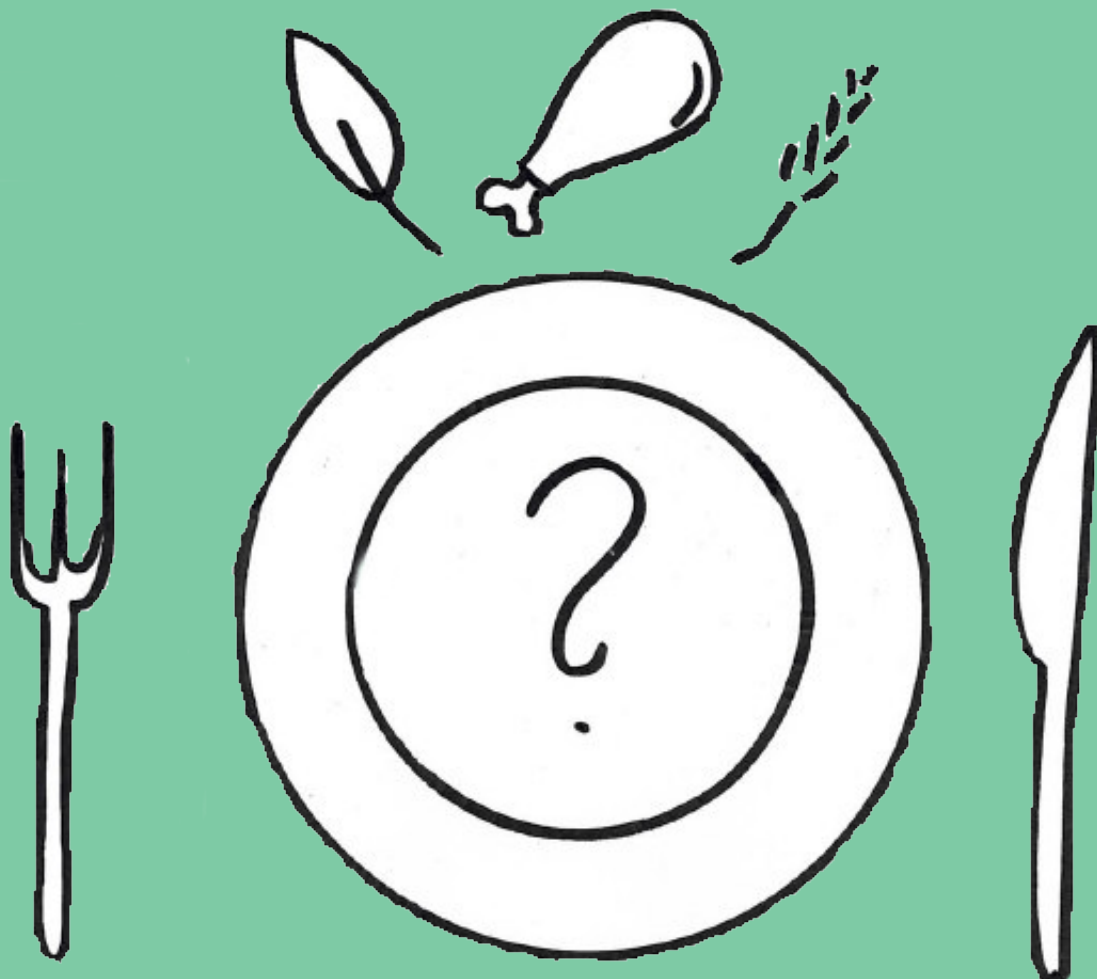


Eating for the future: Elite media framing of sustainable food choices

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Eating for the Future: Elite Media Framing of Sustainable Food Choices

Abstract

Food consumption is a critical area of concern given its environmental impact and link to global health. The media framing of food choices is likely to impact food practices. This is why we study the framing of food choices in leading newspapers in Germany, India and USA. An in-depth qualitative content analysis of 60 articles reveals Body and Health and Sustainable Living as salient master frames. Both, the liberal and conservative press go beyond mere acceptance of 'alternative' diets such as vegan, vegetarian and organic. They promote these food choices, highlighting health and environmental aspects, while calling for restraint in consuming animal foods. Newspapers also prominently feature reinvented traditional foods, as well as foods manufactured in the laboratory. The coverage of food choice is driven by the construction of 'good' taste, signaling an appetizing, rather than punishing, trend. This study fills the space for an up-to-date, comparative frame analysis on food choice, integrating a non-Western economy.

Keywords: food, media, newspapers, environment, sustainability, consumption, meat, vegan, vegetarian, diets, Germany, India, USA, framing, journalism

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Introduction

Food choices are important determinants of the environmental food print of a consumer. In a rapidly warming world, food also lies at the critical juncture of a significant shift towards sustainable living. While food choice is a personal endeavor, it is nevertheless influenced in varying degrees by upbringing, peers, and mediated information. It is therefore worthwhile to examine newspaper coverage of food choices to discern the most salient frames in the liberal and conservative press in different countries.

Background, concepts and state of research

Researchers and policymakers have urged that the concept of sustainable diets be included holistically within the food security and environmental sustainability agenda (Berry et al., 2014; German Council for Sustainable Development, 2011; Swedish National Food Administration, 2009). Most national guidelines call for a reduction in animal products, including meat, fish and dairy consumption and recommend local, seasonal and organic fruit and vegetable produce (Clonan & Holdsworth, 2012). In examining the contribution of the food system to climate change, various studies have advocated for stringent and synergistic mitigation measures, including a global shift to incorporate more of a plant-based diet to check emissions from livestock (Arneth et al., 2019; Springmann et al., 2018). The EAT-Lancet Commission released a comprehensive report advocating healthy diets from sustainable food systems through a global effort at doubling the consumption of fruits, vegetables, nuts and legumes and reducing red meat and sugar by more than 50% (Willett et al., 2019). Thus, there is a broad international consensus that plant-based, organic, seasonal diets are the more ecologically sustainable food choices.

Yet, actual food choices diverge from what experts recommend as healthy or ecologically sustainable. Ideas about desirable food may diverge from expert opinions and media coverage influences which ideas become salient in society.

Our study will focus on the contribution of journalism to framing food choices. Media coverage is relevant for food choices as it provides interpretations of issues: it frames. Frames provide the “central organizing idea” to make “sense of relevant events, suggesting what is at issue” (Gamson & Modigliani, 1989, p. 3). Frames define social problems, convey

possible solutions and assign responsibility to certain actors (Entman, 1993). These frame elements connect into frames that are defined as typical combinations linking problem definitions, causal analysis, evaluations and solutions (Matthes & Kohring 2008). Both, journalists and other social actors are co-producing the most salient frames in media coverage, drawing on the “frame repository” that is culturally available to them and resonates among their audiences (Brüggemann 2014, 65).

Past studies of journalistic coverage indicate that food, for a long time, has not been clearly connected to questions of sustainability such as the impact of food production and consumption on climate change. In 16 US newspapers, between 2005 to 2008, only 2.4% articles mentioned food and agriculture, with just 0.5% mentioning the contribution of animal food production to climate change (Neff, Chan & Smith, 2009). FAO reports have barely had any resonance in the recent past, even in elite newspapers in UK and USA (Kiesel, 2010). One study, examining four newspapers’ coverage of sustainable, climate-friendly food in USA and Australia in 2010 and 2011 found only 9.9% articles mentioned the food choices local, organic, and vegan/vegetarian (Mittal, 2013). The study identified media frames of consumption and utility, lifestyle change, advocacy, technological progress and affirmative action. Local food practices received pro-environmental coverage whereas vegan or vegetarian food was framed in an oppositional manner. Another content analysis, between 2008 to 2013, across eight major Australian newspapers found that news constructions of animal welfare, economy, food or culinary associations were more prominent than those around climate change (Friedlander, Riedy & Bonfiglioli, 2014).

In a European study, Austgulen (2014) analysed five national and regional newspapers in Norway and concluded that the lack of consensus on the nature of meat eating and its consequences for the environment has compromised political and consumer engagement around the issue. A comparative study of a sample of the top ten Spanish and Italian newspapers over a seven-year period reinforced the “media blind spot” in connecting livestock production as among the principal human activities causing climate change (Almiron & Zoppeddu, 2015). Only 1.5% (Spanish) and 3.6% (Italian) articles across papers mentioned the impact of meat eating on the environment, albeit in a largely incidental and anecdotal manner. The conservative press presented plant-based food with higher degrees

of scepticism on the topic. However, other studies with a specific focus on ‘meat’ (in Sweden, Benulic, 2016) or ‘Meat Free Mondays’ (in UK, Morris, 2018) find that certain sections of the press, like alternative newspapers or more liberal national newspapers tend to connect meat eating with its environmental impact and support the process of “de-meatification” (Morris, 2018, p. 434). Yet, the contribution of the media towards legitimizing sustainable food choices seems ambivalent and further research is needed, particularly studies comparing media from different countries and different ideological backgrounds. A systematic, up-to-date comparative frame analysis on food choice that integrates non-Western emerging economies is lacking. Furthermore, most studies have examined specific food practices and their representation in connection with climate change and not taking into account the wider issue of sustainability of consumption choices. Our study aims to fill this research gap, responding to the research question:

What are the overarching frames that characterize the coverage of food choices in different countries and news outlets with different political leanings?

Research design

This study aims to fill a relevant research gap by examining the master frames that emerge from a large corpus of news articles in three countries – India, Germany and USA. USA and Germany are examples of industrialized countries with high levels of meat consumption but also with growing awareness and consequently, a small, steady decline, in the consumption of animal products (Bartz, 2014). India is a rapidly industrializing country with historically and culturally low levels of meat consumption, but its meat and dairy consumption is pegged to double by 2050 (Delgado, 2003).

Examining news media in these three countries with their unique trajectories could pave the way for more international comparative perspectives and a nuanced understanding of the frames through which food choices are portrayed. A table detailing food consumption patterns in the countries being examined is available as Appendix 1.

We have chosen two newspapers in each country, with a conservative and liberal slant each, exhibiting high readership and circulation figures. The selected media sample includes: *Süddeutsche Zeitung* and *Die Welt* in Germany; *The Hindu* and *The Times of India* in India;

and *The New York Times* and *The Wall Street Journal* in USA. Using a broad keyword search in English and in German, focusing on food, we downloaded a large data sample of 14,570 articles in total, across the selected newspapers within a recent date range to access the most up-to-date news coverage (01.06.2016 – 31.05.2018). The keywords were designed as follows:

English: (food OR diet OR nutrition) AND (eat OR drink)

German: (Essen OR Nahrung OR Nahrungsmittel OR Ernährung) AND (essen OR trinken) NOT (in Essen) NOT (Stadt Essen)

These articles were further sorted manually in a primary assessment of the state of the field, identifying through scanning the headline, sub-head and first paragraph whether they clearly discuss a food choice. The resultant set of 35-50 articles per newspaper underwent a second layer of sorting through deeper reading to identify a clear, uncompromising depiction of food choice as a key component in the reporting. Food choice, for the sampling process, was understood as reference to a distinct decision or direction, rather than a casual appearance of food in recipes, events or other incidental reporting. The newspaper selection yielded 60 articles in total with 10 articles per newspaper for an in-depth qualitative analysis conducted through the software MaxQDA.

Based on our knowledge of both the literature reviewed above and a first reading of some of the material sampled, we came up with a tentative framework of four broader master frames (see below) that was further validated in the course of the analysis. The two-pronged analytical approach started by identifying a master frame and the dominant food choices discussed within each article – keeping open to the possibility of the emergence of further master frames in the course of the empirical analysis. The second layer of analysis highlights the sub-frames found within the text, identifying problem-solution constellations as well as a number of cross-cutting dimensions that emerged during the first exploratory analysis.

The final coding book resulted from several rounds of refinement starting from the rough framework of only four master frames and eventually including 15 types of food choices,

and a total of 24 sub-frames. A tabular list of the code system with definitions and examples (following Mayring, 2000) is provided as Appendix 2.

Results: Transnational patterns of framing

The following four master frames could be validated as a useful framework for the analysis of mediated debates on food choices across countries. Yet, we also found that, empirically, two of the master frames hardly come up in the elite press under analysis in this study.

The predominant frame has been coded for each article in the sample of 60 articles:

1. *Body and Health*: Representations and discourses that focus on fitness, nutrition, medical science recommendations as well as food trends (31 articles)
2. *Sustainable Living* : Representations and discourses oriented towards sustained well-being of humanity and nature, catering for future generations and global, planetary welfare (20 articles)
3. *Entitlement and Tradition*: Representations and discourses that focus on traditional, cultural and religious practices, as well as previously established methods of resource management and food production-consumption (13 articles)
4. *Convenience and Price*: Representations and discourses that indicate economic constraints and other factors of accessibility, utility and practicality (1 article)

Each frame is thus connected to a number considerations, the most salient of which are displayed in Table 1 (for a full list including definitions of all categories, please see Appendix 2). The considerations were coded in addition to assigning each article a predominant frame. They occur frequently but not always with the frame, but can plausibly be interpreted as being part of the frame package embodied by our frames.

The by far most dominant master frames across the sample of the six international newspapers under analysis were *Body and Health* (52% of the sample) and *Sustainable Living* (33 % of the sample). While the frames *Entitlement and Tradition* and *Convenience and Price* could not be coded as *dominant* frames in many articles, considerations attached to these frames did come up quite frequently (see further down).

All other codes were assigned to segments of the text and multiple coding was possible leading to higher numbers of codes for all other variables (see Appendix 2 for frequencies for all codes).

Five of the range of 15 food choices included in the analysis are discussed frequently and in a relatively high number of articles (see the two respective columns in Figure 1): vegan, organic, vegetarian, health/super food diets and local/regional food choices.

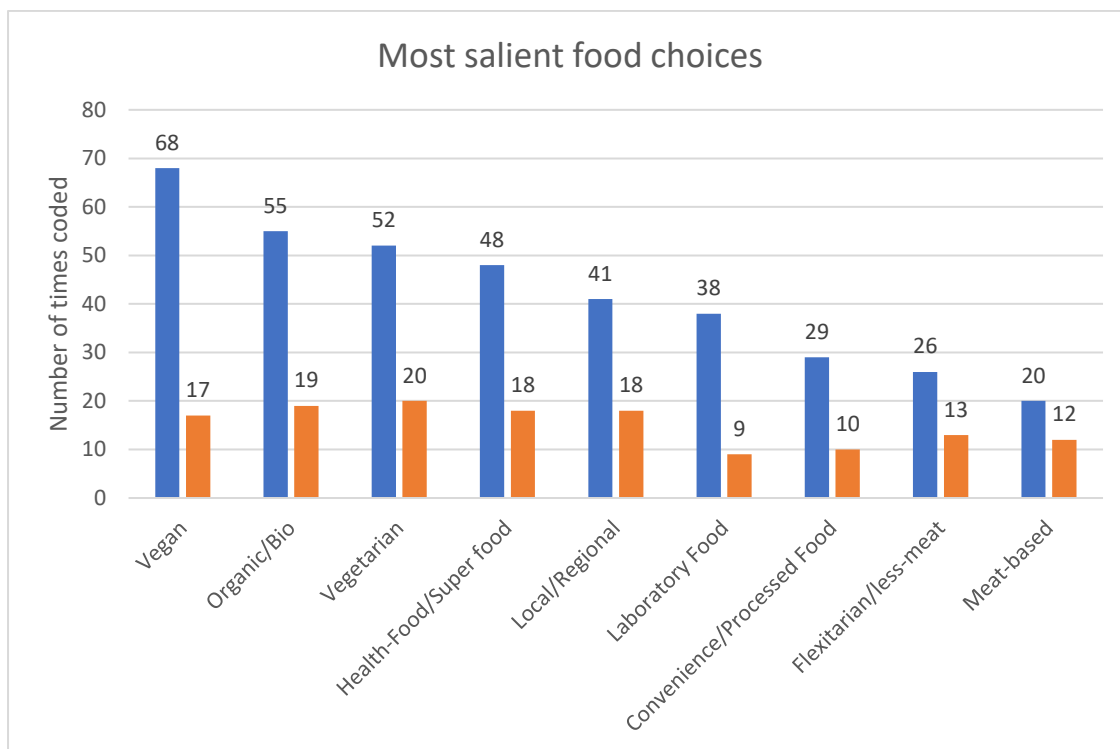


Figure 1: Number of times coded (blue columns), and number of articles including the code (orange columns)

Most of these food choices can clearly be identified as sustainable food choices as discussed above. Only the “superfood” category, is somewhat ambivalent in this respect, as some (so called) super foods are certainly not sustainable when looking at their ecological footprint (avocado being a prime example). The food choices covered most are linking conspicuously to the master frames of *Body and Health* and *Sustainable Living* respectively. These food choices are presented as solutions to either improving nutrition or solving the problem of resource-intensive animal food diets.

It is also interesting what is not among the top five – the most common form of omnivore diet including substantial amounts of meat. Hardly mentioned are some other, more sustainable, food practices such as fairly traded food and avoiding food waste.

The food choices advocated in the coverage relate to the frames as shown in Table 1: we display those food choices that were coded in the same document with considerations related to the different frames. While food choices like organic and plant-based food are logically related to the *Sustainable Living* frame, and superfood scores high in the *Body and Health* frame, the findings on the other two frames are more surprising. The alignment of the Entitlement and Tradition frame with veganism is likely due to the depicted trend of re-packaging conventional, old-fashioned foods as ‘vegan’ products.. Local food is also advocated in the context of the *Convenience and Price* and the *Entitlement and Tradition* frame, which is plausible as local food may be cheaper and is likely to be a traditional dish. It is surprising, however, that flexitarian, meat or processed food are not more salient in connection to those frames, even though meat is fleetingly acknowledged as a dominant diet by the newspapers examined.

Table 1: Frames as typical connections of frame elements

<i>Frame / Frame elements</i>	<i>Body and Health</i>	<i>Sustainable Living</i>	<i>Entitlement and Tradition</i>	<i>Convenience and Price</i>
Salient considerations	Nutrition	Production processes	Reinvention of tradition	Economic reasons
	Food trends	Environmental protection	Traditional cultural practice	Skill set/Cooking capabilities
	Lifestyle change	Education/Awareness	Religion	Accessibility
	Individual physical health	Food security		
	Public health	Resource management		
	Individual Mental health	Animal welfare		
Top 3 food choices	Superfood	Organic	Local	Local
	Organic	Vegetarian	Superfood	Vegetarian
	Vegetarian	Local	Vegan	Organic

We also coded three dimensions that shape the discussion of food choices. The hedonistic justification of food choice would relate to taste and pleasure. In the social dimension, we

interpret food choices as a matter of performance of lifestyle or group membership and from the perspective of rational choice, we see food choices indeed as choices in the sense of reasoned, conscious decision-making. It was not clear a priori how they would relate to the four frames. Indeed, they turned out to be cross-cutting dimensions that were related to all frames. The study finds that the taste and lifestyle/identity dimensions are by far predominant, being coded in 30 and 25 documents respectively, while the rational choice perspective comes up in only 10 documents.

The next section will illustrate these patterns with reference to concrete journalistic coverage. It will also reveal some country specific patterns and differences in coverage in more conservative or more liberal newspapers.

German Press: Critical of production practices, advocating organic food and less meat

Both German newspapers, *Süddeutsche Zeitung (SZ)* and *Die Welt (Welt)* employ the master frames, *Sustainable Living* and *Body and Health*, in equal measure, when covering food choice. Health and sustainability also go hand in hand as depicted in an article describing food trends and developments most relevant for German consumers, where a market research agency representative claims, “More and more people are trying to eat as sustainably and healthily as possible” (*Mahlzeit!, SZ*). Problematic production processes are coded a maximum number of times in both papers, and the food choice advocated most clearly is organic food.

Articles on organic food also highlight a shift in public attitudes: “According to the Association for Nature Conservation (Bund für Umwelt- und Naturschutz, BUND), as many as 20 percent Germans regularly buy organic products” (*Mahlzeit!, SZ*). Another article also emphasizes the change: “This can also be seen in the number of branded and organic products now available at discounters such as Aldi and Lidl” (*Flamingo-Käsekuchen für Junggesellen, SZ*).

The focus on organic, in the more conservative *Die Welt*, also emphasizes organic meat, tying in with a demand for better production processes, including animal welfare, - but it also maintains that meat is something that consumers want: “Dirk Heim, Rewe Division

Manager for Organic & Sustainability, says: The demand for organic meat is already so high that we occasionally can't even meet the need" (*Bio-Produkte verlassen die Nische, Welt*).

Within the more liberal *SZ*, giving up meat is a common theme, underlined by fierce criticism of public opinion, government and industry for not doing enough in this regard. One headline reads: "Es darf nicht wehtun" (*SZ*) – which literally translates as "no one is supposed to get hurt" but also denotes the attempt to change something without daring to ask anyone to leave his or her comfort-zone. The article asks: "Who would want to advertise for abandoning meat? Even the Greens were badly insulted for their demand for a veggie day in canteens".

SZ organizes solutions to the problem of unsustainable food consumption through the frame element education and awareness: informing and engaging youth, science and the government. *Die Welt* emphasizes the need for better policy practices, more research and technological development around food, including meat substitutes: "Artificially produced meat that looks and tastes exactly like natural meat is going to be the cheaper and climate-neutral alternative for the future" (*Essen aus dem Labor, Welt*). For, now, *Die Welt* advocates a flexitarian diet, calling in the authority of science: "scientists plead for the "return to the traditional Sunday roast" and advocate, "By no means should you eat meat more than twice a week - it's good for the climate, and it's healthier" (*Gesund fürs Klima, Welt*). Both papers however, predict an increase in vegan products, in consideration of climate change and, in *SZ*, animal welfare, "Ethically and morally, of course, it's good to have food without high greenhouse gas emissions that is produced without animal suffering." (*Schnitzel, 2.0, SZ*). Interestingly, German papers clearly mention climate change as an important factor to consider in bringing out sustainable behaviors, but this facet of coverage is not so prominent in the English language press, as we shall see below.

While both the liberal *Süddeutsche Zeitung* and the conservative *Die Welt* generally offer similar recommendations, *SZ* frames food choice through a more liberal lens, encouraging and pointedly directing consumers to shift their behaviors towards ethically sound consumption. *Die Welt* considers smaller dietary shifts, demanding better quality conventional food with an approach to reduce rather than stop meat consumption.

Indian Press: Advocating healthy food between the trendy and the traditional

The national papers in India, at least as represented in our sample of coverage of the more liberal *Hindu* and the more conservative *Times of India*, focus on health and local, traditional food. The by far dominating frame is *Body and Health*, albeit with a different framing in the left-leaning *Hindu* and the more conservative (and business-oriented) *Times of India*. Almost all of the coverage from the *Times of India* in our sample depicts food choices as decisions around health with a strong emphasis on covering new food trends. For *The Hindu*, both health and sustainability-related issues are mentioned propagating a local, back to the roots food lifestyle, with intertwined messages around improved nutrition and ecologically sound living.

For *The Hindu*, healthy plant-based food means going back to the roots. The most salient problem is the degradation of food culture leading to bad consumption choices involving unhealthy, fried, convenience food. One article posits, “There is a need to look at the contribution of changing food culture to malnutrition.” (*Grandmothers had so much to eat – all healthy, Hindu*), and another observes, “In the span of two generations, India has forgotten how to grow, cook and eat a variety of indigenous foods.” (*Finger on the pulse, Hindu*). This shows how the *Entitlement and Tradition* Frame advocates plant-based food in India. Due to other traditions, this frame might advocate other food choices in other countries.

The *Times of India* (*TOI*) clearly focusses on *Body and Health* with a focus on nutrition, lifestyle change, both physical and public health, and food trends. A typical article reads: “In recent years, both rice and wheat have suffered blows to their reputation as fitness gurus popularized low or no-carb diets [...]?” (*The third grain that’s edging out atta*¹, *TOI*). Notably, both papers focus on and recommend traditional foods, but the *TOI* perspective is more market-driven, highlighting insects as superfood, and presenting organic and traditional foods as a new trend: “Earlier farmers used to celebrate the new harvest by

¹ Atta is a commonly used Hindi term for wheat flour

feasting on *hurda* (an ancient grain). Now in-city *hurda* parties have taken the place of those celebrations.” (*Traditions ring strong for Nashik foodies, TOI*).

The *TOI* presents the vegetarian diet as a new trend in a traditionally vegetarian country with a cuisine known to incorporate predominantly vegetarian food groups (Green et al., 2016). One article states, for example, “... 70% of Indians above 15 years of age are *still* (emphasis added) non-vegetarians...” (*70% of Indians eat non-veg but veg diet getting popular, TOI*). While *TOI* lists the harmful health effects of an animal-foods based diet, citing scientific and medical reports, it also sympathizes with the presumed difficulty in shifting to a plant-focused diet: “But if the temptation of passing off a juicy chicken burger or melt-in-the-mouth kebabs is too much, you can still reap the health benefits of a more plant-based diet by opting for a flexitarian diet.” (*Cheat on your veggie diet to become a flexitarian, TOI*). It is interesting to note that taste (as one of our cross-cutting dimensions) is invoked in the context of justifying meat eating while plant-based foods are rather advocated referring to high status groups (the young modern urban Indians) or in arguments about health.

United States Press: Consumer’s longing for organic and designer food

The leading US press as represented by the conservative (and business) newspaper *The Wall Street Journal (WSJ)* and the more liberal *New York Times (NYT)* combines frames of *Sustainable Living* and *Body and Health*. The coverage describes a consumer-driven trend towards fresh, organic, predominantly plant-based food and a number of new food trends involving substitutes for meat. Both newspapers focus on consumer concerns around health, nutrition and conventional production processes. The solution offered by both papers is that of innovation and experimentation with food tech and gastronomic processes, where proponents claim, “Biology really is the best technology available, and we’ve started thinking about living cells more as living machines,” (*Having your carton and eating it too, NYT*). Health concerns are no longer depicted as conflicting with good taste: “healthy eating no longer means martyrdom as a new generation of restaurants promote pleasure over platitudes” (*Tune into the turmeric age, WSJ*).

Reinvention, in both papers, is a pervasive sub-frame, celebrating technological progress, often inter-woven with production processes, outlining developments and innovations in food to meet demands of taste and manage food security. The presentation of words and language serve to glamourize food creations that are in essence simple foods. For example: “For his avocado toast – a dish that is the spiritual descendant of the ‘70s avocado sandwich, smashed on health bread and topped with a handful of alfalfa sprouts – the avocado is confited” (*The Hippies have won, NYT*). The title of this article also shows, how food choice is interwoven with the performance of lifestyle and identity: “You’re not just selling food... you’re giving the promise of a healthier life, or a more enlightened meal” (*The Hippies have won, NYT*).

In the selected sample, *The Wall Street Journal (WSJ)* covers all kinds of food trends and innovations enthusiastically, with a strong focus on business trends dominating the food and beverage industry, largely through a positive, pro-health, pro-environment lens. A typical article claims: “Beans are the new kale... Everything about a bean is fashionable,... it says wholesome and natural and good for you” (*The superfood you always knew, WSJ*). Extensive data is provided on consumption trends, profits and business trajectories to back the arguments that outline an in-process vision for the future of food. The main claim is that consumer demand is pushing manufacturers to innovate. “Meat companies are under pressure from consumers to reduce their reliance on animal drugs and to treat livestock more humanely. Some have invested in plant-based burgers and chicken strips, hoping to win business from both vegetarians and carnivores concerned about the meat industry’s heavy use of crops and water” (*Cargill takes a stab at clean meat, WSJ*).

NYT prominently covers the food choices that people make in a changing landscape of eating habits and food transformations, including the rise in food intolerances, lack of transparency in food sourcing, and environmental concerns around eating too much beef. *NYT* claims that, “Whether we realize it or not, Americans have been fighting greenhouse gas emissions with their forks” (*Americans ate 19% less beef over decade, says study, NYT*).

Despite the ample coverage of vegetarian food, the sphere of influence and reference in the US newspapers is located within meat-eating traditions. Serving a veggie burger with a

garnish of bacon is justified by the chef, “It’s an umami addition,... enhancing the flavors in the meat-free patty, and it’s a conscious tweak on the typical American ratio of meat to vegetables and grains. It also does not presume that all veggie burger eaters are vegetarians” (*Veggie burgers with muscle, NYT*). One article reports on a growing community of ‘vegetable butchers’ that wish to attract “discerning consumers” on the wings of a growing global market for meat substitutes. “Vegetable butchers represent the high end of the business, artisans trying to build on the culinary traditions of butchery, sans the flesh and blood” (*These butchers sell baloney that’s phony, WSJ*).

Overview: Country and media differences

To sum up our analysis of the specifics of food choice coverage in different countries and news outlets: From the Indian press, *The Hindu* presents healthy food from a localized, grassroots perspective that is communitarian instead of elitist, whereas *The Times of India* depicts more market-based themes and trends with a focus on exploring new food choices, and linking the burden of disease to decision-making around food. This is similar to the framing employed by the American newspapers, where the focus is on predicting new trends and tracking them as they occur. Most healthy and sustainable food is presented through the perspective of a new, exciting food trend and an appealing option readily available on supermarket shelves. The German press is more precise and analytical, with inputs from scientific studies in examining the ‘correct’ diet to adopt. Yet, the overall impression is one of common patterns in elite newspaper coverage of food rather than vastly different ways of treating the issue.

Coverage in *The Times of India*, *Wall Street Journal*, and *Die Welt* to some extent, seems to respond to market speak, so the emphasis on economics and demand-supply mechanisms is strong, in response to the business audiences of these papers (this is less so in *Die Welt*).

Apart from some nuanced facets of messaging, there was not much difference in the manner in which liberal and conservative press covered food choice. Conservative newspapers do maintain some of their focus on meat, but advocate for consuming lesser meat, preferably of high quality and raised organically. It is telling that ‘meat-based’ as a food choice was coded just 20 times across the entire sample of 60 articles.

Taste and pleasure as fundamentals of media coverage of food choices

The cross-cutting dimension of taste and pleasure is prominent across media outlets and countries, often deployed as a valid argument for encouraging food innovations, reinventing traditional foods in a modern format and supporting the shift in consumption towards healthier and sustainable foods. For example, one German paper points to a trend of re-aestheticization: “People want to have much more fun again with what they eat,” (*Flamingo-Käsekuchen für Junggesellen, SZ*). The English language press, especially US media, constructs the element of taste at the highest pedestal: “a change in diners’ palates toward flavors that are brighter and more acidic... as well as earthier and umami-rich...” (*The Hippies have won, NYT*).

Flavor is a defining thread running through the articles, where sometimes, whether the product is meat or plant-based, the imperative is on replicating meat-like tastes. For example, while grain-finished beef “adds a more flavorful fat to the otherwise lean grass-fed beef” (*Grass-fed beef is on a roll, WSJ*), a self-declared ‘omnivore’ columnist in being served by a vegan chef, who, “proceeded to prepare such a good meal that I forgot I was eating in a vegan restaurant” (*Parlez-vous vegan? WSJ*).

Discussion

Our study was able to validate four frames as a useful heuristic to analyze journalistic coverage of food choices in different national and editorial contexts. The analysis also deepened our understanding of these frames:

1. *Body and Health* can be seen represented as *The Trend*, i.e., food choices as a matter of enhancing personal well-being
2. *Sustainable Living* can be seen represented as *The Alternative*, i.e., food choices as means of catering for the sustained well-being of humanity and nature
3. *Entitlement and Tradition* can be seen represented as *The Norm*, i.e., food choices as a matter of preserving established or conventional ways of living
4. *Convenience and Price* can be seen represented as *The Compulsion*, i.e., food choices as a matter of access to reasonably priced food

We find that the frames *Body and Health* and *Sustainable Living* dominate newspaper coverage: journalists promote new food trends and alternatives to the status quo of food production and consumption. Coverage highlights a growing awareness around food choices like vegan and vegetarian, organic, local and health-oriented foods. The media problematize environmentally inefficient production processes and promote technically advanced, more sustainable production. New food trends that privilege healthy nutrition and reporting on perceived lifestyle shifts in food consumption dominate coverage.

The English-language press enthusiastically promotes a reinvention of traditional food practices, from reviving ancient grains to snacking on innovative versions of lentils and chickpeas. A prominent sub-frame – nutrition – resonates with the speculation by researchers Neff et al. (2009), that including nutritionally relevant information could support the coverage around food and climate change. It is notable, however, that most of the articles examined did not explicitly mention climate change as a factor driving food choice and the terms ‘sustainability’ or ‘climate change’ did not appear repeatedly in the sample. Instead, the sub-frames of environmental protection and resource management were more pronounced with the bulk of coverage focused on optimizing and reinventing production processes. Alongside, food manufactured in laboratories is hailed as a necessary, scientific endeavour by German news reports, and as an exciting new food venture for businesses to stay relevant by American news reports.

It is also noteworthy that the shift toward vegetarian food is linked to an awakening of sorts that brings forth connotations of masculinity once reserved for meat (Adams, 1990). Men have been found to evaluate food in terms of taste and satiety rather than health properties (Gough & Conner, 2006; Roos, Prättälä & Koski, 2001), and a mediated construction emerging through this type of coverage might be able to frame plant-based food through a prism of masculine ideology, as proposed by sociologists studying food and gender (Rothgerber, 2013). We find that new formations of identity through the representations of new food choices and more visceral, multisensory mechanisms of eating as an act of pleasure (Kringelbach, 2015) are reflected through the current analysis.

These findings hint to a shift in how leading media outlets converge in the coverage of food choice. The coverage marks a turning point in popularizing plant-based products along the lines of health, sustainability and pleasure.

Past studies have found clearly skeptical and oppositional coverage of plant-based food, particularly in the conservative press. Newspapers displayed a 'media blind spot' or failed to accord legitimacy to the more sustainable plant-based option while continuing to promote animal foods (Almiron & Zoppeddu, 2015; Austgulen, 2014). Past studies also found that media promoted local food over plant-based food in 2010-11 (Mittal, 2013). This has clearly changed towards a promotion of plant-based food choices, even in the more conservative or business-oriented press. Instead of normalizing meat and dairy-based diets, leading journalistic outlets, problematize current ways of producing and consuming food.

Thus, we find an interesting gap between mass consumption practices of food (with broad majorities consuming meat) and media coverage focused on veganism, plant-based diets, and diverse rare practices like eating insects and diets that are hardly available to consumers at all like cultured meat.

To understand these findings, we have to look closer at our newspaper sample: we have investigated the elite of the press. In these news outlets, we have looked at articles on food choices. It is very likely, that the journalists who care about food and write these kind of articles are part of an avant-garde set that seems to exist across nations and diverges from the preferences and practices of the average food consumer in terms of awareness of the environmental impact of our current ways of food production and consumption.

In the United States, some of the coverage is likely to also have its roots in the policy shifts and campaigning during the Obama administration where Michelle Obama publicly encouraged growing and eating more produce and launched the MyPlate icon in 2011 with an emphasis on fruits and vegetables (Neuman, 2011). Another reason for the type of coverage we find might be strong advocacy by policy organizations and scientific studies in favor of plant-based diets (Ranganathan et al., 2016; Springmann et al., 2018; Tubiello et al., 2014; Wellesley, Froggat & Happer, 2015).

A recent review finds that consumers are more aware of the ecological impact of their food behaviors, and while those who have altered meat consumption habits are still in the minority, there is a significant move towards this curtailment in Europe and Asia (Sanchez-Sabate & Sabate, 2019). The type of coverage adopted by elite newspapers could be representative of and an addendum to a simmering shift in consumption behaviors globally (Cordts, Nitzko & Spiller, 2014; Nielsen, 2017; Weinrich, 2018). In India, experts and traditional media are regarded as important actors providing information on climate change and livestock issues and in Germany, trust in traditional media is high (Bailey, Froggatt & Wellesly, 2014). Newspaper coverage then adds an impetus to how elite readers might view their culinary options, resulting, at best, in a trickle-down effect and accelerated demand for businesses and governments to respond with products and policies.

For the conservative and business papers, the new type of coverage of food choices may also be rooted not so much in the environmentalism of this kind of journalism but in business opportunities in the field of food trends. Market research claims that the sale of organic products grew 10.6% in Germany and 13.1% in USA over a one year period in 2016. A high demand for organic food was expressed by 51% respondents from the Asia-Pacific region (Nielsen, 2016). Alongside, Germany and USA have accounted for the maximum product launches with vegan claims in 2016, featuring, in Germany, a rise from 1% in 2012 to 13% in 2016 (Mintel, 2017).

Still, this type of coverage has a number of blind spots, but the blind spot is no longer meat production (as hypothesized by prior studies). Instead, it lacks a critical perspective on some of the new trends in food consumption, as not all of them are really sustainable or feasible beyond an experimental stage in the near future. Also, the coverage fails to address the question around why current conventional food production and consumption patterns are so slow to change. Instead, the media focuses on niche trends, but neglects the everyday practice by the majority population in their countries. This is not to imply that journalists should promote meat consumption, but rather, engage with the actual food practices in their societies to suggest solutions. Otherwise, food journalism might be viewed as elite and detached from the lives of average people.

It should be noted, that the comparison of our study to past research is a little difficult due to the narrow sampling strategy of many studies which have focused on, for e.g., livestock or veganism or climate change. We have not searched for the word “vegan”, but just for food and then focused on articles related to food choice (see the search terms in the methods section). This makes our finding all the more interesting, that plant-based food choices have arrived at the center of journalistic attention.

Limitations and outlook

This study must be considered within the ambit of its limited scope. While the analysis here does the work of extracting food choice constructions, details a deep, nuanced look at the framing and messaging around them, and some interesting cross-cutting dimensions, these articles are not necessarily representative of the majority coverage across all papers. The qualitative analysis of a narrow sample needs to be complemented by quantitative analysis, including a much larger sample which also goes back in time to clearly map the changes that we hypothesize. In terms of qualitative analysis, we also suggest digging deeper and conducting a linguistic analysis of how media in different countries talk about food. Particularly, it would be worthwhile to look at coverage that deals not with the elite trend, but with everyday food practices to see how journalism engages with the world of the average consumer.

References

- Adams, C. (1990). *The sexual politics of meat: A feminist vegetarian critical theory*. New York, NY: Continuum.
- Almiron, N., & Zoppeddu, M. (2015). Eating meat and climate change: The media blind spot—A study of Spanish and Italian press coverage. *Environmental Communication*, 9(3), 307-325.
- Arneth, A., Barbosa, H., Benton, T.G., Calvin, K., Calvo, E., Connors, S., ... & Zommers, Z. (2019). IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems. <https://www.ipcc.ch/report/srccl/>
- Austgulen, M. H. (2014). Environmentally sustainable meat consumption: An analysis of the Norwegian public debate. *Journal of Consumer Policy*, 37(1), 45-66.
- Bailey, R., Froggatt, A. & Wellesley, L. (2014). *Climate Change's forgotten sector. Global Public Opinion on Meat and Dairy Consumption*. London, UK: Chatham House, The Royal Institute of International Affairs.
- Bartz, D. (2014). Vegetarianism: Many Roots, Many Shoots. In Maennel, A. & Heinrich Böll Foundation (Eds.) *Meat Atlas* (pp. 56-57). Berlin: Heinrich Böll Foundation.
- Benulic, K. S. (2016). *A beef with meat: Media and audience framings of environmentally unsustainable production and consumption*. [Doctoral dissertation]. Södertörns högskola.
- Berry, E. M., Dernini, S., Burlingame, B., Meybeck, A., & Conforti, P. (2015). Food security and sustainability: can one exist without the other? *Public Health Nutrition*, 18(13), 2293-2302.
- Brüggemann, M. (2014). Between frame setting and frame sending: How journalists contribute to news frames. *Communication Theory*, 24(1), 61-82.
- Bucher, T., Collins, C., Rollo, M. E., McCaffrey, T. A., De Vlieger, N., Van der Bend, D., ... & Perez-Cueto, F. J. (2016). Nudging consumers towards healthier choices: a systematic review of positional influences on food choice. *British Journal of Nutrition*, 115(12), 2252-2263.
- Cahill, S., Morley, K., & Powell, D. A. (2010). Coverage of organic agriculture in North American newspapers. *British Food Journal*, 112(7), 710-722.

- Cordts, A., Nitzko, S., & Spiller, A. (2014). Consumer response to negative information on meat consumption in Germany. *International Food and Agribusiness Management Review*, 17(1030-2016-82984), 83-106.
- Chandler, P., Simonson, A., Osborne-Gowey, J., McNatt, M., Benham, A., Nacu-Schmidt, A., McAllister, L., Pearman, O., Boykoff, M., Oonk, D., Ytterstad, A., Aoyagi, M., Reyes, R., Daly, M., & Doi, K. *World Newspaper Coverage of Climate Change or Global Warming, 2004-2019 - October 2019*.
- Clonan, A., & Holdsworth, M. (2012). The challenges of eating a healthy and sustainable diet. *The American journal of clinical nutrition*, 96(3), 459-460.
- Delgado, C. L. (2003). Rising consumption of meat and milk in developing countries has created a new food revolution. *The Journal of Nutrition*, 133(11), 3907S-3910S.
- Dirix, A., & Gelders, D. (2010). To frame is to explain: A deductive frame-analysis of Dutch and French climate change coverage during the annual UN Conferences of the Parties. *Public Understanding of Science*, 19(6), 732-742.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51-58.
- Friedlander, J., Riedy, C., & Bonfiglioli, C. (2014). A meaty discourse: What makes meat news?. *Food Studies*, 3(3), 27-43.
- Gamson, W. A. (1992). *Talking politics*. Cambridge University Press.
- Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology*, 95(1), 1-37.
- German Council for Sustainable Development. (2011). *The sustainable shopping basket*. Berlin, Germany: German Council for Sustainable Development.
- Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harvard University Press.
- Gough, B., & Conner, M. T. (2006). Barriers to healthy eating amongst men: a qualitative analysis. *Social Science and Medicine*, 62(2), 387-395.
- Green, R., Milner, J., Joy, E. J. M., Agrawal, S., & Dangour, A.D. (2016). Dietary patterns in India: a systematic review. *British Journal of Nutrition*, 116, 142–148.
- Kiesel, L. (2010). A comparative rhetorical analysis of US and UK newspaper coverage of the correlation between livestock production and climate change. In E. Seitz, T. Wagner, & L. Lindenfeld (Eds.), *Proceedings of the 10th Biennial Conference on Communication and*

the Environment, Portland, Retrieved from <https://theieca.org/contents-2009-conference-communication-and-environment-proceedings>.

- Kringelbach, M. L. (2015). The pleasure of food: underlying brain mechanisms of eating and other pleasures. *Flavour*, 4(1), 20.
- Lockie, S. (2006). Capturing the sustainability agenda: Organic foods and media discourses on food scares, environment, genetic engineering, and health. *Agriculture and Human Values*, 23(3), 313.
- Matthes, J.; Kohring, M. (2008): The Content Analysis of Media Frames. Toward Improving Reliability and Validity. In *Journal of Communication* 58 (2), pp. 258–279. DOI: 10.1111/j.1460-2466.2008.00384.x.
- Mayring, P. (2000, February). Qualitative Content Analysis Forum Qualitative Sozialforschung. In *Forum: qualitative social Research*. 1(2), 2-00.
- Mintel (2017). *Global New Products Database*. <https://www.mintel.com/press-centre/food-and-drink/germany-hosted-the-highest-number-of-vegan-launches-worldwide-in-2016>
- Mittal, R. (2013). *What do newspapers tell us about climate change and food practices? a discursive frame analysis of mainstream Australian and U.S. newspapers*. [Doctoral dissertation]. Macquarie University.
- Morris, C. (2018). ‘Taking the politics out of broccoli’: debating (de) meatification in UK national and regional newspaper coverage of the Meat Free Mondays campaign. *Sociologia Ruralis*, 58(2), 433-452.
- Neff, R. A., Chan, I. L., & Smith, K. C. (2009). Yesterday’s dinner, tomorrow’s weather, today’s news? US newspaper coverage of food system contributions to climate change. *Public Health Nutrition*, 12(07), 1006-1014.
- Neuman, W. (2011, May 27). Goodbye Food Pyramid, Hello Dinner Plate. *New York Times*. <http://www.nytimes.com/2011/05/28/health/nutrition/28plate.html>.
- Nielsen. (2016). *Global Ingredient and Out-of-Home Dining Trends Report*. <https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/global-ingredient-and-out-of-home-dining-trends-aug-2016.pdf>
- Nielsen. (2017). *Homescan Panel Protein Survey (U.S.)*. <https://www.nielsen.com/us/en/insights/article/2017/plant-based-proteins-are-gaining-dollar-share-among-north-americans/>

- Pitt, E., Gallegos, D., Comans, T., Cameron, C., & Thornton, L. (2017). Exploring the influence of local food environments on food behaviours: a systematic review of qualitative literature. *Public Health Nutrition*, 20(13), 2393-2405.
- Ranganathan, J., Vennard, D., Waite, R., Dumas, P., Lipinski, B., Searchinger, T.... & Mungkung. R. (2016). *Shifting Diets for a Sustainable Food Future*. Working Paper, Installment 11 of Creating a Sustainable Food Future. World Resources Institute: Washington, DC.
- Riebl, S.K., Estabrooks, P.A., Dunsmore, J.C., et al. (2015) A systematic literature review and meta-analysis: the Theory of Planned Behavior's application to understand and predict nutrition-related behaviors in youth. *Eating Behaviors* 18, 160–178.
- Roos, G., Prättälä, R., & Koski, K. (2001). Men, masculinity and food: interviews with Finnish carpenters and engineers. *Appetite*, 37(1), 47-56.
- Rothgerber, H. (2013). Real men don't eat (vegetable) quiche: Masculinity and the justification of meat consumption. *Psychology of Men and Masculinity*, 14(4), 363.
- Sanchez-Sabate, R., & Sabaté, J. (2019). Consumer attitudes towards environmental concerns of meat consumption: A systematic review. *International Journal of Environmental Research and Public Health*, 16(7), 1220.
- Semetko, H. A., & Valkenburg, P. M. (2000). Framing European politics: A content analysis of press and television news. *Journal of Communication*, 50(2), 93-109.
- Springmann, M., Clark, M., Mason-D'Croz, D., Wiebe, K., Bodirsky, B. L., Lassaletta, L., ... & Willett, W. (2018). Options for keeping the food system within environmental limits. *Nature*, 519- 525.
- Swedish National Food Administration. (2009). *The National Food Administration's environmentally effective food choices; proposal notified to the EU*. Uppsala, Sweden: National Food Administration.
- Tubiello, F. N., Salvatore, M., Córdor Golec, R. D., Ferrara, A., Rossi, S., Biancalani, R., ... & Flammini, A. (2014). Agriculture, forestry and other land use emissions by sources and removals by sinks: 1990- 2011 Analysis. FAO Statistics Division, ESS Working Paper No. 2. Rome, Italy.
- Weinrich, R. (2018). Cross-Cultural Comparison between German, French and Dutch Consumer Preferences for Meat Substitutes. *Sustainability*, 10(6), 1819.

- Wellesley, L., Happer, C., & Froggatt, A. (2015) Changing Climate, Changing Diets Pathways to Lower Meat Consumption. Chatham House Report. The Royal Institute of International Affairs. London.
- Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Jonell, M. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.
- Wilkins, L. (1993). Between facts and values: Print media coverage of the greenhouse effect, 1987-1990. *Public Understanding of Science*, 2(1), 71-84.

Appendix 1: Newspaper Sample

Study Sample				
Country/ Paper	Orientation	Readership	Circulation	Data Sample
USA				
The New York Times	Liberal	4,600,000 readers (3)	3,800,000 total subscriptions in 2018 (4)	2,571 articles
The Wall Street Journal	Conservative slant	42,400,000 digital readers monthly (1)	1,011,200 print circulation in 2018 (2)	910 articles
Germany				
Süddeutsche Zeitung	Liberal	1,250,000 readers (5)	338,000 copy sales in 2019 (5)	6,032 articles
Die Welt	Conservative	1,730,000 readers (6)	502,510 copy sales in 2019 (6)	1,997 articles
India				
The Times of India	Right of center	15,236,000 in 2019 (7)	2,826,164 copy sales in 2018 (8)	2,273 articles
The Hindu	Liberal	62,26,000 in 2012 (7, 9)	1,397,944 copies in 2018 (8)	787 articles
<p>Sources</p> <p>(1) https://wsjmediakit.com/products/</p> <p>(2) https://images.dowjones.com/wp-content/uploads/sites/183/2018/03/26151029/WSJM-2066_U.S._general_advertising_rate_card-2019.pdf</p> <p>(3) https://nytmediakit.com/newspaper</p> <p>(4) https://s1.q4cdn.com/156149269/files/doc_financials/quarterly/2018/Q2/Press-Release-7-1-2018_final.pdf</p> <p>(5) https://sz-media.sueddeutsche.de/de/service/downloads/preisliste-mediadaten-sz_en.pdf</p> <p>(6) https://www.mediaimpact.de/de/portfolio/welt-print</p> <p>(7) http://mruc.net/uploads/posts/b4c4dc7e0fce3369473c0c1a93196bfb.pdf (Indian Readership Survey, Nielson)</p> <p>(8) http://www.auditbureau.org/files/JJ2018%20Highest%20Circulated%20amongst%20ABC%20Member%20Publications%20(across%20languages).pdf</p> <p>(9) https://www.thehindubusinessline.com/news/the-hindu-increases-total-readership-by-17/article26958174.ece</p>				

Appendix 2: Coding Frame

Category	Definition	Example	Number of times Coded
Food Choices	Choice of food/diet displayed in a dominant representation found in the newspaper texts (definitions drawing on: Lexico powered by Oxford)		
Vegan	Using or containing no animal products	'Vegan milk is no stranger to the Indian market, what with brands like Sofit and Staeta lining supermarket shelves with their almond and soya offerings.' (The Hindu, 29 May 2018)	68
Organic/Bio	Organic (of food or farming methods) produced or involving production without the use of chemical fertilizers, pesticides, or other artificial chemicals.	'Costco consumers gravitate most to an 'organic' label for now, says Jeff Lyons, Costco's senior vice president of fresh foods.' (The Wall Street Journal, 1 Sept, 2016)	55
Vegetarian	A person who does not eat meat or fish, and sometimes other animal products, especially for moral, religious, or health reasons.	'Healthy or vegetarian options on cruises and at hotels aren't a novel concept nowadays.' (The New York Times, 9 Oct 2016)	52
Super-food	A nutrient-rich food considered to be especially beneficial for health and well-being.	'Oats are a coarse grain, traditionally fed to horses, but new wisdom on nutrition has elevated it to a super grain.' (The Times of India, 13 Nov 2016)	48
Local/Regional	Food labelled as being local or regional	'We try to push people to eat local, traceable fish.' (The New York Times, 14 Aug 2016)	41
Laboratory Food	The production of agricultural products including but not limited to, one or many of the following: biotechnology, tissue	'Then there's Memphis Meats Inc., which is developing technology to grow meat from self-	38

	engineering, molecular biology, synthetic biology, genetic engineering, etc.	reproducing animal cells.' (The Wall Street Journal, 16 Oct 2017)	
Convenience / Processed Food	A food, typically a complete meal, that has been pre-prepared commercially and so requires minimum further preparation by the consumer	'...all Americans bought ample amounts of desserts, salty snacks, candy and other junk foods.' (The New York Times, 14 Jan 2017)	28
Flexitarian / Less-meat	A person who has a primarily vegetarian diet but occasionally eats meat or fish	'More people are giving pulses a closer look as they embrace plant-based foods and cut back on meat.' (The Wall Street Journal, 19 March 2018)	26
Meat-based	Diet based on meat	'Per capita consumption of beef topped out in 1976, but it remained America's favorite meat until the mid-1990s, when it was surpassed by chicken.' (The New York Times, 22 March, 2017)	20
Intolerant/Allergy	Consumption of a certain ingredient causes (more or less severe) health effects to an individual	'Allergy-safe, appealing meals in the midst of the African wilderness? Many safari lodges offer tailored menus.' (The New York Times, 9 Oct 2016)	12
Less Waste	Minimising food waste of food loss, either due to food being discarded or left uneaten, at various stages including producing, processing, retailing and consuming	'Their efforts come as food and beverage companies are not only looking for biodegradable containers [...] but also joining in the growing effort by governments, restaurateurs and consumers to reduce waste, which contributes to the greenhouse gases enveloping the planet.' (The New York Times, 31 May 2017)	8

Seasonal	Relating to or characteristic of a particular season of the year - 'a selection of seasonal fresh fruit'	'Winter is spelled as bharit-bhakari for Nashikites. The city markets are flooded with Special Jalgaon Wangi (Eggplants).' (The Times of India, 17 Jan 2017)	6
Fasting	Abstain from all or some kinds of food or drink, especially as a religious observance	'Heute ist der Verzicht aufs Essen und Trinken nur einer von vielen Aspekten für mich.' (Engl.: 'Today the fasting of food and drinks is only one of many aspects for me.')	5
Pescatarian	A person who does not eat meat but does eat fish	'Und die Pescetarier leben sogar noch länger.' (Engl.: 'And Pescetarians live even longer.')	3
Fair Food	Trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers	'Wood's Fisheries, in Port St. Joe, Fla., specializes in sustainably harvested shrimp and uses software called Trace Register.'	3
Frames			
Frame elements			
Sustainable Living	Representations and discourses oriented towards sustained well-being of humanity and nature, catering for future generations and global, planetary welfare		20*
Production Processes	Mechanisms of food manufacturing, growing, processing and distribution that cause environmental harm, resolved by adopting environmentally friendly practices (adapted from Mittal, 2013)	'Most agriculturists are not educated, and usually go for high yield crops that need chemical fertilizers and pesticides. We are trying to refocus their attention on traditional and eco-friendly methods of	116

		farming.’ (The Hindu, 18 March 2017)	
Environmental Protection	Managing dietary habits and natural resources in consideration of the environment	‘A growing number of U.S. consumers are looking for healthy, minimally processed ingredients sourced in a way that is kind to the environment.’ (The New York Times, 21 May 2017)	53
Education and Awareness	Growing awareness, knowledge and sensitivity to current unsustainable habits, to develop the ability to make informed and responsible choices	‘Growing awareness about an alternative lifestyle that respects nature has led to a boom in millet-based food’ (The Hindu, 18 March 2017)	42
Food Security	A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (as defined by the FAO; also identified in Mittal, 2013)	‘Unsustainable fishing practices threaten the well-being of millions of people in the developing world who depend on the sea for income and food, experts say. (The New York Times, 30 April 2017)	31
Resource Management	Recognizing and implementing the efficient management of resources in all food system activities at different levels, from the global to the local (adapted from a definition by UNEP)	‘Many schools have sufficient land within the compound, and this can now be used for sowing good quality vegetables for the students to eat. This is better than using the same money to buy produce grown using pesticides.’ (The Times of India, 19 Feb 2017)	30
Animal Welfare	Concern for better treatment of animals	‘89 Prozent ist auf jeden Fall oder eher dazu bereit, höhere Preise zu bezahlen, wenn die Tiere dafür besser gehalten würden.’ (Engl: ‘89 percent are in any case or rather willing to	23

		pay higher prices if the animals would be kept better.’) (Die Welt, 1 Sept 2016)	
Body and Health	Representations and discourses that focus on fitness, nutrition, medical science recommendations as well as food trends		31*
Nutrition	Eating for a balanced mix of vitamins, minerals, carbohydrates, protein etc.	‘The low glycaemic index of millets (a measure of how fast our body converts food into sugar) compared to rice, is one of its many nutritional advantages. Many health experts think that switching over to millets will decrease the future risk of diabetes.’ (The Hindu, 18 March 2017)	88
Food Trends	Any type of culinary practice that is in vogue and gains momentum, signalling a temporary or long-term shift in consumption patterns (adapted from Mittal, 2013)	‘Kale, the bacon of the clean-eating moment, is now routinely heaped on salad plates across the land.’ (The New York Times, 5 April 2017)	83
Lifestyle Change	Individuals, families, or communities encouraged to and making significant efforts to change their habits and dietary practices for substantial reasons (adapted from Mittal, 2013)	‘religiosity and changing lifestyles could also be contributing to the changing Trend’ (The Times of India, 11 June 2016)	79
Individual Physical Health	Individual decision of choosing food to optimize health and remain free of disease	‘Thirty-five percent of the respondents said they were eating more protein from other sources, like chicken or tofu. But more than a quarter ascribed the change to their concern about cholesterol and saturated fats.’ (The New York Times, 22 March 2017)	70
Public Health	Broadly prioritizing the health of a community, developing food	‘While there is evidence that people do buy more fruits and vegetables	49

	policies or initiatives to counteract the disease burden (Adapted from Maibach, Nisbet, Baldwin, Akerlof, & Diao (2010) and Mittal (2013))	when given incentives, research suggests that banning sugary drinks would have a far more powerful impact on health.' (The New York Times, 14 Jan 2017)	
Convenience and Price	Representations and discourses that indicate economic constraints and other factors of accessibility, utility and practicality		1*
Economic Reasons	Inability to purchase food due to monetary constraints; lack of availability of affordable food	'Asked what prompted them to eat less beef, 37 percent of consumers surveyed cited its price as the No. 1 reason.' (The New York Times, 22 March 2017)	31
Skill Set – Cooking Capabilities	Behaviour, attitude and ability or inability to cook that might influence food decisions	'The good thing with this is Ducasse is such a culinary artist,' Dr. Mulligan said. "He is really well known for being able to take anything and make it taste good.' (The New York Times, 10 Jan 2017)	25
Accessibility	Food available in a manner that is obtainable, including aspects of convenient location, transport and packaging, all of which might influence food decisions	'We wanted to make plant-based food affordable and accessible.' (The Hindu, 29 May 2018)	17
Time Restriction	The construction and influence of time in preparing, consuming and eating food	'She went back to her old eating habits due to her hectic work routine and lack of healthy vegetarian options.' (The Times of India, 4 June 2017)	8
Comfort / Known Factor	Finding recourse in, or reverting to, well-known foods or food habits that provide solace and a sense of comfort	'Masala Dudh (Engl: spiced milk): Just a glass, full or half, is enough to make you forget the fatigue of entire day.'	6

		(The Times of India, 17 Jan 2017)	
Entitlement and Tradition	Representations and discourses that focus on traditional, cultural and religious practices, as well as previously established methods of resource management and food production-consumption		11*
Reinvention of tradition	Re-visiting traditional foods and associated consumption behaviours to reinstate and renew the foods and practices in an up-to-date format, sometimes using technology or new manufacturing and branding processes (adapted from Mittal, 2013)	'Chickpeas are appearing in the snack aisle, black beans are in pastas and peas are a featured ingredient in substitutes for milk and meat. Pulses are a modern food marketer's dream.' (The Wall Street Journal, 19 March 2018)	83
Traditional Cultural Practice	Foods and dishes passed on through generations (Kristbergsson & Oliveria, 2016); foods carrying references to festivity and family gatherings and traditional wisdom on eating and living well	'Every day, our senior interns would bring in food, kadhis and khichadis their grandmothers had taught them.' Then she adds delightedly, "Today's our final day, and they gave each of us a bhajani pulse mix as a farewell gift [...]." (The Hindu, 8 June 2016)	81
Religion	Special food practices due to religious reasons and long-established communitarian practices	'There was the time when a family asked for meals, as per their Jainism (an ancient Indian religion), that were vegetarian, and without eggs and root vegetables, such as onions and carrots.' (The New York Times, 9 Oct. 2016)	11
Ritual	The continuation of long-standing food practices and established habits and observances around food	'Earlier farmers used to celebrate the new harvest by feasting on hurda.' (The Times of India, 17 Jan 2017)	6

Lobbying	An attempt by private individuals, organisations or interest groups to influence food policies, business, and actions	‘Coca-Cola, Kraft Foods and the sugar industry lobbied against a Florida bill in 2012 that would have banned using food stamps to buy soda and junk food.’ (The New York Times, 14 Jan 2017)	5
Cross-cutting Dimensions	Ways of discussing or justifying food choices from a certain perspective (not necessarily tied to a certain frame)		
Lifestyle/Group Identity	Food choice as being explicitly related to the performance of group identity	‘Some staunch vegans and vegetarians say the word butcher should be verboten because it describes the killing of animals. Some traditional butchers and meat lovers meanwhile are rankled by the co-opting of a term they view as theirs.’ (The Wall Street Journal, 20 April 2017)	37
Rational Choice	An indication of action intended to achieve clearly defined goals in determining food choice - goals might include, for example, losing weight, helping animals, saving money, etc.	‘For, eating such food stuffs made him halve his weight from 125 kg to 70 kg.’ (The Hindu, 24 Sept. 2016)	11
Taste and Pleasure	Identifying primacy of the role of taste and the pursuit of pleasure in making and justifying food choices	‘To put his creations to the ultimate test -- whether they are tasty -- Mr. Kim turns to meat-eating friends like Josh Karant,[...] nice and smoky and salty and toothsome,” he says of the brisket. (The Wall Street Journal, 20 April 2017)	66

* The dominant frame was coded on the article level as a mutually exclusive code (N=60). All other codes allowed for multiple codings of segments of text within an article.