For example, MacMillan and Dowler argue that:

Food security is a way of framing responses to the food price spike in 2007–8 and anxieties about social and environmental sustainability of the food system in the face of global climate change and security of key resources and many other issues. (2011, p. 13)

Whereas the discourse of consumption emphasises factors influencing consumers' access to food, contributors to the discourse of policy bring this argument up to a political level, arguing that the main cause of reduced access to food is poverty and social inequality (Dowler & O'Connor, 2012). To some spokespersons (e.g., Collet, 2010), the relationship between poverty and food insecurity is so close that the terms are used synonymously. The discourse of policy tends to have spokespersons with a social scientific or humanistic background, that is, from disciplines that traditionally give stronger emphasis to social and political causes and solutions. However, even here we find some authors with a background from the natural sciences. In contrast to the discourse of consumption, the discourse of policy has no spokespersons from nutrition/

medicine/veterinary disciplines/public health/epidemiology, but from agricultural/ecological/biological. Articles contributing to this discourse are rarely published in natural scientific journals. As with the production discourse, the discourse of policy tends to be based on desktop studies (reviews).

The policy discourse typically concludes by raising a critique of how food insecurity has been handled in research or in policy-making. It is, for example, argued that:

In practice, problems and potential solutions [in the UK and Ireland] have largely been directed towards the individual rather than at social determinants particularly as research on environmental factors such as distance to shops has produced equivocal results. Other key structural aspects such as income sufficiency for food are broadly ignored by the State, and anti-poverty strategies are often implemented without monitoring for effects on food outcomes (Dowler & O'Connor, 2012, p. 1).

The UK government has widened its perspective from seeing the supply side as predominant to including consumer access in its concern with food security at national and international levels. However, the tricky matters of reconciling household level security, including reduction of anxiety about sufficiency, sustainability and reliability/safety ... has not yet been discussed (MacMillan & Dowler, 2011, p. 21–22).

As many as eight of nine articles in the consumption discourse include a discussion of the policy implications of their findings. Only seven among the 16 articles in the production discourse did the same, perhaps due to the fact that the discourses are dominated by disciplines with different traditions when it comes to discussing implications for society. Political implications were part of the general discussion in the discourse of policy, but they were not given any particular attention in most of the articles' concluding sections.

8. Discussion and concluding remarks

In order to get an overview of the academic literature on food in/security in Europe today, in this paper we have explored academic discourses of food insecurity as expressed in peer-reviewed articles published in scientific journals over the period 1975–2013. Three academic discourses on food in/security have been identified: the discourse of production, the discourse of consumption, and the discourse of policy. Table 5 summarises the main statements of these discourses.

The statements of the three discourses partially overlap and partially contradict each other. The biggest contrast is probably between the discourse of consumption and the discourse of production, where the discourse of policy can be seen as a version of the discourse of consumption capturing more of the complexity by connecting food supply and people's access to food to economic and environmental conditions on a national and global scale. In contrast to the discourse of consumption, the discourses of production and policy have increased since the financial crisis of 2008.

In line with Foucault's theories, discourses may reflect and influence the structures of interests and power in society. The stronger a discourse is, the more influence it is expected to have on how food in/security is generally perceived and politically handled in society. The strength of a discourse is, in this paper, indicated by the number of articles of the discourse, as well as the depth of the analysis (whether the terms food security, food insecurity or food poverty is used only to legitimise the research or the main subject of research). Overall, the discourse of production is dominant throughout the period. The increase in the discourse of production suggests that the academic discourse on European food security has

Table 5

Statements of the various discourses on food security and food insecurity in Europe.

	Production	Consumption	Policy
Topic	Production of food	People's access to food	Food in/security policy debates
Author disciplinary background	Natural sciences (agriculture)	Natural sciences (nutrition) or social sciences/humanities	Natural sciences (agriculture) and social sciences/humanities
Web of Science classification	Natural sciences (agriculture)	Natural sciences (nutrition)	Social science
Localization of food in/security	European/national	Household	European/national/household
Term used in the title	Food security	Food insecurity	Food security/food insecurity
Methodologies	Desk top studies	Surveys/focus groups	Desk top studies
Legitimation of study	Ensure food supply	Ensure people's access to food	Improve political interventions fighting food insecurity
Assumed causes of food insecurity	Production problems	Mental or financial constraints among consumers	Inadequate social policies
Conclusions	Agricultural production needs to be more efficient	Prevalence and identification of risk groups	Need to improve current food insecurity policy
Policy implications	Not discussed	Discussed to a varying extent	Discussed

not moved from being global/national and supply-oriented towards being household and access-oriented, as suggested by Maxwell (1996) and Hadley and Crooks (2012). In Europe, the discourse has remained national and, to some extent, global, and supply-oriented. Rather than justifying the need for research addressing people's access to food, the financial crisis seems, in this respect, to have legitimised a need for research into protecting the agricultural sector from recession. Measured in number, the discourse of production seems stronger than the discourses of consumption and policy. However, measured in depth, the discourse of consumption seems stronger.

The discourses of production and consumption can be seen as part of a greater formation (or web) of related discourses addressing familiar subjects. For example, the discourse of production seems to partially overlap (or be part of) a discourse of secure food supply, which may be associated with the EU's Common Agricultural Policy (CAP) highlighting the need to preserve the EU's food production potential. By guaranteeing long-term food security for European citizens, Zahrt (2011) argues that CAP has turned food security into the most pervasive and powerful argument of those calling for the protection of EU agriculture. Based on the articles presented here, we might argue that CAP has not only strengthened the interests of the agricultural sector, but also turned food in/security into an argument for economic growth rather than addressing social issues. The discourse of production seems to contribute by confirming this dominant paradigm and the structures of interests and power associated with it.

Whereas the discourse of production may be associated with the perspectives of CAP, the discourse of consumption is associated with issues of poverty. We observe few contributions to this discourse of consumption. Considering the comprehensive academic literature (and political debate) on poverty generally, there is a risk that food in/security problems in Europe are not captured as such. To date, the only question that has been asked to the European population about their access to food addresses to what extent people can afford a meal with meat, chicken, fish, or vegetarian equivalent every second day (see Eurostat, 2010). The question was included in a questionnaire dealing with poverty and social inequality in Europe. The tendency of perceiving and handling food in/security as an implicit part of the concept of poverty may overlook the fact that these phenomena are not exactly synonymous, food insecurity being the outcome of complex and difficult living conditions (Richards, Kjærnes, & Vik, 2016). Yet it may explain the lack of knowledge about the status of food insecurity in Europe, since the social benefit of funding and conducting research on food in/security is lower if this phenomenon is

nevertheless covered by surveys on poverty.

Thus, the strength of various discourses not only relies on their relative number and depth, but also on how they relate to other discourses. The discourse of production seems to be strengthened by its association with CAP, the discourse of food in/security at a consumption level may be weakened by its connotation with poverty as a matter of low income. The production discourse may also be strengthened by its use of the term 'food security', a term easily associated with national protection and agricultural interests. On Wikipedia, 'security' is defined as 'the degree of resistance to, or protection from, harm. It applies to any vulnerable and valuable asset, such as a person, dwelling, community, item, nation, or organization' (wikipedia.org/wiki/Security). In contrast, the term 'insecurity' is defined as 'a feeling of general unease or nervousness that may be triggered by perceiving of oneself to be vulnerable or inferior in some way, or a sense of vulnerability or instability which threatens one's self-image or ego' (wikipedia.org/wiki/Emotional_security). By drawing our attention to emotions and personal trauma, the use of food insecurity may increase our sympathy with people who lack access to food. However, by linking this to personal feelings, the use of food insecurity may give the impression that food in/security is an individual problem rather than a problem for which society is responsible. The individualisation of food insecurity may be a factor explaining the lack of knowledge about food in/security in Europe.

Where the discourse of production and the discourse of policy tend to be based on desk top studies, some of the contributions to the discourse of consumption are based on surveys. European surveys on food security on a consumption level are, however, very limited compared to those conducted in countries such as the US, Canada and Australia. Combined with the overall low number of articles addressing food in/security in Europe in the last few decades, the lack of empirical research on the actual situation supports the observation that food in/security is generally perceived as less important compared to in the US, Canada and Australia.

Our review shows that the interest in funding and conducting research on food in/security in Europe has generally been low. It might be that it is generally taken for granted that the European population has enough to eat (Richards et al., 2016). Another reason might be that food in/security is not seen phenomenon on its own, but as part of other social phenomena, such as agricultural policy and poverty. Tendencies towards individualising the problem may also explain the lack of research on people's access to food. The interest in funding and conducting research on this topic is not totally absent but, in Europe, the discourse of production has remained stronger than the discourse of consumption, as promoted

by European policymakers' emphasis on developing a more efficient agricultural sector. In a recently published report, the [European Union \(2014\)](#) states that there is a need for accelerated agricultural production growth in developed countries as the demand for food is likely to grow by 70% by 2050. Several have, however, argued that the main problem is not insufficient food supply but uneven distribution ([Webb et al., 2006](#); [Zahrnt, 2011](#)). If uneven distribution is the problem, the weakness of the academic discourse of consumption is problematic. There may be a negative dynamic between weak research contributing little to the attention towards consumer problems in political discourses and low political attention preventing better funding of research.

Overall, this research has indicated that the current scientific knowledge about food in/security in Europe is limited and highly diverse, offering no shared views on the status of the problem, its causes and solutions. In many cases, there are no clear definitions, the issue of food security serving more of a legitimising function for the work being presented. The conclusions drawn from this research must however be interpreted with caution. First, in this paper, we have explored discourses as they have come to expression in peer-reviewed articles published in scientific journals. What the research results would have been if our search had included articles published in other scientific media, such as reports, book chapters and books, named individual countries, or articles published in other languages than English, remain to be explored.

Second, most of the identified articles focus on food in/security in the UK. According to [Esping-Andersen \(1990\)](#), the UK is a 'liberal' regime, characterised by selective social policies addressing people in severe need. This dominance may therefore reflect that the UK is more vulnerable to food crises than, for example, the social-democratic regime of the Scandinavian countries, characterised with a universalistic social policy addressing all citizens. In these days, southern and eastern countries have serious economic difficulties. If and how current research on food in/security in the UK can be generalised to other part of Europe is uncertain.

Third, this analysis has focused on academic discourses from 1975 to October 2013. The interest in exploring food in/security seems to have increased in recent years. We do not know, however, if and how the formation of discourses has changed; for example, whether new discourses have emerged, or whether existing discourses have been strengthened, weakened or dissolved.

Last, but not least, this analysis has concentrated on the authors of the articles and the journals publishing them. Identifying spokespersons is important, as they represent the drivers of academic discourses without whom current knowledge about food in/security would not exist. It is, however, worth noting that particularly one kind of spokespersons is missing from the analysis, namely the institutions funding the research. The only information we have is that most of the interest seems to be in financing production-oriented research.

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