



Kristianstad
University
Sweden



*The Worshipful Company of Cooks
of London*

13th International Conference on Culinary Arts and Sciences



M. Nyberg, K. Höijer, M. Billgren, K. Wendin

13th International Conference on Culinary Arts and Sciences – ICCAS

Organised by the Department of Food
and Meal Science, Kristianstad University,
Sweden. Supported by The Worshipful
Company of Cooks of London.

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The 13th International Conference on Culinary Arts and Sciences – ICCAS, 18–19 June, 2024

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Savoring Swedish Midsummer: A Cultural and Culinary Tribute

*Now the sun barely goes down,
dimmed only by its own glow.
Twilight's border becomes the hour of dawn.
Neither early nor late.*

*The lake holds the evening's light,
gliding on the water's reflection
or teetering on the waves which,
long before they have darkened,
reflect the morning sun's flames.*

*June night never happens.
It is more like a dewy day.
Veil-like, the dawn lifts itself
and is carried away on the bright seas.*

Thus describes the Swedish Nobel laureate Harry Martinson the magic of Midsummer night in his poem 'June Night' (here translated by Jan Alm and Amy Elizabeth Wheeler). For those not residing in a place where winter is cold and dark, it may be difficult to grasp the emotions stirred by a balmy summer night where darkness never prevails. But for the Swedish people, the summer solstice has long been a reason to celebrate the return of life to nature. And thus, the classic Midsummer feast becomes more than just a meal for the Swedish people—it is a tribute to love, community, and the longing for bright summer days.

A classic Swedish Midsummer buffet often consists of pickled matjes herring, new potatoes, sour cream, and chives. Preparing and eating the potatoes becomes almost a ritual for many Swedes as it marks the first time they taste the year's new potatoes. Just like with the chives, many Swedes grow their own potatoes in the garden and plan the first harvest specifically for Midsummer.

Pickled herring is an important ingredient in several Swedish holidays, but the matjes herring, which is seasoned with sandalwood and cinnamon, is special for Midsummer. Along with the tradition of eating matjes herring at Midsummer comes stories of folklore and fortune-

telling; in medieval peasant society, it was believed that the boundary between the human and the supernatural realms was especially easy to cross during Midsummer night, and therefore various fortunetelling practices were common. For example, if you ate extra salty food (usually salty herring) and then went to bed without quenching your thirst, it was said that your intended spouse would come to you in the dream to offer you a drink.

Speaking of drinks, those who still choose to quench their thirst after the herring often do so with light, refreshing beer or wine that complements the spicy herring and the sunny weather. And no Swedish Midsummer celebration is complete without the snaps, a traditional Swedish distilled spirit, which come in countless flavors and seasonings. Of course, there are also non-alcoholic options on the Midsummer table for those who prefer. Regardless of what guests fill their glasses with, it is tradition to raise them in a communal toast after singing a snaps song together.

After the pickled herring and potatoes, grilled salmon or meat often follows; there is great variation between different families and regions of the country. For dessert, however, most Swedes indulge in plenty of strawberries, served as they are with cream or in a dessert made of and decorated with strawberries. The fact that the strawberries are Swedish is of utmost importance, and therefore a cold or rainy early summer can result in extremely high prices per liter for the sun-ripened berries days before Midsummer's Eve.

It is evident that the Swedish Midsummer meal is a symbol of the transition to summer and that this is of deep cultural significance for the Swedish people. For many Swedes, Midsummer's Eve is the most anticipated day of the year.

During ICCAS 2024, participants are served several dishes inspired by the classic Swedish Midsummer flavors. The ingredients are Swedish, of high quality, and selected based on what is in season. The flavors are pure, fresh, and simple, representative of modern Swedish culinary culture, where things should taste as they are and not be covered up. We hope that the food and presentation provide you with a culinary experience and the feeling of Swedish Midsummer magic.

The food at ICCAS 2024 is presented in collaboration with the restaurant SALT in Kristianstad. Chocolate treats served with the dessert are provided to ICCAS 2024 by Mina's Chocolate Studio. Mina is a graduate student from Food and Meal Science at Kristianstad University. The apple juice served at ICCAS 2024 is produced by students at Food and Meal Science at Kristianstad University in cooperation with Balsgård Foodtech, using apples organically produced by Ransviks Gardens.

Menu

June 17th

Lunch

Puy lentils from Gotland, charred green asparagus,
hazelnuts, Swedish alp cheese topped with rhubarb

Dinner

Swedish “sushi” finger food:

New potatoes with pickled matjes herring and chives

Charred beef tartare with beetroot

Västerbotten cheese tart

“Deconstructed” Skagen on rye bread

Egg with pickled trout roe and Beetroot tartare with charred leek

Gruère cream on rye bread with charred asparagus
and ramson flowers

June 18th

Morning coffee break

Sourdough roll with cheese, turkey and vegetables

Lunch

Warm salad with brown rice, fennel, radish
and sesame, tofu or chicken

Dinner

Grilled chicken thigh fillet and grilled flank steak
(beef) with the following sides served at a buffet:

potato salad, panzanella salad, roasted parsnip with fennel,
asparagus and hazelnut salad, leaf salad, sourdough bread,
whipped butter, nettle cream and rhubarb and ginger chutney

Dessert: Rhubarb jelly, white chocolate mousse,
strawberries, lemon meringue and garnishes. Choose either in
individual glasses or sharing on platters (max 8/table)

June 19th

Morning coffee break

Sourdough roll with cheese, turkey and vegetables

Lunch

Ramson-tossed new potatoes with sugar snaps, radishes,
mustard sauce and delicious hot-smoked salmon

Afternoon coffee break

“Swedish fika”: Chokladboll and cinnamon bun

The 13th International Conference
on Culinary Arts and Sciences – ICCAS,
18–19 June, 2024

How can healthy and sustainable food choices be facilitated in a changing society?

The ICCAS

Twelve ICCAS conferences have been held around the world in various countries starting in UK 1996 and recently in 2022 in Lyon, France. The 13th ICCAS conference is held in the southern part of Sweden, in Kristianstad. This area of Sweden is well known for its beautiful landscape with many lakes and water rich areas protected by UNESCO. Further, for the farming landscape and the food production. Kristianstad University with education and research within food and meal science, is hosting the conference.

The conference uniquely brings together local, national, and international researchers and other professionals in the food system, for example representatives from the food retail and industry, with an interest in culinary art, food science and consumers.

Theme of the 13th ICCAS conference

Today's society is facing tremendous challenges in relation to sustainable food consumption and production. Climate changes result in fundamental threats to both people and places, and together with global crises like the Covid-19 pandemic and the Ukraine war, new conditions related to how we consume and produce food have arisen. Increased food prices, but also food insecurity and lack of food, are examples that show the vulnerability of the global food system. Moreover, health disparities are increasing: there is an obvious risk that more than 50 % of the global population will be overweight or obese in 2035, while there is also a rise in the number of undernourished people. Future food consumption and production may contribute to solutions to many of these challenges. It is important to jointly understand how sustainable and healthy food choices can be facilitated, using the

potential of culinary arts and sciences in securing high quality and tasty food.

In line with the Sustainable Development Goal number 17, Partnerships for the goals, we need to acknowledge the central role for collaboration to increase our knowledge of how different actors in the food system can work together in facilitating healthy and sustainable food choices. There will be four main tracks for this ICCAS conference following different actors in the food system sectors:

- Producers
- Retailers
- Consumers/households
- Actors within food service and hospitality.

Within each of these tracks, many different topics can be included, such as the role of:

- culture in eating and drinking and the impact of food habits and consumer behavior
- food service and hospitality, including institutional settings, in facilitating healthy and sustainable food choices
- food perception, quality and acceptance, policies, regulations and legal frameworks in creating a resilient society
- food marketing and market influences
- food safety and nutritious food to achieve health and wellbeing
- education and food literacy.

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PART I
ORAL PRESENTATIONS
SESSION
PERSPECTIVES ON
SOCIETAL CHANGE

"The Hungry Sixties": impacts and consequences of the 1860s food supply crisis in Northern Europe

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"The Hungry Sixties" was coined by historians to denote a persistent and general food supply crisis in Northern Europe during the 1860s, when extreme weather conditions wrecked harvests and caused subsequent hunger and in some places downright famine. The period was indeed formative, due to fundamental societal changes at the crossroads of industrialization, globalization, and nation-building. Consequently, nations, regions, social groups, and individuals were affected differently by the crisis. Unlike other historical famines, and even modern ones that occur under chaotic conditions, the case of the "Hungry Sixties" provides due to abundant sources comparatively good conditions for studying various aspects of a food supply crisis in an emerging modern society.

As for Sweden, conceptions about the 1860s "famine" have been shaped for generations of Swedes by popular narratives. In contrast, facts and academic research on the matter are at best scarce. My proposed contribution to the ICCAS 2024 will present results from an ongoing and recently formed international research group that deals with the "Hungry Sixties" around the Baltic Sea from a regionally comparative perspective, with a particular focus on the core famished Swedish region of *Västerbotten*. Famine research has previously been typically characterised by "historical nationalism" in the sense that famines are studied as isolated events shaped by, and shaping, national trajectories only. It is problematic, which is exemplified by that claims of an 1860s famine in Sweden, where mortality only increased marginally in some northern regions and not nationally, dwarf and relativise compared to for instance the simultaneous nation-wide famine and population decrease in neighbouring Finland. Furthermore, even if it stands out in a Swedish context, Northern Sweden was hardly isolated but rather integrated with other regions through markets. Thus,

whether *Västerbotten* should be considered a relative success or failure in terms of ability to combat hunger and provide food security for its population depends on the object of comparison, which is why our research project applies a regionally comparative approach.

Summing up, my contribution will provide historical perspectives on several key topics of the ICCAS 2024. More precisely, it deals with a case in which food supply and choices were neither healthy nor sustainable (mainly economically and socially, rather than ecologically, speaking) in a changing society on the brink of modernity. The aim is to analyse the impacts and consequences of the “Hungry Sixties”, through demographic effects (mortality - including death causes in relation to starvation - and malnutrition, and fertility) and the shaping of the interactive mechanisms of state, market, and civil society for combatting hunger. The analyses combine unique and high quality individual level demographic data with archival sources.

Mapping the barriers and facilitators to the diversification of the food system with forgotten, landrace and underutilised crops

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Key words: Food and nutrition security, minor crops, forgotten crops, gastronomic landscapes, landrace value chains

Introduction

Global levels of agrobiodiversity are decreasing, resulting in food and nutrition insecurity, loss of dietary diversity and culinary heritage. The homogenisation of the food systems after the Green Revolution have led to the loss of ingredient variety; where, 90 %, of today's global food production originates from just 15 crops and many of the minor-crops and traditional varieties have been lost or have diminished from consumer plates. On the contrary, there are at least 7,039 edible plant species, but only around 417 are considered food crops. Many of these minor crops have great economic, societal, and sensory potential, where all could be exploited through various innovative gastronomic concepts. Despite many existent facilitators, many barriers to the diversification of food systems with forgotten crops also exist and those must be studied through an interdisciplinary lens.

Objectives

The aim of the study is to map the barriers and facilitators to the diversification of food systems with forgotten and underutilised crops

- To critically analyse forgotten, landrace and underutilised crop supply chains through a systematic document analysis.
- To critically analyse the barriers and facilitators to food supply chain diversification with forgotten, landrace and underutilised crops through semi-structured interviews.

- To synthesise the findings and develop a forgotten, landrace and underutilised-crop value chain map.

Method and design

A case study approach has been developed for an existing food enterprise that specialises in the distribution of minor crops (forgotten, landrace and underutilised) across the UK and parts of Europe. This food business has developed a unique value chain for their minor crops and is representative of the entire minor-crop market. A Case Study Protocol by Yin, (2018) and PRISMA have been developed and followed throughout the study.

- A systematic document analysis of the business and its value chain to map the barriers and facilitators to the diversification. Data retrieved from the document screening has been thematically analysed using NVivo Pro 14 software programme.
- 9 semi-structured interviews with key representatives of the enterprise. The Snowball sampling technique has been applied for the recruitment strategy. The audio recordings have been transcribed and analysed thematically using Zotero 6 and Nvivo Pro 14 software programmes.

Results

The results indicate that there are significant barriers to the diversification of food value chains with forgotten, landrace and underutilised crops. These span across four key themes of policies, markets, investments, and value chains. All actors along the supply chain must communicate effectively to facilitate the uptake of these minor ingredients. Clever use of these ingredients in gastronomic concepts is crucial and can benefit all the stakeholders. Nevertheless, many ‘bottlenecks’ still exist and must be considered by all actors including the producers, retailers, distributors, food service professionals including chefs, consumers but also policy makers such as food safety authorities and regulatory bodies.

Give feedback, but why?

Understanding customers attitude to feedback

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Keywords: feedback, food evaluation, food retail, food service, complaints, satisfaction.

Introduction

Providers value feedback for service and product optimization, yet understanding consumer motivations to give feedback remains underexplored. Despite extensive literature on customer engagement, research on motivating factors for feedback provision is lacking. Existing studies on personality traits offer limited guidance for providers seeking to encourage feedback. It is imperative to delve deeper into consumer motivations for feedback provision to enhance engagement.

Objective

What are motivating factors for giving feedback. Why and where do food consumers and customers find it relevant to give feedback?

Theory

Although much has been written about the need for customer engagement and feedback related to development, research on understanding the motivating factors and hindrances for consumer to give feedback seems scarce. There have been studies looking at personality traits to explain people's likelihood to give feedback, but this gives little guidance to how product and service providers can encourage more customers and consumers to give feedback. There is a clear need to better understand what motivates customers and consumers to give feedback.

Method

Qualitative research explored consumer feedback attitudes in two rounds. The first involved focus groups with users of specific food service settings. Two groups per setting, each with 6 participants, Respondents were recruited to take part in a 40-minute group discussion. were conducted. The second round focused on retail, with participants engaged in shop-a-longs.

Ethical approval ensured adherence to protocols. An inductive approach guided discussions on product/service perceptions, feedback habits, and preferences. Both rounds were conducted by the same team, with recordings transcribed for analysis. NVivo software aided analysis, and interviews were transcribed verbatim.

Preliminary findings

Preliminary findings from the ongoing data analysis indicate that consumers perceive the role of feedback differently depending on where the food is purchased. In the food service sector, customers are keen to provide feedback as they see it as a means to improve the service and product quality. They expect their feedback to be utilized for enhancements and feel a sense of responsibility in offering constructive criticism. Feedback, whether positive or negative, is viewed as valuable in maintaining a positive self-image. Conversely, in the retail setting, consumers are less inclined to give feedback, especially if their experience is subpar.

They often attribute any shortcomings to their own choices and do not perceive their feedback as valuable or relevant. Additionally, in retail, feedback is predominantly associated with negativity, which further discourages consumers from sharing their views. This reluctance stems from a fear of being perceived as complainers without any tangible benefits.

Conclusion and implications

Feedback is crucial for progress in food service and retail. However, negative perceptions hinder consumer feedback, limiting product development. Understanding these barriers is key to enhancing feedback depth. In food service, feedback aids service improvement. Conversely, retail consumers assume products are optimized,

attributing dislikes to personal preference. Despite importance, feedback relevance varies for consumers. Clarifying consumer feedback limitations is essential for service and product advancement.

The role of Citizens' Associations in consumers' healthy and sustainable choices

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Keywords: food knowledge circulation, associative actors

Introduction

Among the different actors involved in food literacy initiatives, increasing numbers of citizen associations (non-profit organisations) work to educate, train, inform and raise awareness among the public, by proposing, to reconnect with culinary traditions, to create acceptable and 'engaging' key messages on food and the environment, or to develop different forms of awareness and knowledge.

Recent studies have demonstrated the role of certain associations in the circulation of food knowledge promoting alternative food practices. (Cardon & Martín-Lagos López, 2021; Allard-Huver, 2020). Other studies have demonstrated that the contradictory issues characteristic of certain associative projects can slow down initiatives, particularly in the case of food aid (Paturel & Carimentrand, 2018).

Objective

This study aims to analyse the mechanisms of construction of associative actors' discourses on food, in today's context of «discursive polyphony», also called «food cacophony» (Fischler, 1993). This phenomenon has recently become a subject of research in the human and social sciences (De Iulio & Kovacs, 2022; Orange Ravachol et al., 2018). The study of processes of circulation and trivialization of knowledge (Östling et al., 2018; Jeanneret, 2008; Sarasin, 2011) can contribute to better understanding of the difficulties consumers face in selecting pertinent information to help maintain healthy and sustainable choices.

Method and design

We conducted a survey using semi-structured interviews with the founders/coordinators of selected associations in France (Lyon). We sought to understand associative actors' motivations and the messages they seek to convey, relating these to their backgrounds and informational practices. 15 semi-directive interviews were conducted in 2022. We also observed meetings of the association's employee teams, and analysed a corpus composed of local calls for projects and food policy statements dating between 2010 and 2022 (the period during which 7 targeted associations were created). Thematic analysis and discourse analysis were then carried out.

Results

Our results show that persons working in the associations mainly come from educational backgrounds in the humanities and social sciences. These associations target generally adults and vulnerable populations.

Regarding approaches towards public interaction, all associative actors mention the importance of participatory initiatives. Some of them create serious games to highlight the need for dialogue between different actors of the food system, to understand the constraints of each actor, and to promote a spirit of compromise.

Among the main objectives put forward are food justice, access to food, and food transition. These objectives reflect public policy orientations. We thus observed a certain standardization of associative discourses which are directly derived from food policy observed language. Associative actors also stress the difficulties of communication on these topics with vulnerable publics.

Conclusions

This study aimed at understanding the motivations of associative actors working in food literacy. We compared associative actors' discourse to local food policy discourse, also identified these actors' processes of knowledge organisation, legitimisation and hierarchization. This study constitutes the preliminary phase of a larger project seeking to understand the processes by which associations create food literacy workshops and other initiatives and in so doing, use, reuse and rewrite knowledge about food.

We are the movement! Realising impact across a learning community for regional sustainable food

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Smaakacademie Achterhoek, Silvolde, New Zealand*

Keywords: learning community, regional food system, sustainable food

Introduction

Learning communities are hybrid networks with a shared mission, in which students and professionals join across organisational boundaries to work, learn and innovate over an extended period of time. This study aims to understand a Dutch learning community for the advancement of a sustainable regional food system by investigating *ecosystem, conditions, support, learning processes and outcomes*. Outcome of the study is a learning history which is co-produced by the learning community, allowing participants to recognize the growing impact of their learning community for students, teachers, food producers and all other stakeholders active in the region.

Goals

The aim of the study was to elicit shared understanding of the nature and impact of work, learning and innovation in the learning community Achterhoek Food, a region based in the east of the Netherlands. This shared understanding was expected to support the mission of the learning community to stimulate healthy and sustainable regional food practices.

Method and design

Learning history is a proven narrative method to map complex processes of change, giving participants and stakeholders a voice, with the purpose of learning from experiences as a collective (Roth & Kleiner, 1998; Schalkwijk et al, 2020). For the learning history in this study, data were collected from a variety of sources. First, records of the community were used, listing school projects, topics, learning

outcomes and innovative results generated in the learning community between 2020-2023. Second, we used minutes of 11 meetings and conducted 1 group interview. Qualitative analysis of data was carried out using a coding scheme to qualify five dimensions of a learning community (Corporaal et al, 2022). Results were recorded in a learning history, which was discussed with members of the learning community, who added their own input. The resulting version of the learning history enabled the community to grasp the nature of their activities and their circles of influence.

Result

The learning history provides a structured account of the *conditions, support, ecosystem, learning processes and outcomes* of this learning community. Co-producing the learning history enabled participants to recognize the extent of their leverage power. What started as a group of food educators from six schools in the region, grew into a cohesive community network in which dozens of businesses and hundreds of students from all levels of education took part, comprising many different topics, activities and contributions to innovation.

Conclusion

Impact emerged in circles of influence. In the first circle, the core team of teachers discussed ideas and projects. In the second circle, ideas and projects were shared among colleagues and networks from their schools. In the third circle, further ideas and projects were developed across adjacent networks of food producers and professionals, extending into tourism, health organisations and local policy. Learning and innovation was based on experience and theory, and aligned with a set of eight values for sustainable and healthy food, each connected to relevant sustainable development goals. Conclusions led to recommendations with regard to facilitation and continuity.

SESSION
*HOSPITALITY IN THE FOOD
AND MEAL SECTOR*

The Cost, Variety and Appearance of Home-Delivered Texture Modified Meals for Community Living Older Adults with Dysphagia

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Keywords: Dysphagia; Texture-Modified Diets; Community Living Adults; Meal Costs; Variety; Meal Appearance

Introduction

Dysphagia refers to feeding or swallowing difficulties during the process of moving a bolus of food or liquid from the mouth to the stomach. Globally it is estimated that there are 560-590 million people living with dysphagia.^(1,2) People living with dysphagia reside in the community, hospital or residential aged care. A texture modified diet (TMD), prescribed by a Speech and Language Pathologist is a key therapeutic approach to provide foods and fluids that are safe to swallow. The International Dysphagia Diet Standardisation Initiative (IDDSI) is a global initiative to implement a range of standard food and fluid textures.⁽¹⁾ Dietitians support patients in meeting their nutrition requirements on a TMD. There is a gap in available information regarding commercially available TMD meals and supermarket options for people living with dysphagia in the community.

Objective

To investigate the cost, variety and appearance of home-delivered texture modified meals and supermarket meal components for older adults in the community living with dysphagia.

Method and design

Fifty frozen pureed meals from several companies were investigated along with supermarket items. Costs were determined for meals at the usual price, as well as for a range of pensions and subsidies. The cost per meal was also compared to the cost of a similar homemade meal. The variety of meals, and menu ingredients were reviewed and the

appearance was assessed using a purposefully developed 5-point Likert scale that considered three key aspects: colour and contrast, presentation of all meal components and the plating techniques used.

Results

Companies charged between approximately \$15 to \$18 per meal, and some options had a delivery fee above the cost of a meal while others had no delivery fee. Some options took up a greater proportion of pensions and had a larger price discrepancy compared to the homemade meal, than other options.

The appearance scale was similar, with average scores of 11 to 12 out of 15. The variety of meals is limited and while there are supermarket TMD meal components, there is a growing need for a greater variety of TMD meal components, meals and snacks, which also prioritise nutrient density, variety, appearance and affordability.

Conclusions

Older adults living with dysphagia in the community are a vulnerable group who rely on texture modified diets for nutrition, mealtime enjoyment and safety. Costs of commercially available meals are prohibitive for some while variety needs expansion with an ageing population. Further collaborations are required between government, food industry, dietetics and consumers to positively influence the impacts of cost, variety and appearance for this nutritionally at risk group. Ongoing research will explore the nutrient composition and the consumer views of TMDs.

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Co-creational meal activities as a rehabilitation strategy in nursing homes

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Keywords: Rehabilitation, Complex intervention, Meal, Hospitality, Nursing home residents Co-creation

Introduction

A growing aging population demands new public health activities in nursing homes. Involving residents in meal activity through a co-creational approach as part of a rehabilitation strategy has been suggested as a solution, but knowledge is limited.

Objective

This project explores how co-creational meal practices in a nursing home can improve residents' food-related functionality and food-related quality of life.

Method and design

The project is designed as a three-year complex intervention study in a Danish nursing home with 68 residents, living in four departments. Based on identified co-creational meal approaches from 29 breakfast club events in the first year of the intervention, co-creational meal approaches were implemented in all four departments. The co-creational meal approaches include the facilitation of meal structure and a meal community, facilitation of cooking processes, facilitation of the dialogue, and facilitation of shifting host and guest roles. The implementation process was based on an action-research approach, where health care professionals translated the co-creational meal approaches into 13 meal experiments in different departments. A questionnaire was handed out to residents prior to the intervention, January 2019, N=31, and again after the implementation in June 2021, N=13. The questionnaire included questions related to health-related

quality of life measured by EuroQol-5D-5L, Satisfaction with food-related quality of life, Food-related functional ability, Meal experience, and body weight. Residents too fragile to answer the questionnaire were not included. During the intervention period, 18 informants passed away or did not want to answer the questionnaire again. Statistical analyses were based on Paired T-test (one-sided and two-sided test). Interviews with 6 healthcare professionals were conducted after the implementation period. Interviews were transcribed and analyzed thematically in relation to the questionnaire. The study was approved by the Ethical Committee at Roskilde University.

Results

The residents found meals to give them significantly more satisfaction in everyday life ($P=0,041$). They experienced themselves significantly better at eating without help ($P=0,013$) and found it less important to choose where to sit at the table ($P=0,01$). Contradictorily, they experienced significantly less influence on the menu ($P=0,038$) and when they could leave the table ($P=0,016$). There was no significant change related to meal experience, health-related quality of life, and body weight. The findings from the interviews support the general findings from the questionnaire. An increased ability to self-determine and increased ability to interact socially might explain why residents experienced reduced influence on the menu, when to leave the table, and the less significance of where to sit at the table.

Conclusions

Co-creational meal activities can have a positive effect on functional abilities and improve meal-related satisfaction for nursing home residents. A meal practice based on co-creation has the potential to become implemented as a rehabilitation strategy in nursing homes.

Enhancing Nutritional Quality Through Qualitative Menu Labeling: A Controlled Quasi-experiment in Self-Service Buffet Restaurants

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Keywords: food service; food label; controlled trial; healthy eating; food choices; consumer opinion.

Introduction

Eating out of home is often associated with higher intake of energy-dense, high-fat, sugary, and salty foods, alongside increased consumption of ultra-processed items and reduced intake of fresh and minimally processed foods. This makes the food-away-from-home sector a key target for promoting healthy eating initiatives. One such strategy employed by restaurants is the use of menu labeling to provide nutritional information on culinary preparations. As regulations concerning menu labeling, whether compulsory or voluntary, predominantly center around providing calorie information. However, calorie information on culinary preparations seems to be ineffective in promoting healthful food choices in real restaurant settings. Given this context, it is recommended to prioritize information on foods and dietary patterns over solely emphasizing calorie content when offering menu labeling.

Objective

Examine the influence of qualitative menu labeling on the healthfulness of food choices in self-service buffet restaurants.

Method and design

A controlled quasi-experimental study comparing parallel groups during baseline and intervention periods was carried out, encompassing a control restaurant and an intervention restaurant. Qualitative labels were employed, detailing the name and the ingredients of culinary preparations with emphasis on the utilization of organic vegetables. Identical food menus were offered in both establishments. Menu labeling was introduced in the intervention restaurant for specific culinary items within four predefined menu categories, each featuring two options—one deemed healthier and another less healthy. Culinary preparations were quantified at the initiation and conclusion of distribution to ascertain the average portion size (in grams) for diners over five consecutive days during baseline and intervention phases. Lunch patrons at the intervention restaurant were invited to partake in a survey gauging their utilization of menu labels. Statistical analyses, including T-tests, Mann-Whitney Test, Paired T-test, and Wilcoxon Test at a significance level of 5 % ($p < 0.05$), were applied to delineate mean differences in portion sizes between the two restaurants. Interview data underwent descriptive analysis, with age presented as mean and standard deviation, and other variables expressed as relative frequencies.

Results

Of the 153 interviewed diners, 31 % noticed the menu labels, and within this group, 57 % stated that the menu labeling influenced their food choices. No alterations in portion sizes were detected between baseline to intervention phases. Nevertheless, the introduction of qualitative menu labeling stimulated restaurant managers' interest in enhancing meal quality and adjusting recipes to eliminate ultra-processed ingredients. Culinary preparations previously incorporating margarine or synthetic meat tenderizer underwent modifications, with the former being replaced by butter and the latter substituted with natural meat tenderizer (derived from papaya and prepared on-site).

Conclusions

A qualitative menu labeling approach, featuring detailed ingredient lists with an emphasis on organic components, fostered the reformulation of culinary offerings, indirectly promoting healthier choices. Advocating for the display of ingredients lists for culinary preparations in

restaurants is advisable, empowering consumers to make informed food selections. It remains crucial to implement strategies that ensure effective information visualization and facilitate its direct impact.

Impact of Light-Induced Atmospheres on the Perception of Wines: A Pilot Study

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Keywords: Wine perception, Atmosphere, Sensory Study, Lighting, Gastronomy

Introduction

The influence of atmospheric conditions on human perception is a well-established phenomenon, particularly evident in the realm of gastronomy. This study explores the intricate relationship between the surrounding atmosphere, sensory perception, and individual preferences, with a specific focus on the impact of lighting on the perceived quality of wines. Restaurants, as exemplified, utilize a pleasant atmosphere to enhance the overall dining experience, where lighting emerges as a pivotal element in shaping both the ambiance and sensory perception. This also applies to wine professionals, such as sommeliers, where lighting becomes a critical factor in shaping the perceived quality of wines. Previous research further emphasizes this by acknowledging the profound effect of beverage coloration on flavor perception, and where the dependence of object color on ambient lighting is already well-known. This study posits the possibility of tailoring flavor experiences of wines by modulating the atmosphere through different lighting conditions.

Objective

The primary objective of this pilot study was to investigate the influence of varying light atmospheres on the perception of different wines, considering both the wines' characteristics and the ambiance they were served in.

Method and design

The experimental design encompassed four distinct light-created atmospheres, with two characterized by high light levels and cooler color temperatures, creating a cold ambiance, and the remaining two featuring low light levels and warmer color temperatures, fostering a warm atmosphere. Two distinct wines were presented in these atmospheres—one white wine described as clean and crispy, and a red wine described as warm, spicy, and musty.

Results

To measure the impact of light-induced atmospheres, respondents evaluated their liking for both the wines and the atmospheres. Preliminary results suggest that the cool atmospheres enhanced the perceived crispness of the “clean and crispy” wine, while warm atmospheres heightened the perceived warmth and spiciness of the “warm, spicy, and musty” wine. Descriptive language used by respondents to describe the wines also varied, with terms like “fresh” and “invigorating” associated with the cool atmospheres, and “musty” and “ripe” linked to the warm atmospheres.

Conclusions

In conclusion, these initial findings indicate a significant interplay between light-induced atmospheres and the perception of wines. The study contributes valuable insights into the nuanced relationship between lighting, wine perception, and atmospheric experiences, which can be useful for enhancing dining overall experiences. Further research with a larger sample size and controlled conditions is warranted to validate and expand upon these promising results.

The paradoxes in chefs' representations of the trade-off between tradition and sustainability

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Keywords: paradoxes; sustainable restaurants; traditional cuisine; chefs' perceptions; qualitative study

Introduction

Environmental issues in the food systems of Western countries require a reduction in the consumption of meat in diets (Willett et al., 2019). In the restaurant sector, chefs have a role to play in addressing the challenges of environmental sustainability by reducing the amount of meat on the menu (Gössling and Hall, 2021). However, this role may be exposed to paradoxes, linked to the cultural and gustatory attributes associated with meat, particularly in France, where meat has a structuring role in food and culinary practices (Lamy et al. 2023).

Objective

The aim of this study is to examine the impact of sustainability issues on the profession of chef and its changes, by looking at how chefs manage the inherent conflicts between the importance of meat in culinary culture on the one hand (for example, in the preparation of sauces), and the need to reduce the amount of meat on menus on the other. This research relies on paradox theory (Waldman et al. 2019), to identify the main paradoxical tensions that chefs face, and how chefs regulate and manage these tensions.

Method

A qualitative methodology was used, based on a corpus of semi-structured interviews. 29 chefs from the French restaurant sector were interviewed in 2022. The interview guide was designed to analyze the chefs' perceptions of traditional French cuisine, sustainable cuisine and

their relationship with meat. A thematic analysis was conducted on the corpus of interviews.

Results

The study of the chefs' representations of traditional cuisine shows that they associate it intrinsically with cooking with meat, as it is associated with a set of recipes and techniques. An analysis of the chefs' representations of sustainable cuisine shows that they do not see reducing the amount of meat in their menus as a possible initiative, unlike other initiatives linked to sourcing (selecting seasonal, fresh, locally sourced products, etc.) or preparation (limiting losses and waste). During the interviews, 16 chefs spontaneously discussed a specific culinary practice, the preparation of sauces, which illustrates the paradoxical tensions between the tradition of the profession, the challenges of sustainability, and the organisational and practical issues inherent in changes in the profession. The preparation of sauce bases is perceived as both a traditional and sustainable practice by chefs: Traditional in reference to an established know-how respected by chefs; Sustainable, because it allows meat losses to be reused to make sauce bases. However, this practice is under threat from the use of ready-to-use sauce bases, in the interests of rationalization and practicality. Furthermore, this recent use tends to reduce the value of the work done by chefs, whereas traditional practices are valued, especially as they are in line with sustainability.

Conclusions

This study provides a better understanding of the cultural and organisational limits faced by chefs and enables us to take these limits into consideration to better guide chefs towards more sustainable practices within their restaurants.

Perspectives from Operators and Employees on Challenges and Advantages for Introducing Qualitative Menu Label at a Self-Service Buffet

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Keywords: Food service, Qualitative Research, Interpretative information, Restaurant intervention, Nutrition information

Introduction

Eating out of home is associated with a higher intake of low-nutritional-quality foods, including increased consumption of ultra-processed items and decreased intake of fresh and minimally processed foods. The food service sector offers opportunities for promoting healthy eating. The implementation of menu labeling in restaurants can bring advantages but can also being challenging. Previous studies were about the implementation of quantitative information, as calories, and presented barriers related to the elaboration of such accurate information.

Objective

To explore the viewpoints of operators and employees regarding the challenges and advantages in implementing a qualitative menu labeling model at a self-service buffet restaurant.

Method and design

A qualitative investigation with a case-study approach. The study was conducted in a self-service buffet restaurant belonging to a local chain. The intervention involved qualitative menu labeling for six culinary

preparations daily over a 5-day period, displaying the name of the dish and ingredients list, with organic ingredients highlighted. Following the implementation, all restaurant staff were invited, and 93 % (n = 13) agreed to participate in the study. The final sample consisted of operators (one owner and one manager) and 11 employees whose functions were related to the implementation of menu labeling or the provision and replacement of culinary preparations in the buffet (cooks, kitchen assistants, and waiters). The majority were female (64 %), from 40 to 49 years (38 %), and had completed high school (64 %). Data were collected by two researchers using a semi-structured interview guide with open-ended questions: What are the pros and cons, or facilitators and barriers, of implementing menu labeling in this restaurant? What are your recommendations for implementing menu labeling in restaurants? The interviews were recorded using a digital voice recorder. Thematic analysis was applied to categorize responses into themes and subthemes.

Results

The interviews had an average duration of 2 minutes, ranging from 1 to 6 minutes. Responses were transcribed by one researcher and verified by another. Thematic analysis revealed six main themes and fifteen subthemes. The main themes were: ease of implementation; satisfaction with the implementation process; advantages related to consumers' access to information; suggestions on the format of menu labeling; advantages related to facilitating work; and barrier to implementation of qualitative menu labeling. A single challenge was raised, with the owner expressing concern about consumers' perceptions of low nutritional quality ingredients. Multiple advantages were identified, including ingredient standardization, time efficiency, perception of work appreciation and the fulfillment of consumers' right to information.

Conclusions

Employees and operators alike found the implementation of qualitative menu labeling to be straightforward. This approach was identified as beneficial for operators and enhancing the consumer's experience. This study made a distinctive contribution to the field by presenting results divergent from the prevalent literature, which concentrates on the implementation of quantitative menu labeling, such as calorie and

nutrient values. It is recommended to undertake quantitative studies with a sizable sample size to explore the generalizability of the findings from this study to other scenarios.

Transformative preservation? Food preservation and storage practices in Swedish restaurants

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Keywords: food preservation, restaurants, food storage, refrigeration, freshness

Introduction

Since the advent of the New Nordic Food movement twenty years ago, local food and preservation techniques have gained more interest in the restaurant sector. The primary ambition of the manifesto from 2004 was to promote a new Nordic cuisine, but the sourcing and preserving the local terroir was also framed in relation to ethics and sustainability. While high-end restaurants like Noma and Fäviken received much attention for their preservation methods, limited attention has been given to how these practices are implemented in the daily operations in restaurants today.

Objective

The aim with this paper is to explore the possibilities and obstacles of food preservation practices in restaurants. It reports on an on-going exploratory study on whether long-term storage and preservation practices – which has shaped Swedish food history and culture – could contribute to the gastronomic sectors green transition, e.g. by reducing need of deliveries. One guiding research question for the projects is if and how past food practices could contribute to the green transformation of the gastronomy sector, and thus contemporary food culture.

Method and design

The material currently consists of 13 interviews with chefs and leaders of restaurants who actively practice food preservation (6), large restaurants who do not do so (3), and representatives of wholesalers (4). As part of the interviews, we have conducted a form of walk-alongs

(sometimes called fridge-stories, see Joosse & Marshall, 2020). Informants were asked to guide us through their food storage spaces/warehouses. These walk-alongs allowed a deeper insight into the daily operations and opened for new questions and associations.

Results

While the analysis of the results are ongoing, two preliminary themes/topics have emerged. (1) Perceptions of time and circulation – i.e. how perceptions about seasons, flows and storage influence culinary practices. (2) Spatial relations – i.e. the use of (storage) space, the reliance on refrigerated space and relations with producers/suppliers.

Conclusions

Very few restaurants in our sample rely on long-term preservation and storage. As their daily operations involve a large turn-over, preservation is recurrently done for a limited menu/season. Furthermore, in more urban settings, storage space is precious and do not allow keeping stocks, hence wholesalers and producers could be understood as extended storage space. Our results indicate the dominating norm of freshness which influence contemporary culinary practices. Past storage and preservation practices may have some potential to promote more sustainable food practices in the restaurant sector, however, this is dependent on the spatial and temporal relations involving foods, norms and the link between producers, wholesalers, and restaurants.

SESSION
*CONSUMER ACCEPTANCE
AND METHODS FOR
EXPLORING NEW FOOD*

Influencing factors towards consumer acceptance of millet as a food source in the United Kingdom

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Keywords: Consumer behaviour, food security, food sustainability, underutilised crop species, forgotten foods, millet.

Introduction

Ensuring food security and sustainability is critical to support present and future generations, while minimising negative environmental impacts. The planet provides over 250,000 edible plant species (Hummer 2015) yet we have become reliant on three main crops: wheat, maize, and rice. Underutilised crop species have the potential to alleviate the strain on the planet's resources, while providing nutritionally balanced alternative food sources (Gregory et al. 2019). Ancient grains have been part of the human diet since the advent of agricultural practices, but many are now considered a forgotten food. Millet is an ancient grain with consumption history dating back to the Song dynasty (960-1279 CE) (Grew 2018). In western society millet is an underutilised food source, yet is a reliable, sustainable, and highly nutritious crop that has the potential to alleviate food security and support healthy consumption patterns (Adhikari et al. 2015; Sachdev et al. 2021). To effectively integrate millet into current dietary behaviours greater understanding of the determinants of consumer acceptance of alternative food sources is required. This study investigates the influencing factors associated with millet acceptance amongst British consumers.

Objectives

- To investigate consumer knowledge and perceptions of millet as a food source.
- The role of altruistic and egoistic motives and barriers in predicting the likelihood of consumers to choose, accept and integrate millet as a food source in the UK.

- The role of conditional and functional values in predicting the likelihood of consumers opting to choose millet as a food source and integrate into current dietary practices.
- The manufacturing, marketing, and policy implications for the promotion millet as a food source.

Method and design

This research is part of a PhD project applying a pragmatic, sequential mixed methods approach to assess the personal, social, cultural, economic, and psychological factors influencing consumer decision making processes to try, utilise, and integrate millet into current dietary patterns. A cognitive prescriptive theoretical base will underpin, leading to a detailed understanding of consumer acceptance of alternative, underutilised foods. We will present the first stage qualitative data results from 3 focus groups taking place in early 2024. Data will be analysed using a reflexive thematic approach, to identify common themes and patterns of participants perspectives, behaviour, and practices to provide a rich account of the data set. This will provide a broad consumer voice to give a comprehensive understanding of the factors influencing consumers motives and barriers towards acceptance of millet as a food source in the UK.

Results

We will provide preliminary data from the focus groups via visual and oral presentation.

Conclusion

This research will provide an understanding of the influencing factors associated with consumer acceptance of millet as a food source in the UK, and will be of interest to marketing, manufacturing, and policy to support the development of strategies to promote underutilised crop species. This research supports the UN Sustainable Development Goals 2, 3, 12, 13 and 17.

Determinants of willingness to try plant-based fermented meat alternatives in 9 EU countries

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Keywords: plant-based diets; meat analogues; willingness to try; consumer studies

Background

Consumers' awareness about health, the environment, animal welfare, and food safety increased the number of people reducing or eliminating their meat and dairy intake. Simultaneously, the market of plant-based (PB) alternatives, particularly meat analogues, has mainly expanded thanks to new technologies, process development and ingredient availability. The main drivers for consuming foods of plant origin are taste, health, and affordability. Willingness to try gives hints towards the characteristics of personas/consumers avoiding meat products and meat eaters alike, indicating how to promote, market and help make PB alternatives the new default. Therefore, this study aims to identify the determinants of willingness to try PB fermented meat alternatives in 9 EU countries.

Methodology

A cross-sectional survey was carried out in December 2023/February 2024 in BE, CH, DE, DK, FI, FR, IT, RO, and SE to investigate consumer perceptions towards PB fermented foods. The questionnaire included the following sociodemographic characteristics sex (female/male/other); locality of residence (urban, rural, sub-urban), education achievement (elementary, secondary, other post-secondary, undergraduate, graduate), financial situation (5 points from extremely difficult to extremely easy) and dietary lifestyle (omnivore, flexitarian,

pescetarian, vegetarian, vegan). A linear regression was performed with “I will be willing to try a PB fermented meat alternative made from a combination of two or more PB raw materials” as dependent and the sociodemographic characteristics as explanatory variables. A p-value less than 0.05 was considered significant.

Results

Willingness to try was negatively associated with being a male, with living in rural areas, and with age. It was positively associated with education achievement, financial situation, and dietary lifestyle. The country of residence was not significant.

Conclusions

In the 9 European countries, the more educated and well-off people are, and the more plant-based their diet is, the higher their willingness to try PB fermented meat alternatives. Older people, men and those living in rural areas are more reluctant to try such products. These aspects should be considered for promotion and education supporting the dietary transition and achieving societal sustainability goals.

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Less Meat on the Plate: An exploration of culinary and consumer drivers for increasing the consumption of chickpeas in family meals

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Keywords: Chickpeas; Consumer drivers; Meal innovation; Home
cooks

Introduction

Food production is responsible for one-third of all anthropogenic greenhouse gas emissions (GHG). In this context, legumes play an essential part in promoting healthy diets, having minor impacts on GHG, and thus being one of the most efficient ways to produce proteins for humans. Western diets rely heavily on meat-based protein, with dire environmental and health consequences.

Objective

This study offers insights into the preferences and motives of consumers regarding traditional and innovative chickpea-based dishes and how gastronomic innovation can increase legume consumption.

Method and design

Soft laddering interviews were conducted with 42 legume consumers and home cooks from Portugal (24 females, 18 males, mean age 37.4 ± 7.1 years). Interviews consisted of the presentation of cards describing one traditional and one innovative recipe, divided into three groups: Meat-free soup (Chickpea and spinach soup and Proteic soup with sprouted chickpea), meat-free salads (Chickpea salad with

vegetables and Vegetable terrine with sprouted chickpea), and hybrid main dishes (*Rancho* – chickpea, pasta & meat stew, and Oven-baked meat & chickpea patty). Respondents scored dishes according to their acceptance, and these evaluations were used to elicit attributes driving dish preferences, serving as a starting point for the interviews. Two authors independently content-analyzed interview transcripts in NVIVO and consensually compiled a list of Attributes (concrete and abstract), Consequences, and Values (ACV) associated by respondents with each dish. ACV lists were subsequently used to code and aggregate individual interview excerpts as ladders for each recipe, using NVIVO's to count the connections between concepts. Finally, Hierarchical Value Maps congregating the ladders were obtained for each recipe. Word clouds depicting the attributes associated to chickpea by female and male participants in the context of the recipes investigated were also generated. Polarity indexes were computed for each attribute within each recipe scored from -1 to +1, depicting the attributes as positive, negative, or neutral.

Results

Participants associated the traditional *Rancho* mainly with weekend family meals and with values like conformity, parenting and belonging. Its varied ingredients made it tasty and satiating and pleasurable. Being hearty was a good quality for some, but others felt it made the dish too heavy and hard to digest. Health concerns with overeating, and smoked pork meats were mentioned. Partly replacing meat with chickpea in the *Pastel* was not consensual. The flavor combination was appreciated by some. For others, it increased the energy content, making it unhealthy. Oven-baked was seen as a good and healthier alternative to frying. Men and women perceived the qualities of chickpeas as a source of protein in the two recipes differently: men downgraded sensory quality in the comparison between the traditional and innovative, while women upgraded nutrition value and healthiness.

Conclusions

Ingredient choice can play an important role in consumer liking and willingness to try legume-based meals. There is potential for new recipes partially plant-based by replacing part of the meat with chickpeas, with health and sustainability benefits. The type of recipe,

its consumption context and consumer gender will dictate which are the more acceptable solutions within consumer groups.

Association between dietary lifestyle and consumer barriers to diet shift, attitudes and trust towards plant based fermented foods

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Keywords: Attitudes, Barriers, Consumers, Diet lifestyle, Diet shift, Europe, Fermentation, HealthFerm, Plant-Based, Trust

Background

Given the current climate emergency, shifting diets to a more plant-based pattern is desirable from environmental and health perspectives. This will require mainstream consumers adopting new kinds or forgotten varieties of plant-based foods. Changing food behaviours is usually the most difficult population intervention. This is the result of people experiencing barriers that hinder such shift. Previous studies showed that the current perception of such barriers is lesser in reality, mainly affecting those with an omnivore dietary lifestyle. Additionally, trust and attitudes towards innovative products can explain reticence or openness to change. Therefore, the objective of this study is to investigate the association between dietary lifestyle and consumer attitudes, their perception of barriers to diet change and their trust towards plant based fermented foods.

Methodology

A cross sectional survey was carried out in December 2023/February 2024 in BE, CH, DE, DK, FI, FR, IT, RO, SE to investigate consumer perceptions towards plant-based fermented foods. The questionnaire included sociodemographic characteristic (sex locality of residence, education achievement, financial situation and dietary lifestyle), and scales to estimate consumer barriers to diet shift (8 items), attitudes (8 items)

and trust (11 items) towards plant-based fermented foods. Linear regressions were fitted with the scores as dependent variables, and sociodemographics as independent. A p-value less than 0.05 was considered significant.

Results

In total 7812 people participated in the survey, 50 % women. The internal consistency of the dependent variables was high, with the following Chronbach alpha's: Attitudes 0.92; Barriers 0.94 and Trust 0.98. Comparing the role of dietary lifestyles, the effect size is large for the barriers score (Eta sq. 0.123), medium for attitudes (Eta sq. 0.074) and small for trust (Eta sq. 0.053). After mutually controlling for the effect of the other variables, positive associations were found between the three scales and higher education, well-off financial situation and the more plant-based the diets. Negative associations were found with being a male, older and living in rural areas. The more plant forward the diet is, the higher the scores are in all the scales.

Conclusion

Attitudes and trust towards plant-based fermented foods, and barriers towards dietary shift are determined by socio-economic status and dietary lifestyle in this sample of EU consumers. Such profile corresponds to aspirational persona's, that now include plant-rich dietary habits. This also highlights that there is effort needed to make such products accepted by all segments of the population.

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The social conditions of macro-algae consumption in France: a review

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Keywords: seaweed; food; France; consumers; anthropology; sociology; practices

The sustainability of food diets has become a topical question with the growing impact of climate change and the emphasis of diets' role in the carbon footprint (Chai *et al.*, 2019; Wolfson *et al.*, 2022). Food practices have been evolving for a few decades, from the rise of alternative diets in the western world, to the growing organic food offer (Murcott, 2016; Sexton *et al.*, 2022).

Our primary hypothesis is that after a change in food practices, we will be now observing a change in the households' food repertoires, linked to a probable sustainable engagement (Alagarsamy, *et al.*, 2021; Boström & Klintman, 2009). Recently, foods such as insects, tempeh, legumes or, our research object, macroalgae (such as kombu or nori), are being introduced in diets as a source of non-animal protein (Embling *et al.*, 2022; Shanti *et al.*, 2023). This literature survey aims to formulate the social conditions for the evolution of a routine that includes seaweed as a new food in the dietary repertoire.

Seaweed can be an answer to a concern for sustainable consumption as they are packed with nutrients and do not require fresh water to grow (Fleurence, 2018). Previous studies show they are scarcely consumed as a sea vegetable in France (in dishes of French inspiration) but are widely consumed in Asian dishes such as Japanese sushi and miso soup within the country (Lesueur & Comparini, 2015). Seaweed may nevertheless be the object of a growing interest as a novel food.

This literature review on the evolution of the food repertoire and the case of macroalgae is set in this context. The study will exclude articles oriented towards the medical field (biology, nutrition, health) as they are not relevant for the topic of research. With a focus on the consumer, this survey will include articles on historical seaweed consumption around the world and in France, as well as articles in social sciences

which will form the basis of our analysis. This will allow us to put into perspective seaweed consumption and socio-anthropological approaches of food. We will also include analogies with similar research carried out on other foods not consumed in the western world, such as insects (House, 2018).

The survey will mobilize authors such as Alan Warde (2005, 2016) or Elisabeth Shove (Shove, 2014; Shove *et al.*, 2012) as they analysed food practices as a part of everyday life and theorized about routine modifications. Practice theory suits quite well this study as it considers sociological dimensions such as gender, constraints, age, etc. Other contributors to Food Studies such as Jean-Pierre Poulain (2002, 2003), Claude Fischler (1990) or Carol Counihan and Penny Van Esterik (2013) will be studied, as they bring a symbolic angle to the analysis. As this literature review is still in progress, the results are limited for the moment, but we can already foresee the role of green practices on food decisions or the impact of life transitions on routine (Beatson et al., 2020; Burningham & Venn, 2020).

Bridging Gaps: An Integrated Approach to Linking Sectoral Models and Individual Dietary Behavior

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Keywords: equilibrium models, DNLP models, food consumption, demand-side policies, food losses and waste, planetary health diet

Introduction and relevance of the topic

The imperative for diet transformation for health and environmental sustainability needs targeted political interventions and innovations. Achieving this shift requires addressing simultaneously the individual and the sectoral level. While health-related policies should focus on consumer groups with excessively high intake levels of e.g., red meat or sugar, environmental targets demand attention only to the overall consumption quantities. Sectoral models in agricultural economics usually only depict the quantities of raw primary commodities (RPC) that go into human consumption, but do not capture any further detail of the value chain until the actual intake of food products.

Objective

To fill this gap and offer scientific basis for the necessary integrated political decision-making, we link data from the CAPRI-model, food intake surveys and others to create a tool that translates RPC quantities into actual food product intake, offering a more detailed understanding of the diet transformation process.

Method and design

The tool consolidates seven datasets to establish a consistent quantity flow within the agrifood value chain. These datasets include: 1) RPC quantities for human consumption, 2) meat partitioning, 3) processing, 4) recipes, 5) non-avoidable waste and 6) avoidable waste, 7) food intake quantities from the German national nutrition survey II.

Simulations of shocks to the RPC quantities, food intake quantities or of minimized GHG emissions are possible.

Preliminary results

Calibrating a consistent quantity flow confirms prior works that the food intake data suffers from underreporting of energy intake and overreporting of fruit and vegetable consumption. It also indicates potential biases in the recipe data, especially in the substitution of expensive ingredients with cheaper alternatives (olive oil by rapeseed and sunflower oil, beef by pork) and the underrepresentation of ingredients typically used in industrial food processing but less in home cooking (milk powder, palm oil). Simulation of a partial adoption of the Planetary Health Diet (PHD) shows that meat reduction was predominantly achieved through eating less fresh or lightly processed (e.g., cured) meats and less through adjusting the intake of highly processed meat products like sausages. Notably, we demonstrate that at the same level of deviation from initial eating a significantly higher reduction of GHG emissions could be achieved than with the PHD. These reductions were mainly achieved by eliminating beef consumption but keeping pork and poultry consumption almost stable and swapping the increased fruit consumption in the PHD for even higher vegetable consumption.

Conclusion

This study establishes a foundation for integrating economy-wide data and sectoral equilibrium models with individual eating behavior, considering losses and food processing. Future work will focus on analyzing food processors' roles in food transformation, comparing their impact with that of consumers, and examining consumer behavior in response to price changes. We invite colleagues' insights on priorities, approaches, and applications in their respective professional domains to guide our ongoing research.

Exploring the potential of digital tools to foster short supply chain: a mixed-methods Pan-EU study

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Introduction

Current industrial scale food producers and processors lead to complex supply chains that are disconnected from local communities. A rebalancing toward more local supply is sought to address the challenges of climate change, food supply resilience, food miles, food waste and supporting the next generation of producers and operators with a fair income. Thereby, use of digital tools can help to enable and promote transparent local provision from local producers, including small scale family farmers, and processors direct to consumers.

Objective

This study aims to identify stakeholder's (consumers, producers, retailers...) practices and to identify key drivers and barriers toward the adoption of digital solutions for improving short food supply chain and provisioning.

Method and design

The study, part of the EU project FoodMAPP, is conducted in 2 phases (one qualitative and one quantitative), each in 7 European countries: UK, France, Spain, Belgium, Austria, Croatia and Hungary.

Phase 1: In each country, five focus groups were conducted with consumers and 50 interviews were administered with stakeholders. The data was analyzed according to a thematic analysis approach.

Phase 2: A questionnaire targeting 500 consumers in each of the 7 countries has been distributed in February 2024. Through a choice experiment and questions on the local context and on the perception of local food, it will allow to get complementary insight of the design of the digital tool.

Results

Findings from the qualitative phase provided insight into the multidimensional and heterogeneous definition of what “short supply chain” or “local food” mean for the different stakeholders. This definition helps understand, in particular, why both stakeholders and consumers perceive many barriers to the use of digital tools in the consumption of sustainable food, especially because digital tools are perceived as being somewhat an antithesis to local food provisioning and waste reduction practices. The main drivers toward the use of digital use would be the display of simplified but relevant information, the delivery option, the organisation around recipes provided with the products and the quality of the products. This quality is mainly mentioned in terms of taste; the dietary quality was very little mentioned, even if the non-healthy aspect of many food available in existing apps was pointed. The results from the quantitative phase may help to precise the conditions to go beyond the barriers and how to rank the potential drivers.

Conclusion

This research unravels the difficulty to combine digital tools and local food supply as they do not belong to the same universe for different stakeholders and provides indications to overpass these difficulties and a prototype of digital tool will be developed based on the results.

SESSION
*PRODUCING
HEALTHY AND SUSTAINABLE
FOOD AND BEVERAGE
– CHALLENGES
FOR THE FUTURE*

Coffee and Coffee Substitutes: Past and Future

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Keywords: Coffee, beverages, substitution, Sweden, history, media, sustainability

The primary aim of this seminar paper is to disseminate the findings derived from my postdoctoral project (2022-2024) entitled “*Try and don't laugh!*” *Debating and Manufacturing of Coffee Substitutes in 19th-Century Sweden*. My postdoctoral project focuses on the usage, production, and commercialization of several coffee substitutes, with a particular emphasis on elucidating their nutritional composition, health ramifications, and sociocultural connotations.

The primary objective of this study is to employ the theoretical framework of intersectionality and theory of change to analyze coffee replacements, with a focus on gender, age, and social class standards. Besides the historical analysis, the project includes the practical part, which consists of growing and manufacturing some substitutes according to historical descriptions and recipes.

Taking a step further, the present conference paper will even provide a comprehensive examination of modern coffee alternatives available for sale in Europe as well as give some insights into the growth and utilization of historical species. During the presentation, I will show some videos and photo reportages from my experiments as well as make an introduction to the source material.

Finally, the paper will end with a discussion of the sustainability of coffee production and cultivation, future scenarios of coffee, and local (Swedish, Scandinavian) substitutes that could be used for coffee substitution in the future.

Industrial thawing methods – meat quality and willingness to pay

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Keywords: resource-efficiency, sustainability, process optimization, meat quality, consumer acceptance

Introduction

Meat is a source of premium food products with high intrinsic value, but the production demands substantial resources. Frozen storage of meat can be a sustainable option by extending shelf life, reducing waste, and optimizing distribution efficiency. However, elevated costs and meat quality deterioration can occur in connection to e.g. suboptimal thawing (Cai et al., 2019). Pork meat quality can, as summarized by Bohrer et al., (2024), be broadly defined as a set of parameters used to identify desirable or undesirable attributes for meat products when they are purchased, consumed, or selected for use as raw materials in further processing. This study focused on pork shoulder, an underutilized cut that is often selected for further processing. The meat was stored frozen and subjected to different thawing procedures to investigate if sensory meat quality and consumer liking was affected.

Objective

To compare four industrial thawing methods regarding their impact on meat quality of marinated pork shoulder.

Method and design

Samples from the boneless shoulder were commercially frozen at -23°C for two months and thereafter thawed using either air or microwaves at low and high efficiency, in total four different thawing methods. Thereafter the meat was industrially processed into marinated slices for

barbecuing. The slices were cooked for 8 minutes at 225°C in a convection oven, rested for 60 minutes and then cut into 1x1x3 cm pieces. The samples were placed in coded petri dishes and tempered to 60°C prior to evaluation.

Sensory evaluation was performed by a trained panel using descriptive methodology (Lawless & Heymann, 2010). Samples were evaluated in triplicate in a randomised order at a line-scale ranging from 0-100.

To measure the effect on willingness to pay, a consumer test was conducted. The test used a 9-point Likert scale to measure the respondents' preferences together with background information about the respondents. The final part of the survey consisted of questions about the meat that they were testing and their willingness to pay for it. All (N=130) respondents tested the four samples of meat thawed in four different ways in a random order.

Results

Preliminary data from the sensory evaluation showed that the thawing procedure had few effects on the perceived aroma and flavour while there were significant effects on appearance and texture of the meat. Further, the thawing procedure affected the willingness to pay for the meat. However, when adding measures of juiciness and tenderness, the effect of the thawing methods disappeared, and juiciness and tenderness explained the willingness to pay. The only control variable that showed a significant effect is age of the respondents which affects willingness to pay in a negative way.

Conclusions

The preliminary results indicate that all thawing methods, except microwave thawing at high efficiency, were adequate to maintain product quality. The results from the consumer test show that the choice of thawing method affect consumers' willingness to pay. However, the main effect comes from the experienced juiciness and tenderness of the meat.

Sensory and chemical evaluation as a valuable quality tool for producers, retailers, and consumers – The experience of white wine, sparkling white wine and Black Caviar produced in Sweden

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Keywords: Swedish wine industry, Black Caviar, sensory evaluation, chemical analysis, volatile compounds, GCMS, GC-O

Introduction

The production of Swedish high-quality foods and beverages is an increasing area, not least wine production has increased in step with climate change. Furthermore, production of caviar has expanded to include Black Caviar. An ongoing project focuses on optimizing high-quality, complex, and sustainable Swedish foods and beverages, individually and in combinations, with cases of white wine, sparkling wine, and Black Caviar. Sensory aspects play major roles in what we choose to eat and drink. Research on the perception of products individually and in combinations have shown that combination of foods and drinks can be optimized in relation to the taste experience and thus create successful and attractive combinations. The project is multidisciplinary and focuses on 1. perceived sensory qualities including chemical understanding, 2: attitudes, preferences, and liking, 3. sustainability aspects, and 4. national and international market aspects.

Objective

The overall aim is to optimize the sensory experience of white wine and sparkling white wine in combination with caviar. Market research will add to sensory methods by investigating implications of key factors for high-quality products.

Methods and design

The sensory analysis is performed with a panel who are trained to perform a quantitative descriptive analysis, which is an analytical sensory method for developing sensory profiles of products in a non-subjective way. The chemical evaluation is based on HS-SPME (Headspace Solid-Phase Micro-Extraction) technology for the collection of volatile substances from the wine and the caviar respectively. The sampling is followed by chemical analysis with GCMS (Gas-Chromatography Mass-Spectrometry) for identification and quantification of individual volatiles. The sensory and chemical analysis will first be executed of wines and caviar separately, and in the second step in combination. The final third step using Gas Chromatography – Olfactometry (GC-O). This a method that integrates the separation of volatile compounds using a gas chromatograph with the detection of odor using trained members from the sensory panel mentioned above. The olfactometric detection of compounds allows the assessment of the relationship between a quantified substance and the human perception of its odor. In some cases, the perception of the odor can be so intense even for a compound in a very low concentration.

Results

Preliminary results show the differences in sensory characters of wine and sparkling wine analysed at different temperatures. Also, characters of Black Caviar produced using different temperatures show great differences. The results are critical for the combinations of wine and caviar. These results will be connected to market aspects, sustainability aspects and further to analysis of volatile compounds from the wine and caviar, as well as texture properties of the caviar.

Conclusions

The project takes a comprehensive scientific approach to factors that are decisive for the development of wine and caviar of high standard and quality. This will also benefit the appeal of the products from the consumer's point of view, which in the long run will benefit the retail of Swedish wine and Black Caviar.

Making Porridge Sexy!!! Balancing Education, Community Building, Innovation and Food Porn in Social Media Marketing of Healthy and Sustainable Foods

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Keywords: Porridge, social media marketing, sustainability, food porn, Innovation

Introduction

Allegedly, the world's first porridge bar, Grød, opened in 2011 in Copenhagen. Lasse Skjønning Andersen, who conceived the idea, was just twenty-one years old. He dropped out of university to realize his dream of a porridge bar. It was controversial as many Danes are skeptical about porridge beyond breakfast and on children's menus despite the fact that porridge has been a staple for centuries on Danish tables. It had gained image as a poor man's diet and been associated with the shortages resulting from WWII. However, the porridge bar has become (one of the few) success stories of making plant-based food attractive in Denmark (at least in the urban areas) with numerous outlets and a rapidly growing number of plant-based products in Danish supermarkets.

Objectives

In this paper, we explore how Grød promotes their relatively sustainable and healthy products on social media to understand if they have cracked the code to making sustainable and healthy food sexy? And for whom?

Methods and design

Methodologically, the paper employs digital ethnography methods of the company's Instagram account for 6 months in 2023 where all post has been subject for analysis and inductive categorization and a number

of representative posts has been the object of in depth qualitative scrutiny.

Results

The analysis highlights that the account uses a variety of strategies: Education, Community Building, Innovation and Food Porn. Together this presents Grød as a desirable, hip brand where discourse of dynamism and indulgence mask the traditional view on porridge as well as the more normative discourses on sustainability and health.

Conclusions

Based on this analysis, we discuss the potential and limits of this strategy and which kind of consumers are included and excluded in this kind of marketing of sustainable and healthy products. Here, we highlight that Grød exemplifies the possibilities of radical rebranding of healthy and sustainable foods that might have a bad reputation in the wider public. At the same time, we acknowledge that a problem for wider use of this strategy might be that it seems to celebrate and target lifestyles and subjects that are susceptible to sustainable and healthy products.

SESSION
*CULINARY SKILLS AND
NEW TECHNOLOGY*

Culinary expertise in the protein shift: Exploring sensory attributes and cooking techniques in plant-based meat alternatives

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Keywords: Culinary expertise, protein shift, plant-based meat alternatives, sensory development, cooking techniques

Introduction

One of the main challenges for actors working within the protein shift is to provide consumers with appealing and satisfying alternatives to meat. Despite the increasing availability of plant-based meat alternatives (PBMA), consumer acceptance for these products is still challenged by several dimensions, such as taste, texture, and nutritional value. The central dimension of *taste* can affect consumer behavior and choice in various ways, such as influencing food preferences, satisfaction, enjoyment, and willingness to pay.

Previous research argues that improving the taste of PBMA should involve chefs instead of food technologists. Hence, by exploring how culinary experts within the protein shift work with taste, we can make use of their experiences in educating and guiding consumers towards more sustainable food choices.

Another challenge is to develop and communicate attuned cooking techniques for PBMA, which can enhance their sensory appeal and overall sense of quality. Therefore, understanding the role of taste *and* cooking techniques in relation to PBMA can provide valuable insights in how industry can and should work to inform consumers to the benefits of plant-based cooking and PBMA.

Objectives

This study adopts a qualitative, exploratory approach to investigate the role and expertise of culinary experts in the protein shift. The main aim

of this study is to explore how culinary experts work with sensory attributes and cooking techniques using PBMAs and plant-based products.

The objectives of this study are 1) to explore the sensory characteristics and preferences of PBMAs among culinary experts, 2) to examine the cooking techniques that culinary experts use to prepare and enhance plant-based dishes, and 3) to understand the communication strategies, possibilities and challenges that culinary experts face when promoting the protein shift to consumers.

Method and design

Using a purposive sampling technique, the participants were recruited by mapping and contacting culinary experts within the area of plant-based cooking in Stockholm and Gothenburg, Sweden. Semi-structured and place-based interviews are to be conducted during spring 2024 to collect in-depth data. The interviews will be conducted in the participants' own or professional kitchens, where they will engage in discussions about plant-based cooking and PBMAs.

The interview setting has been chosen to create a natural environment for the participants, as well as to observe their cooking behaviors and techniques in action. The interviews will be audio-recorded and partly video-recorded.

Results and conclusions

At the time of the conference, we will be able to consider the data and make initial contributions to the role of culinary expertise in supporting initiatives who work within the protein shift. The communication strategies used by the culinary experts are also expected to highlight and provide valuable insights to the opportunities and challenges the culinary experts face. These findings will inform future initiatives aimed at boosting the protein shift and enhancing consumer acceptance of plant-based cooking and consuming PBMA.

Cooking skills level and the using of ultra processed foods by Brazilian overweight and obese university students

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Keywords: Culinary skills, Meal preparation, Obesity, Young adults

Introduction

Individual cooking skills include performing tasks related to the frequency of food preparation, involving meal planning, as well as food pre-preparation activities (e.g. cut, peeling, washing foods). To measure individual cooking skills, it is necessary to evaluate culinary attitude, self-efficacy and knowledge, as well as self-efficacy in using and consuming fresh food such as fruits and vegetables among the tasks related to home food preparation. University students with low levels of culinary skills have been associated with high frequency of fast food and ultra-processed foods consumption. On the other hand, the development of cooking skills in university students is associated with healthy eating habits, as well as a lower chance of developing overweight and obesity.

Objective

This study aimed to analyze the association between the level of culinary skills, preparation and consumption of ultra-processed foods among overweight and obese university students.

Method and design

A cross-sectional study was conducted with 1918 university students selected from two Brazilian universities who responded to the validated online Brazilian Cooking Skills Questionnaire and Healthy Eating

Evaluation (BCSQ) and provided sociodemographic data, food preparation frequency, self-reported weight and height data - used to classify body mass index (BMI) into underweight, normal weight, overweight and obesity (June to August 2020). Cooking skills were classified in high, intermediate and low levels. Logistic regression models identified the association of overweight and obesity students with their level of cooking skills, frequency of meal preparation and sociodemographic variables.

Results

Most of participants showed a high level of culinary skills (70.7 %). Black (AOR= 1.74; 95 % CI =1.13 – 2.67) and mixed ethnicity (AOR= 1.63; 95 % CI = 1.18 – 2.27), living alone or with a partner (AOR= 2.40; CI 95 % = 1.67 – 3.43), being in the fourth year of university (AOR = 1.56; 95 % CI = 1.12 – 2.16) and home meal preparation with ultra-processed foods several times per week (AOR = 1.45; 95 % CI = 1.07 – 1.96) and daily (AOR= 1.62; 95 % CI = 1.18 – 2.23), as well as having a higher cooking attitude (AOR= 1.09; 95 % CI = 1.06 – 1.13) increased the students chances of being overweight and obese. On the other hand, having lower self-efficacy in fruits and vegetables consumption (AOR= 0.92; 95 % CI= 0.89 – 0.95) increased the chances of participants being overweight and obese. No significant association was found between BMI classification and the level of other cooking skills constructs.

Conclusion

The study was able to evaluate the cooking skills of university students focused on the use and consumption of fresh or ultra-processed foods, showing attitudes toward barriers related to home cooking, such as lack of cooking confidence and thinking cooking is tiring, as measured by QBHC. It suggests the need for interventions to improve these skills in overweight and obese, especially for preparing meals using fresh foods such as fruits and vegetables in a convenient manner, as well as promoting the reduction of the use of ultra-processed foods.

SESSION
*FOOD BEHAVIOUR AND
ARENAS FOR HEALTHY AND
SUSTAINABLE FOOD
CONSUMPTION*

Deciphering the food practices of diasporic Gujaratis New Jersey: Acceptances, Linkages, and Abandonment

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Émigrés must decide from a pastiche of food choices from “here” or from “home,” that will mark community, family, and self-identity. This research sought to assess the multiplicity of issues affecting the food cultural landscape of the Gujarati diasporic community in the US. Twenty-seven self-identified Gujarati Indian transnationals and their descendants were recruited from a non-probability sampling in northern New Jersey, US for five focus groups and follow-up individual interviews.

The overall objective was to understand the motivations behind their overt and potentially covert food behaviors. Two Foundational Themes were purged from the data: Collective Borders and Connectivity to Food, as well as four Emotive Themes: Food and Family Dynamics; Performance; Shame, Guilt & Anxiety; and Strength, Perseverance or Flexibility. The themes were also affected by three overarching conditions: A Gujarat Homeland Perspective, a New Jersey Contemporary Perspective, and a Balanced Perspective, where the hybridity of both local and homeland approaches was evident.

Overt performative behaviors were generally applied when a food or drinking practice transgressor wished to give a veiled impression that she or he is compliant with transnational Gujarati standards. This situation was particularly acute when alcohol consumption and aberrant eating behaviors are hidden from impressionable audiences, such as parents, elders or grandparents and children. However, more covert behaviors such as eating meat or drinking alcohol in the company of friends may be acceptable. Food choices enabled this diasporic community to negotiate between the competing forces of continuity and change, providing them with a template to adapt to their new surroundings while preserving their anchor in native traditions. The arena of food and food choices were used by the participants to strike a

pragmatic balance between individuation and collectivity, stability and change, and tradition and modernity.

A clear understanding of the issues facing transnationals as they transition into a new country can help with their planning and processes of adjustment, which includes strategies to overcome pitfalls. The findings of this study can also inform the external community about the benefits of welcoming transnationals into their society. Constituents of the food manufacturing industry could benefit from this deeper analysis of food-related behaviors. For example, the decision of whether to expand evolving ethnic markets by the inclusion, or not, of certain ingredients should be informed by a clear understanding of the social context.

Dietary and Lifestyle habits in relation to the risk of type 2 diabetes among ethnic minorities in London: generational shift

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Keywords: Generation, Ethnic adults, Dietary & lifestyle habits, Food processing, Food quality, Cooking Style, acculturation, Type 2 diabetes

Introduction

Changing dietary and lifestyle habits is complex task, which depends on both country of origin and host country, includes well as socio-economic status, culture, and the circumstances in where they live.

Immigrants at the host country, have higher risk to develop long term conditions as they follow westernized dietary and lifestyle habits South Asians, Africans and Caribbeans than the people that remain at the country of origin; it was observed in our previous study that the first-generation people in UK consume low fruits and vegetables, however, second and third generation consume mixed foods adopting Western lifestyle. Physical activity level is low on those populations due to lack of awareness, restrictive social and cultural norms, new work environment, and responsibilities in the host country. Research demonstrated that by increasing acculturation improves physical activity level in them a little bit. Smoking is related with acculturation level, reported 3-4 times and 4-8 times higher tobacco use in assimilated and marginalized respectively than integrated acculturation style.

The difference in consumption of food choices, cooking styles, food processing, acculturation period and the effect of those on T2D development is not clear in inter and intra generations of these ethnic minority groups who live in London. Thus, the aim of the study is examining the habits and views of immigrants in London related to dietary habits

and lifestyle. Their perception of healthy lifestyle and their barriers and facilitators to follow such lifestyle.

Method and design

Qualitative data were collected from 15 South Asian, African and Caribbean adults in between November 2023 – January 2024. Respondents were from 1st, 2nd, and 3rd generation and included both sexes who were T2D free, except one 1st generation Bangladeshi.

First generation were identified as those who immigrated to UK in around 1950–1975; expected age 65+ years. Second generation people were defined as those who born in the UK, with expected age 32–60 years. Finally, third generation people were considered as those who born in the UK, now aged around 18–30 years, and at least one parent of them born in UK.

Semi-structured interviews were used, and the sampling was convenience and snowball sampling technique. The interviews were transcribed, and the analyses was thematic analysis.

Results

The findings indicate an increased awareness and practices of healthy dietary and lifestyle choices over generations in all ethnic groups, however, every ethnic groups interpret the information differently. Younger generations are more likely to eat processed food, to take physical exercise, beside that alcohol and smoking habits also increases. Participants indicated that they would follow advice if they were diagnosed with the condition.

Conclusions

A change in dietary and lifestyle was observed both healthy direction and unhealthy direction over generations. Thus, interventions based on ethnicity and generational difference will improve healthy eating and lifestyle behaviours and prevent them from T2D.

Food for active outdoor recreation: Convenience, sustainability, and gender perspectives

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This study considers patterns in outdoor recreation participation and self-reported food choices/preferences among active outdoor recreation participants in Sweden. Outdoor recreation activities in Sweden are in a way unique due to the right of public access to the landscape which grants access for everyone to the nature. Even though food is often not the primary motivator within an outdoor recreational experience, with other factors playing a more important role, e.g., adventure, social wellness and many more, it is interesting to consider its role. For example, physical activity's energy and nutritional demands may contribute to the interest in the food/outdoor recreation intersection. Recent outdoor recreation research has also noted awareness of food and sustainability. For example, a study of Appalachian Trail hikers provides a specific example of sustainability awareness among outdoor recreation participants with knowledge of proper food packaging (Saaty et al., 2022).

Based on the breadth and depth in Swedish outdoor recreation members of the Swedish Outdoor Association were chosen for this study. Survey methodology was used to understand; what food preference factors are strongest, food's role in the outdoor recreation experience and how food may play a role for outdoor recreation sustainability.

The survey was answered by 161 members, 70 % women, 29 % men, and 1 % other. Results show that 98 % of respondents participate in outdoor recreation activities within the scope of one-day activity. In multi-day activities a gender difference ($p < 0.05$) was observed, with 91 % of men reporting participation while only 77 % of women take part. Food was reported to be an important factor in the overall experience with 88 % reporting food as part of one-day activities. Food

often plays a supporting role in outdoor recreation activities, potentially enhancing the overall experience. Important factors when planning the food are taste, disposability of waste and easiness to carry. The results indicate that food even though not the principal motivator is important for both nutritional needs and the overall enjoyment of the outdoor activities.

Sustainability considerations did not appear to be a priority, this is especially true for men who showed a significantly lower consideration than women ($p < 0.05$) when performing these activities. This fits previous study results indicating that women have a more environmentally sustainable diet pattern and consumption (Bloodhart & Swim, 2020). Findings in this study indicate a gender difference in both outdoor activity rate and food planning factors. A key outcome is to make it easy and convenient to make the sustainable food choice by wrapping it into product creation and distribution to ensure the collective outdoor food industry help the consumer make the sustainable choice.

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SESSION
*SUSTAINABILITY AND
THE FUTURE OF FOOD*

Investigating the evolutionary origins of insect food disgust: A cross-cultural developmental study

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Keywords: Insects, Disgust Response, Food Habits, Evolutionary Psychology, Cross-Cultural Study, Developmental

Introduction

Innovative transformations of the current food system and diets are needed to maintain a liveable planet for all species. One option that could contribute to this transformation is to eat insects, as insects are a more sustainable protein-source than conventional meat. However, in Western society eating insects is often regarded as disgusting. To overcome the negative view to insects as food, and thus stimulate consumer acceptance of edible insects in Western countries, a thorough understanding of the origin and current state of the Western insect disgust is needed. There are two prevailing theories explaining the origin of insect disgust: pathogen avoidance and culturally transmitted aversion. Considering pathogen avoidance, it is believed that insects, especially as food, are often incorrectly considered as potential carriers of pathogens and, consequently, as agents of food contaminations. This perspective can have been intensified due to urbanisation as urban people seem to be less knowledgeable about insects and tend to generalise them. In contrast, some researchers believe the Western aversion towards insects is a product of cultural transmission of perceived food appropriateness. Instead of handling out of pathogen avoidance, one rejects insects based on culturally constructed factors.

Objective

Examining the developmental trajectory can shed light on these theories. If insect disgust primarily stems from an evolved pathogen avoidance, an early and consistent emergence across age groups is expected. Conversely, if culture plays a significant role, later onset with greater variation is expected. So far, there has been limited exploration

of the developmental aspects of insect disgust and potential influences on these aspects such as demography. Therefore, this study aims to investigate the origin of disgust towards insects as food through a cross-cultural, developmental study.

Method and design

To examine this, an experiment has been conducted that assesses the initial response towards insects as food from young to old. Participants from Sweden and The Netherlands, ranging from 5 years old and above, were opportunistically recruited in two museums. The experiment involved a 'looking', 'tasting' and 'questionnaire' part. For the looking part, participants looked at four different food items, of which two had visible insects as an ingredient, while their facial expressions were recorded. This was followed by the tasting part, in which the participants had the opportunity to try the products. At the end, they filled in a questionnaire consisting of questions regarding, age, gender, country of origin, living surroundings and taste experience.

Anticipated Results and Future Work

As of now, 315 participants have been recruited and analysis are ongoing, and results are to be determined. The study anticipates exploring the developmental trajectory of disgust responses to insect-based food, and examining whether insect disgust is influenced by cultural background and living surrounding. In this way, this study contributes to knowledge that can foster the acceptance of insects as a sustainable protein source in Western and global societies.

The wild arctic char – from lake to plate: exploring different approaches to sustainability

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Keywords: follow the thing, gastronomy, sustainability, wild Arctic char

Introduction

The wild Arctic char inhabits the northern region of Sweden, which is also part of Sápmi, where the Sami, the only Indigenous people of Europe have lived. Most of the gastronomic supply chain of the wild Arctic char is located here and includes both Sami and non-Sami actors, such as fisherman, processors, distributors, and the gastronomic venues where the char is cooked and served. While all actors are dependent on each other to undertake their activity, they do not necessarily share the same views and perspectives on what entails a sustainable wild Arctic char supply chain as this is influenced by their own understandings of the meaning of sustainability.

Strong and weak sustainability are concepts that are used to discern different approaches to sustainability, particularly regarding environmental sustainability within organisations. These concepts can be regarded as viewpoints which informs how sustainability is understood and therefore addressed. I use this framework to clarify the difference between the approaches to sustainability within the wild Arctic char supply chain.

Objective

This article aims to investigate the differences and similarities between the approaches to sustainability within the supply chain of the wild Arctic char.

Method and design

This study uses “Follow the thing” methodology and follows the wild Arctic char from when it is fished to when it is served at restaurants. This article is based on semi- structured interviews and observations with different actors within the gastronomic supply chain. Two types of observations were performed: shadowing observation of fishing and walk-along with fridge stories with processors, distributors, and restaurants/gastronomic companies.

Results

The preliminary analysis shows that it is common among the Sami actors to have an approach to sustainability related to strong sustainability in accordance with previous literature which connects the strong sustainability approach with Indigenous axiology. However, other non-Sami stakeholders that expressed a stark connection to the land and share similar previous experiences also conveyed a worldview that is closely related to strong sustainability. This means that they see themselves as dependent on, and responsible for: the lakes, places and the culture that emanates from the region, and tend to advocate for the “precautionary principle”, as it is understood in the strong sustainability approach. The actors which understanding of sustainability was more related to weak sustainability, saw the char as an economic resource that could be exploited further and that holds an enormous potential for growth as the demand for char is large. Particularly, among the actors only preparing and serving the char as it is regarded as a local specialty.

Conclusions

This suggests that the way different stakeholders interpret sustainability varies in relation to their earlier experiences of fishing and /or eating char as well as to their expressed connection to the land where they operate and often come from. Nevertheless, all actors acknowledged that there are limits to the use of resources and considered sustainability as an important and complicated issue to manage within their food operations.

PART II POSTER PRESENTATIONS

Identification and Antimicrobial Susceptibility Pattern of Bacteria Isolated from Traditionally prepared Snacks in Nigeria – Significance & Health Implications

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Keywords: snacks, foods, pathogens, antimicrobial, Nigeria

Introduction and objectives

Generally, snacks are foods which are neither nuts, fruits nor vegetables but are made and eaten as they are sold. In Nigeria, there is a vast diversity of snacks foods, from bakery products to take-away foods. They are eaten by all age groups, particularly young ones and school children. Arguably, the proliferation of snack consumption has been the result of modern lifestyles, economic recessions and increased industrialization among other factors. Although world governments have tried to improve food/snacks supply safety, the incidences of borne disease have made snack consumption a significant health issue, especially in developing nations. The World Health Organization reported that in 2005 alone, 1.8 million people died from diarrheal disease. These deaths were mostly related to the consumption of contaminated food and water. The high consumption rate of locally made snacks in Nigeria has thus warranted the need for the determination of the microbial quality and antimicrobial properties of these foods.

Methodology and approaches

The study collected 7 diverse samples of traditional snacks bought from different parts of Nigeria. These samples were subjected to microbiological analysis to ascertain the presence of antimicrobial susceptibility patterns. The samples were aseptically blended and serial dilutions of up to ten-fold were made for the samples. The isolated were identified by conventional methods.

Analysis and results

Certain bacteria were identified from the samples: *Enterobacter* spp, *Pseudomonas aeruginosa*, *Klebsiella pneumonia*, *Escherichia coli*, *Micrococcus* spp, *Bacillus* spp, *Streptococcus faecalis* and *Staphylococcus aureus*. Further, the bacterial count on the snack's samples revealed that kulikuli and aadun contained the greatest bacterial load (6.6×10^7 cfu/ml and 5.6×10^7 respectively). The antimicrobial susceptibility pattern revealed that *Pseudomonas aeruginosa* had the greatest resistance to virtually all the antimicrobial agents tested.

Conclusion and recommendations

This paper shows the presence of antimicrobial susceptibility patterns in locally-made snacks in Nigeria. Many studies have reported that snacks and foods prepared under unhygienic conditions are vulnerable to microbial contamination. There is an urgent need to study the pathogenicity and strain distribution of presumptive food pathogens and how they relate to the hygienic practices of snack preparations in Nigeria. Doing so could disclose the potential of food poisoning epidemics as related to snacks consumption in Nigeria.

Exploring Student Perspectives and Experiences of Interprofessional Education

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Keywords: Partnerships; Interprofessional Education; Health; Transferable skills; Roles and Responsibilities; Student experience

Introduction

Interprofessional education is a growing pedagogy that seeks to effectively prepare healthcare students for the complexities of working in multidisciplinary teams by having them collaborate as students and to explore roles, responsibilities, scope of practice and referrals. The University of Wollongong has begun incorporating a range of interprofessional education activities with students in the six available health disciplines: nursing, medicine, dietetics, exercise physiology, social work and clinical psychology.

Objective

This study aimed to explore student perspectives and experiences of interprofessional education, using a mixed methods research approach.

Method and design

The Readiness for Interprofessional Learning Scale (RIPLS) was administered to students participating in a health interprofessional education, full day workshop in 2022. Survey responses and demographic information were collected and analysed using descriptive and parametric statistics. Qualitative data was gathered via individual semi-structured interviews with students. These were recorded and transcribed verbatim, and thematic analyses conducted to determine key themes and exemplar quotes.

Results

In the quantitative component, the total survey mean score was 80.58 (SD=9.40), from a possible score of 95, indicating a high readiness to engage in interprofessional education. Demographic comparisons revealed a statistically significant difference for gender and graduate level. Females scored higher than males in the overall survey ($p=0.034$) as well as the teamwork and collaboration subscale ($p=0.042$). Undergraduate students scored higher than postgraduates in the and collaboration subscale ($p=0.035$). In the qualitative component, students reflected on experiences of interprofessional education and on placement or previous healthcare experiences. Key themes generated included: roles, communication between the multidisciplinary team, hierarchy, and benefits of effective collaboration.

Conclusions

Overall, the study found positive attitudes and experiences of interprofessional education amongst the students, with a desire for greater clarity on different healthcare roles. This implies further work can be done to incorporate interprofessional education into curriculum, and to better prepare healthcare students for effective multidisciplinary collaboration.

Contemporary uses and perception of fermented foods in the world. A review through social sciences

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Keywords: Fermentation ; food representation ; usage

Introduction

This poster presents an overview of the existing literature on the social studies on actual uses and representations of fermented foods in the world. Fermentation is a trending research topic: there are numerous articles reviewing the various existing fermented foods, the microbial genii composing them and their possible health effects (Soni & Dey, 2014; Steinkraus, 1997). Those studies explore the diversity of fermented foods in term of substrate or microorganisms, but there is, to our knowledge, no literature review exploring the diversity of representations of fermented foods. Indeed, the process of fermentation is not perceived equally by all cultures, as stated by Hubert & Sabban (2005), and it therefore would be relevant to have an overview of this diversity studied through social sciences.

Objective

We address this by focusing on the contemporary uses and representations about fermented foods. Our research questions could be formulated as: In the field of social sciences, what is the state of the art on the different contemporary uses and representations of fermented foods in the world? How has fermentation been studied through social sciences?

Thus, the poster presents a review of the existing social sciences works studying the links between fermentation and actual food consumption in the world.

Method and design

A semi-systematic review is being performed, on peer-reviewed articles written in French or English.

Inclusion/Exclusion criteria are:

- Articles available in French or English
- Published before February 2024, in peer-reviewed journals
- On the WebOfScience or Cairns search engines.
- About human food consumption (excluding other primates or cattle food)
- Current or recent consumption, from 20th century to now (excluding anthropo-paleontological and historical articles)

To this day, 135 papers have been selected. A second round of selection by going more deeply through the papers will now be conducted. The papers will then be double-screened by another reviewer to ensure reliability.

Most selected papers are either about ethnobotanical uses of traditional products, or about the relationship between human and non-human species.

Conclusion

As part of an ongoing PhD thesis on the uses and representations of fermented foods in Europe, this review will point out the main gaps in knowledge and allow to design future research in social science.

Acknowledgement: This research is part of the HealthFerm project, a EU and Swiss government funded project aiming at helping transitioning towards more sustainable foods systems, through plant-based fermented foods.

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Changes in eating habits and parenthood: the influence of social and psychosocial factors on the sourcing and consumption of organic products by parents from the NutriNet-Santé cohort (France)

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Keywords: Parenting; eating habits; organic farming; identity; food trajectory; consumption

Introduction

Throughout their lives, individuals actively construct food trajectories shaped by family cooking, food preferences, and experiences. These trajectories are dynamic and undergo transitions linked to major events.

Becoming a parent is one of those events that prompts us to think deeply about how we feed our children and, more broadly, our families. Food, the essential link that binds children to their parents from birth, gives rise to profound reflection and upheavals in personal and family dietary patterns. These upheavals exert an influence, generating tensions between subjective norms, social representations, beliefs, and the group to which the child belongs, and require delicate navigation through various medical, paramedical, and family recommendations.

Objective

The HEREDITY study looked at the social and psychosocial factors influencing parental decisions about children's eating habits.

Method and design

Semi-structured interviews were conducted between October 2023 and November 2023 with 31 parents of children under the age of 6 living in France and registered on the NutriNet-Santé Web cohort. The following themes relating to children's diet were addressed: social representations of food; children's eating behaviour; information seeking; food beliefs; attitudes; emotions felt by parents; subjective norms; influence of social networks; and food decisions made by parents. A thematic analysis was then carried out.

Results

The sample comprised 10 men and 22 women, with an average age of 37. The thematic content analysis revealed changes in the dietary trajectories of the participants, triggered in particular by the onset of parenthood. These changes in eating habits were also influenced by a generational break in eating habits with their parents and an affiliation with a new peer group. The latter are more in tune with their ethics and values, environmental for some and health for others. Parental food choices are thus directed towards more sustainable sources of supply and products with a strong organic farming label, in which they have particular confidence, especially when it comes to parental decisions about baby food.

Conclusions

Parenthood brings about changes in the dietary order previously established by the couple and is conducive to questioning, or even a clean break in the family dietary heritage, which is at odds with the dietary standards sought by the new parents. This questioning of the established order is conducive to the search for a parental identity in line with the new parents' social factors (social class, geographical location of residence, age) and psychosocial factors (values, groups to which they belong, beliefs, subjective norms). These changes lead to upheavals in the way food is sourced, cooked, and consumed. These factors lead us to rethink this moment of fragility to understand the

other factors influencing parental food decisions, such as food literacy and exposure to sources of information.

Evaluation of the food supply in kindergarten and primary school settings: an exploratory study with key stakeholders in the sector

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Keywords: School, Food Supply, Food Waste, School Lunch

Introduction

Health and nutrition are closely related, which is particularly relevant for young people because the adequate intake of nutrients and energy is critical for growth. Additionally, eating behaviour developed during childhood and adolescence has the potential to last a lifetime and may have long-term implications. In this context, schools are increasingly called upon to target health concerns in their student population by encouraging healthy lifestyles to prevent chronic diseases. In the past years, Portugal has implemented school policies relating to education and health by applying principles and guidelines to the school food supply.

Objective

This research aimed to analyse the opinion of the Portuguese key stakeholders regarding the food supply practices in the kindergarten and primary school setting, considering the Portuguese guidelines on school lunch, school fruit, vegetables and milk scheme, and sustainability guidelines.

Method and design

Semi-structured interviews with eleven key stakeholders who were responsible for management/direction or who operated the school food supply were carried out. Interviews were analysed using a thematic analysis procedure with the support of QSR Nvivo.

Results

According to stakeholders' narratives, the following factors influence the adhesion of food supply in a school context: lack of pupils' and parents' food literacy, pupils' unhealthy eating habits, and lack of work conditions and appropriate training of food handlers (due to heavy workload, limited resources. Additionally, respondents also reported that the recommended *per capita* consumption of food portion size at school lunch is not always followed, as these were found to have an excess of animal protein and a deficit of vegetables. The stakeholders also reported difficulties in integrating local food into the school lunch due to the cost associated with these products. Regarding food wastage, our participants highlighted the lack of accompaniment in the assessment of food waste, noting that there was an absence in the validation of the efficacy of actions taken against food waste. Participants also reported the lack of nutritionists in the school setting to enable the following improvements in the schools: food education, *per capita* assessment of portion size for school lunches and evaluation of food waste reduction activities.

Conclusions

There is a need to create and train a multidisciplinary team of professionals, namely nutritionists, food handlers, healthcare professionals, farmers, and teachers, to avoid diet promotion activities disconnected from national nutritional policies or actions against food waste activities that disregard the school community.

The influence of language and written comment patterns in the sensory evaluation and acceptance of chocolates and plant-based drinks

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Keywords: Language, LIWC, Perception, Sensory

Introduction

Language is one of the most mysterious products of the human mind. As well as being the main mean of communication and socialisation, it is also a vehicle for thoughts and affective states [1].

Objective

This exploratory study aims to analyse written and spoken language to obtain the psychological and emotional states of individuals based on their linguistic word choices and linguistic patterns in the sensory evaluation of two food products.

Method and design

For this study, 3 plant-based drinks (almond, soya, pea) and 3 chocolates of different origins (Brazil, Ghana, Madagascar) were used as stimuli. One hundred participants were recruited voluntarily for this study. Through an open question, the participants described the product and indicated what they thought of it. They then used a 7-point anchored scale to assess the degree of acceptance of each product. The participants were divided into two groups. The first group (n=55) completed the questionnaire traditionally, writing their answers to the

questions on a tablet. The second group (n=45) of participants answered the questionnaire orally with the help of a microphone, where they had to listen to the questions and then announce their answers. In both situations, the products were presented in a monadic and balanced way in each category.

Result

Using the Linguistic Inquiry and Word Count software (LIWC), 90 linguistic features were analysed and compared for the two conditions. Chocolates were significantly better evaluated than plant-based drinks ($p<0.001$). In addition to simple acceptance, significant differences could be observed concerning standard linguistic dimensions, such as the association of chocolates with the second and third person, reinforced by an association with the concept of socialisation. Plant-based drinks, which were less appreciated, were more associated with feelings of displeasure and sadness.

It was also possible to observe significant differences between processes regarding the total number of words, the words related to feelings and the words related to perceptual processes between the two study conditions ($p<0.05$).

Conclusion

The words we use in natural language can reflect our thoughts and feelings in often unpredictable ways, also revealing information about our social interactions and personality. Thus, analysing speech characteristics, combined with self-reporting techniques, could have potential value beyond consumer acceptance of food products.

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The role of food product development in humanitarian response

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Keywords: Guinea-Bissau, Product Development, Vulnerable livelihood group

Introduction

Vulnerable livelihood groups, such as the Fulanis in Guinea-Bissau are affected by the outcomes of inequality, due to their lack of opportunities to obtain healthy diets, healthy environments, and adequate basic health care. A multi-sectorial approach may be a key to building resilient food and health systems, integrating, and expanding preventive and emergency nutrition care, mainly in malnutrition context. In 2021 a Portuguese non-governmental organisation (NGO) and a Portuguese food retail company came together for a project to develop a paste of cashew nuts originally from Guinea-Bissau, and to launch it in a large retail chain in Portugal with a donation claim. This project's financial return was to be used to invest in basic health care, specifically, the construction of the Centre for the Prevention of Child Undernutrition for Fula children, in Guinea-Bissau.

Objective

The objective of this study was to assess the impact of this project through the: i) evaluation of the involvement of the company's stakeholders engaged with the product development, ii) evaluation of the perception of Portuguese consumers, and iii) evaluation of the impact of the project regarding the NGO objectives and through the NGO's stakeholders.

Method and design

Face-to-face semi-structured interviews were used to assess the involvement and motivation of the retail company and NGO stakeholders involved in product development and a self-reported questionnaire was applied in a web-based survey to evaluate consumer perceptions towards the campaign and the product. In addition, global donation data were explored to assess the impact of the project concerning the NGO's objectives.

Results

According to the retail company's stakeholders, the development of new products with a humanitarian nature is the greatest opportunity for the future. The results show that consumers who bought the product reported good acceptance in terms of sensory attributes. They also reported that they are interested in buying another humanitarian product. For the NGO stakeholders involved, the long-term nature of the project, and the financial return were strengths mentioned. However, all stakeholders agreed that innovation is necessary to maintain donations. Low turn-over and shelf life of the product were mentioned as weaknesses.

Conclusions

This project enables an innovative and profitable business model for product development and ultimately brings effective benefits to a vulnerable population concerning food safety and nutrition.

Outdoor recreation, nature-based tourism, and food: Experiences and adaptations in the hospitality industry during COVID-19

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Keywords: nature-based outdoor recreation; rural tourism; resilience; local food; COVID-19 pandemic

Introduction

Along with the increase in outdoor recreation during the COVID-19 pandemic in Sweden, it was noted that nature was given an expanded role as a 'social room' for meeting and socialising over food (Hedenborg et al., 2022). From a business perspective, this development may have been an opportunity for companies in nature-based outdoor recreation to cope with the pandemic crisis and to build resilience in the hospitality industry (Von Essen, 2021). However, a more comprehensive understanding of how entrepreneurs in the Swedish nature-based outdoor recreation acted and adapted is missing.

Objective

To examine entrepreneurs' combined experiences of outdoor recreation, nature-based tourism, and food during COVID-19 in Sweden, and to analyse how this knowledge can support sustainable thinking in the hospitality industry while contributing to resilient rural development.

Method and design

A survey ($n = 61$) and interviews ($n = 18$) were conducted with entrepreneurs in nature-based outdoor recreation in Sweden. The questions focused primarily on their experiences of the pandemic and on how food is used as part of their business strategy. Further, additional questions explored perceptions of food combined with nature-based outdoor recreation activities as part of the hospitality industry in rural areas.

Results

The data will be analysed in early spring 2024. However, preliminary results shows that the large outdoor areas were a favourable factor in attracting more people during the pandemic. Adaptations from international to national and local guests appears to have formed the basis of most pandemic era response, combined with efforts to comply with restrictions implemented to reduce the spread of the virus. Examples of some of these adaptations include visitor spacing during meals, small group activities, family-based activities, food delivered in picnic baskets, and business and staff meetings in the forest with cooking over an open fire.

Locally produced food and seasonal ingredients were an important focus for several entrepreneurs, partly as a sustainability strategy, but also as an important tool for engaging guests in conversations about culture, place, environment, and sustainability linked to the activity. Overall, nature-based outdoor recreation hospitality was seen as crucial to the development of rural areas, with food as an important part of the total nature experience.

Conclusions

Preliminary results show resilience in the face of disruption; for example, creativity in adapting to the pandemic, where nature was seen as a favourable arena for safe activities is a featured form of resilience. In addition, food was highlighted as an important tool for many companies to build their businesses despite disruption, with nature-based outdoor recreation and tourism considered as a fundamental contribution to sustainable transitions in rural areas.

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Cooking and eating meals together – a daily activity for people with intellectual disabilities to facilitate healthy and sustainable eating habits

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Keywords: Cooking together, meals, health, food, learning

Introduction and objective

Understanding experiences related to food is a complex matter. People with intellectual disability (ID) have several challenges related to food, meals, and health. Studies have shown that many people with ID eat alone but they also cook food to a lesser extent. Preparing, cooking, and eating meals together with other people is not only a tool for achieving healthy food habits, but are also important in strengthening and developing social and communicative skills, as well as gaining confidence and self-governance.

In this project we aim at exploring experiences related to cooking and eating together among people with mild to moderate intellectual disabilities at a daily activity center within LSS (The law on support and service for certain disabled) in Sweden, focusing on cooking together.

Method and design

This ethnographic study was conducted together with six people with mild to moderate ID, four men and two women between 20 to 60 years of age, as well as with three staff. Participatory observations and semi-structured interviews together with a digital diary were used to collect data from the participants with ID. In addition, a focus group was conducted with the staff.

Results

This study points at the central role in preparing, cooking and eating meals together, not only to gain knowledge about food, but also for learning other skills and competences that are important in their everyday life. Through cooking together, the participants learned to collaborate and cooperate, as well as building relationships. They developed both courage and curiosity that were important in learning about food and cooking, about different tastes, and ingredients and how these can be combined. Moreover, cooking together gave them a sense of pride in accomplishing a common meal.

Conclusions

Cooking together in daily activity center for people with ID, have important implications for learning about food and to facilitate healthy and sustainable food habits for all, following the sustainable development goals related to nutritious food, health and wellbeing, as well as equality.

Nutritious, tasty and health-promoting novel wheat products

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Keywords: Plant breeding, wheat, consumer attitudes

Introduction

Wheat represents a major human food contributor and is one of the largest and economically most important crops in Sweden, as well as globally, contributing to national food and nutritional security through providing high physical (e.g. taste, flavor, aroma, and color) and nutritional (e.g. protein, minerals, phytochemicals, and amino acids) value. Eating food produced by wheat is undoubtedly very common, but in recent times both cultivation and sales have been affected by several aggravating circumstances. Examples are connected to ongoing climate change and arising problems related to weather conditions and plant protection, as well as a growing number of consumers experiencing allergic reactions to wheat (due to the presence of antinutrients). Consequently, there is now a growing demand for varieties that can not only cope with new climate conditions but also meet a multitude of consumer demand for more health promoting wheat products with enhanced and/or modified physical and nutritional qualities that reduces negative health consequences.

Objective

The aim of this study is thus to explore Swedish consumers' awareness, attitudes and preferences towards using plant breeding in developing cereals in general and the special case of ancient cereals.

Material and method

Data was collected during September 2023 in Sweden by using an online questionnaire in Swedish and answered by a consumer panel. In total 1000 complete datasets were registered and used for the analysis. Demographics (gender, age and level of education) and consumption frequencies of cereal products was collected. The questionnaire did also

cover awareness of ancient cereals, sour dough, sprouting and whole grain, as well as data for plant breeding neophobia and attitudes towards plant breeding.

Results

Preliminary results show that bread is the cereal/wheat product that is eaten most, followed by pasta and cereals/müsli. Awareness of sourdough and wholegrain is high, whereas awareness of sprouting is lower. Additional results and conclusions will be presented and discussed during the conference.

How gastronomy is used in the context of public meals – a scoping review

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Keywords: Public meals, gastronomy, scoping review, definition, screening

Introduction

A rising number of consumers take part in public meals every day. These meals, served in institutional settings such as schools and hospitals, have great potential to affect both public health and the sustainability of the food system. Building on prior research by our group, this study examines the role of gastronomy in public meal contexts. Here, gastronomy was defined as “Food and meal designs with high knowledge content in order to stimulate pleasure in the meal consumer” (Jönsson and Tellström, 2009) and public meals were defined according to Höijer et al. (2020).

Despite the importance of public meals, academic inquiry into their gastronomic aspects is limited, with gastronomy typically associated more with unique dining experiences than everyday meals. Furthermore, there is no universally accepted definition of gastronomy. Therefore, it is of importance to further explore the potential of the concept and how it is applied in different public meal settings.

Objective

To explore how the concept of gastronomy is used in the context of public meals.

Method and design

For this scoping review relevant parts of the PRISMA Statement protocol (Page et al 2020) were applied. Eligible articles to be included were those using the concept of gastronomy in the context of public meals, published as full-text papers in peer-reviewed scientific journals between 2013 and 2023 and written in English.

The literature search was carried out using four databases: PubMed, Web of Science Core Collection (Web of Science), Scopus and Academic Search Premier (EBSCO). The software Rayyan was used to organise and manage articles during screening. Articles not concerning gastronomy or concerning gastronomy in other contexts than public meals were excluded. After three steps of automatic exclusion of articles, all remaining articles were screened by at least two authors, based on information in titles and abstracts. Articles meeting the inclusion criteria were reviewed in full text, by all authors.

Results

In total, 3676 articles were identified. After automatic exclusion, 2519 articles were manually screened based on information in title and abstract. 13 articles were read by all authors in full text, whereof 5 were excluded and 8 were included for assessment.

The preliminary results indicate that in most of the articles, the concept of gastronomy is peripheral. It is often used as an overall framework and seldom defined. It is occasionally linked to local cuisine, particularly French gastronomy, as well as used as a symbol of “good food” and “good taste”. One of the articles emphasises the enhancement of meal experiences through presentation rather than taste. In others, soft values like enjoyment and satisfaction are considered important, but overall, gastronomy remains tangential to the main focus of the discussions.

Conclusions

Preliminary findings show that, in current scientific literature, the concept of gastronomy is rarely discussed in relation to public meals, and when it is it's not the primary focus. This research gap underscores the need for further exploration of gastronomy to enhance quality of public meal services across various sectors.

Food and Sustainability – A Survey Study on Knowledge and Beliefs

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Keywords: Food knowledge, Food waste, Consumer behavior, Taste

Introduction

Food production contributes to 25 % of global greenhouse gas emissions, with 8–10 % attributed to unconsumed food. Further, diet choices impact greenhouse gases and climate. Around 17 % of available food is needlessly discarded, occurring throughout the entire value chain. Approximately 10 % of food waste in EU is estimated to be linked to surpassing expiration date and may be explained by consumers' disposal of edible food, that often relates to perceived lack of freshness.

Objective

The project aims to increase understanding of consumers' knowledge, behavior, and attitudes regarding food sustainability by mapping the underlying reasons why consumers discard food.

Method and design

A web-based questionnaire with 39 questions gathered data on knowledge and perceptions of food sustainability. The questions covered climate, environment, food safety, nutrition, and food-related behavior, utilizing a 7-point Likert scale.

Results

The study involved 109 participants aged 20 to 90, categorized into three age groups: 20–34 (GI), 35–59 (GII), and 60–90 (GIII).

Respondents classified their diet and reported important factors underlying their dietary and food choices. *Taste preferences*, ($p < 0.001$) was the most frequently reported factor across all age

groups. *Economics* was more important to younger respondents (GI)($p < 0.01$).

For food choice, *taste preferences*, ($p < 0.001$), and *health* was the most frequently reported factors across all age groups. Economics was more important to the younger respondents, GI ($p < 0.001$), whereas locally produced- ($p < 0.05$) and unprocessed food ($p < 0.001$) was more important to the older respondents, GIII.

Food past its best-before date was believed to be unsafe by 23 % of the respondents. The oldest group (GIII) was more convinced about the safety of expired food compared to the youngest group (GI) ($p < 0.007$).

Organic farming (72 %) and local production (84 %) were reported as more environmentally friendly than conventionally produced alternatives. Young respondents (GI) agreed more ($p < 0.006$) to the environmental friendliness of locally obtained food, however, the respondents did not believe the nutritional value to be higher in these products. Homemade food was perceived as more nutritious.

Conclusions

The respondents show overall knowledge and concern about food and environmental issues. They express concern about the impact of climate change from food. There is a certain level of concern about nutritional aspects, while food safety as a general aspect does not seem to be a major worry.

Taste was the most important parameter for all age groups in influencing diet as well as in the choice of food. The younger group (GI) set itself apart from the other two groups, particularly in terms of economic aspects and, to some extent, knowledge about food safety matters.

Attitudes and preferences regarding plant-based yoghurt analogues among Swedish consumers with different dietary habits

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Keywords: Dairy alternative, Dairy substitute, Gurt, Questionnaire, Vegan, Flexitarian

Introduction

Plant-based dairy yoghurt (PBYA) is one category of plant-based foods that is on the rise on grounds of the reduced environmental impact compared to animal-based counterparts. However, poor palatability discourages some consumers to purchase PBYA. More knowledge about different consumers' attitudes and preferences regarding PBYA can support product developers to tailor their production towards certain consumer groups.

Objective

The objective of this study was to investigate consumer attitudes and preferences regarding PBYA. Differences and similarities between consumers with different dietary habits were also investigated.

Material and design

An internet-based questionnaire targeting Swedish adults was constructed. The questionnaire contained demographic questions and asked respondents about their preferences and attitudes regarding PBYA. The respondents were divided into four groups depending on their preferred diet (vegan, lacto-ovo vegetarian, flexitarian, omnivore). The data was analysed with descriptive, uni- and multivariate statistics to compare the four dietary groups.

Results

Taste, appearance and price were the most important factors when buying PBYA across all groups. The factors local ingredients, few additives and low sugar content were example of factors that were more important to flexitarians and omnivores compared to vegans and lacto-ovo vegetarians. All groups agreed that good for environment is a main driver for purchasing PBYA. Vegans indicated animal welfare as an even more important reason to buy PBYA whereas omnivores indicated interest in trying new foods as a main driver. The main reasons to not consume PBYA were poor taste and lack of motive to replace dairy yoghurt. A majority of respondents (78 %) were interested in consuming PBYA.

Conclusions

This study showed that attitudes and preferences regarding PBYA differ between dietary groups. Vegans and omnivores were farthest apart in their opinions, while lacto-ovo vegetarians and flexitarians laid in between. Respondents who ate more animal-based foods were associated with somewhat higher demands on product characteristics compared to vegans. The results from this study can be useful in product development of PBYA.



THIS BOOK CONTINUES the theme started in 1996, by bringing together the abstracts from the 13th International Conference on Culinary Arts and Sciences, organised by Kristianstad University, Sweden. These conference proceedings provide a permanent record of the papers and posters given, demonstrating the international variations

of the conference and the different angles and diversity of subjects covered.

The abstracts have been grouped under the following sessions:

- *Perspectives on societal change*
- *Hospitality in the food and meal sector*
- *Consumer acceptance and methods for exploring new food*
- *Producing healthy and sustainable food and beverage – challenges for the future*
- *Culinary skills and new technology*
- *Food behaviour and arenas for healthy and sustainable food consumption*
- *Sustainability and the future of food*



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