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Exploration of heritage food concept

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ABSTRACT

Background: Heritage food has gained attention and recognition by locals as a cultural identity and by tourists as a new food experience. Two important intrinsic quality attributes of heritage food encompass safety and authenticity. As heritage food dishes are prepared in foodservice establishment, it entails requirements on ensuring safety and authenticity of heritage food.

Scope and approach: The study aims to conceptualise heritage food and identify risk factors that may compromise safety and authenticity. A semi-structured literature review was conducted to explain the heritage dimensions and to evaluate multiple food concepts relating to heritage to define the heritage food concept. Furthermore, risk factors were inferred from the literature that could compromise the safety and authenticity of heritage food.

Key findings and conclusions: Three main heritage dimensions identified from literature are legacy, people and place. Based on the evaluation against the three heritage dimensions, traditional food was mostly linked to the legacy and place dimensions. Ethnic food was typically related to the dimensions people and legacy, whereas for local food the dimension place was most dominant. Literature showed that all dimensions seem to be relevant for heritage food, but the number of definitions available in the literature is still limited. Therefore, it is not yet clear if all dimensions are equally important. Furthermore, a framework was developed with the identified authenticity risk factors, which originated from literature about ethnic, local and traditional food. The identified safety risk factors are common in the foodservice sector. The framework needs to be further validated through studies with stakeholders in heritage food production.

1. Introduction

There has been an increasing interest in extrinsic food quality attributes that relate to how foods are produced, e.g. traditionally, with attention to their unique origins, the culture-specificity of food, or heritage aspects (Cerjak, Haas, Brunner, & Tomić, 2014; Luning & Marcelis, 2009; Verbeke & Roosen, 2009). Such foods can be a significant part of the dietary patterns of people (Vanhonacker et al., 2013) and structure an important part of their cultural identity (Chambers et al., 2007; Chrysoschoydis et al., 2007; Vermeir & Verbeke, 2008). More recently, food of a particular place of any destination seems to play an increasing role in a tourist's experience since their perspective of travelling is changing nowadays (Abubakar, 2010; Bessière, 2013). In the past, tourists focussed on choosing their destinations depending on things to be seen like arts, archaeological sites, and natural environment. Nowadays, this perspective is changing to choosing countries providing experiences that cover the five senses of taste, sight, touch, smell, and

sound (Jacobsen & Haukeland, 2002; Lin et al., 2011). Food has thus become an important part of this experience and tourists are willing to be involved in unusual experiences with food (Mak et al., 2012).

In 2010, UNESCO, for the first time, recognized food as intangible cultural heritage and they added the Mediterranean diet, Mexican cuisine and French gastronomic meal to the representative list of the "Intangible Cultural Heritage of Humanity" (Medina & Aguilar, 2018, p. 131). UNESCO (2017) describes cultural heritage as "the legacy of tangible and intangible attributes of a group or society that are inherited from the past generations, maintained in the present and bestowed for the benefit of future generations". Food can thus be essential for a specific group or community residing in a specific location as part of cultural heritage (Brulotte & Di Giovine, 2016). Moreover, food, as inherited from the past, serves nowadays an important role as a cultural identity in the multicultural environment (Brulotte & Di Giovine, 2016). Therefore, food plays an important part in the cultural heritage.

As part of the cultural heritage, there are two concepts linked with

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food, which are heritage food and food heritage. Sometimes, they are used interchangeably but they are different. Heritage food has been described as “a traditional local food which is inherited, prepared and practised daily, rooted in a mixture of various cultures, religions, and beliefs” (Omar et al., 2015). On the other hand, food heritage has been defined as “the set of material and immaterial elements of food cultures that are considered as a shared legacy or a common good” (Bessière & Tibère, 2010). Food heritage covers typical aspects related to agricultural products (raw materials), ingredients/compositions, dishes, preparation techniques, recipes, food traditions, table manners, as well as the symbolic dimension and material aspects such as utensils and dishware (Bessière & Tibère, 2010). It can be understood from both definitions that heritage food refers to the physical object used in the preparation of the food and consumption while food heritage is the combination of all the requirements of heritage food.

Furthermore, the heritage food can be also important for rural area because it is strongly related to a peasant identity, and specifically, to particular food productions (Bessière, 2013). In rural areas, the culinary heritage reflects shared memory and origins, which support a feeling of belonging to a territory (Bessière, 2013). These aspects can be valuable as they can be the means and the motives to attach to a specific place/area. According to Baldacchino (2015) and Sidali, Kastenholz, and Bianchi (2015), the authenticity of the food and the heritage of specific cultures could work as an effective tool to sustain rural tourism in particular and rural communities in general.

Heritage foods are increasingly prepared in the hospitality industry at a larger scale, which requires appropriate measures to ensure the safety and authenticity of such foods (Rodriguez, 2015). As with all food served for direct consumption, food might involve various food hazards of which may lead to safety problems, depending on the quality and treatments of raw materials, ingredients, the processing conditions, and the handling circumstances (Kristbergsson & Otlés, 2016). Therefore, heritage food production could also face several challenges in terms of safety issues. To illustrate, in Germany, an outbreak occurred in one of the hotels where they prepared various traditional sausages. The cause of the outbreak was linked to poor hygiene of staff and equipment (RKI, 2004b). Niode et al. (2011) interviewed 41 managers of ethnic restaurants. They identified several challenges in meeting food safety standards, such as maintaining proper food cooking and storage temperatures, and lack of knowledge of food safety practices. Therefore, the preparation of heritage food may have implications for food safety and the current food hygiene rules maybe be conflicting with the specific practices of heritage food. For this reason, safety risks of heritage food preparation need to be investigated.

Furthermore, the authenticity of heritage foods is another quality attribute that is easily threatened. The term “authentic” is associated with “genuineness”, “reality”, and “truth” (Grayson & Martinec, 2004). Authenticity is typically defined as “which is believed or accepted to be real or genuine” (Taylor, 1992). Food authenticity relates to a wide range of elements, such as origin, preparation, ingredients, recipes, and the context, such as the serving and presentation of the food (Assiouras, Liapati, Kouletsis, & Koniordos, 2015). This makes the control of authenticity challenging because it is not only related to the food products itself, but also to how heritage food dishes are prepared, and who prepares them. The authenticity control might be particularly strict for heritage food as a breach of trust can easily compromise the whole heritage food sector of a specific country/geographical area. Also, it has not yet been investigated what kind of factors may compromise the authenticity of heritage food.

There is thus increasing interest in heritage food in the tourism industry, but the concept of heritage food is yet unclear and there is very limited information about heritage food. On the other hand, to anticipate the growing interest in heritage food, safety and authenticity should be guaranteed. Therefore, the study aims to conceptualise heritage food and identify the risk factors that may compromise its safety and authenticity. A semi-structured literature search was done to firstly

define the general heritage dimensions and secondly to evaluate multiple food concepts relating to heritage to define the heritage food concept. Thirdly, risk factors were inferred from the literature that could compromise the safety and authenticity of heritage food.

2. Approaches

To conceptualise heritage food, firstly literature was searched to identify the dimensions describing the heritage concept. Next, literature was searched to evaluate several food concepts that have characteristics associated with heritage (i.e. traditional, ethnic, and local food) to assess the particular dimensions of each food concept. From this analysis, we inferred the possible dimensions of heritage food into a conceptual frame. Lastly, a literature search was conducted to identify the risk factors of the safety and authenticity of heritage food in the hospitality industry.

First, a semi-structured literature search on identifying heritage dimensions was done through structured searching in Scopus, Science Direct and the Google Scholar website. The keywords included in the search were “heritage and definition”, and “heritage and define” because these keywords yielded relevant articles about heritage definitions. The search terms were found in the title and abstract sections of the articles. The search was filtered by focusing on journals related to heritage, culture, tourism, and social studies. Moreover, Dictionary and Cambridge websites were used to define heritage. Then, seven full articles were analysed to find definitions of heritage. From these definitions, typical characteristics were extracted and similar characteristics were grouped and defined into a dimension.

The next literature search, to evaluate the heritage-related food concepts, was carried out using three databases: Scopus, Google Scholar, and Science Direct. The keywords used for the search were ‘heritage food’, ‘traditional food’, ‘ethnic food’, and ‘local food’. Titles, abstracts, and keywords of all retrieved documents were reviewed and judged based on the following inclusion criteria: (i) published in English or Arabic language; (ii) the document is published in research articles or book chapters or governmental websites. Governmental websites were also used to search for definitions of heritage food as there are limited definitions of heritage food. In total, 19 articles and two governmental websites were used to identify the characteristics of the food concepts from their definitions. For each food concept, these characteristics were categorised according to the previously determined heritage dimensions. Subsequently, the data were analysed by using MAXQDA Analytics Pro 2018 (Release 18.2.0, Foxit Software Company, Germany). The characteristics of each heritage definition were coded and subsequently assigned to the corresponding heritage dimension. For each food concept, a list of codes characteristics, categorised for the heritage dimensions, was obtained. The frequency of the characteristics, as found in the literature, gives an indication of the significance of the particular heritage dimension(s) for the food concept.

The third literature search was conducted to identify the risk factors of safety and authenticity of heritage food. The websites used were Scopus, Google Scholar, and Science Direct. The combination of keywords used was: ‘heritage food’, ‘traditional food’, ‘ethnic food’, ‘safety’, ‘authenticity’, and ‘food service establishment or hospitality industry’. Additionally, the Boolean operators “AND” and “OR” were used so that a single search of each database could be conducted that included all of the search terms. The keywords “heritage food”, “traditional food”, “ethnic food” were combined with authenticity or safety such as ‘traditional food’ AND ‘safety’ AND ‘food service establishment’. The summaries and/or full texts of the relevant documents were read and judged based on the inclusion criteria, resulting in a final body of 25 documents.

3. Dimensions of the heritage concepts

Table 1 presents the definitions found for heritage showing different

Table 1
Definitions of heritage and related characteristics.

Definitions	Characteristics
"The history, traditions and qualities that a country or society has had for many years and that are considered an important part of its character" (Oxford Dictionary).	<ul style="list-style-type: none"> • History • Traditions • Country • Society • Many years • Particular society • Traditions • Created in the past and still have historical importance.
"features belonging to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still have historical importance" (Cambridge Dictionary).	
"Heritage defined as that which a past generation has preserved and handed on to the present and which a significant group of the population wishes to hand on to the future" (Hewison, 1989).	<ul style="list-style-type: none"> • A past generation has preserved and handed on to the present. • Group of population
"The word heritage in its broader meaning is generally associated with the word inheritance; that is, something transferred from one generation to another. Owing to its role as a carrier of historical values from the past, heritage is viewed as part of the cultural tradition of a society" (Nuryanti, 1996).	<ul style="list-style-type: none"> • Something transferred from one generation to another • Culture traditions • Society
"Heritage refers to the capital of specific, singular resources aimed at ensuring the perpetuation of the group while feeding its collective dynamic founded on a certain cultural, historical, even geographical identity" (Rautenberg, 2012).	<ul style="list-style-type: none"> • Capital of specific • Group • Certain cultural, historical • Geographical identity
"Heritage is directly linked to the social memory of the community. As a 'Set of memories recognized by a given group', social memory as a common heritage, thus preserves the cultural and social identity of a given community, through more or less ritualised situations" (Flores, 1995, pp. 43–50).	<ul style="list-style-type: none"> • Social memory of the community • Group • Preserves the culture • Social identity
"Understanding heritage as a form of expression and social differentiation brings us to contemplate the idea of continuity between the past and the present, of preservation, of a proven persistence" (Bessière, 2013).	<ul style="list-style-type: none"> • Social differentiation • The idea of continuity between the past and present of preservation of a proven persistence
"Heritage denotes the accumulation of wealth or patrimony of tangible and intangible goods that a society inherits from the past, preserves in the present, and passes on to the future" (Brulotte & Di Giovine, 2016).	<ul style="list-style-type: none"> • Society • Inherits from the past, preserves in the present, and passes on to the future
"Everything associated with the nation's past inherited history, culture, wildlife and landscape" (Sharpley, 1996).	<ul style="list-style-type: none"> • Nation's past inherited history • Culture

characteristics. Characteristics repeatedly mentioned or with similar meanings were the basis for defining the dimensions that typify heritage. The first set of characteristics comprises the terms history, traditions, culture, and 'past generations preserved and handed on to the present'. These characteristics typically refer to 'legacy', which relates to anything that was transferred from the past to the present (Hewison, 1989). Therefore, 'legacy' was defined as a dimension of heritage. The second set of characteristics includes the terms group, society, and community (Flores, 1995, pp. 43–50), which mainly refer to 'people', which was assigned as another heritage dimension. The third set of characteristics involves terms like country and geographical identity (Rautenberg, 2012) and refers to 'place', which we inferred as another heritage dimension of heritage.

4. Evaluation of food concepts using the heritage dimensions

The three identified dimensions of heritage formed the lens for evaluation of the concepts of ethnic, local, traditional, and heritage food, as shown in full definitions in Table 2. These definitions were extracted from literature then entered in MAXQDA program to be evaluated qualitatively against heritage dimensions as shown in Table 3. For ethnic food, the most frequently reported characteristics were categorised under the dimension 'people' but also characteristics associated with 'legacy' were often mentioned. Ethnic foods are edibles that are eaten and prepared by groups of people who share a common religion, language, culture, or heritage (Prakash, 2016). The most frequently reported characteristics for local food were associated with the dimension 'place'. To illustrate in Table 2, local food refers to food, which is served at a particular destination, but it also encompasses local food specialities and food that is prepared from local ingredients (Björk & Kauppinen-Räsänen, 2016). The dimension 'legacy' was most obvious for traditional food, although, various characteristics also refer to the dimension 'place' (Table 3). Gellynck and Kühne (2008) described "traditional food products as food products (1) for which key production steps are performed in a certain area at national, regional or local level; (2) which have authentic recipes (mix of ingredients), origin of raw material, and/or production process; (3) which are commercially available for about 50 years; and (4) which are part of the gastronomic heritage" (Table 2). Tables 2 and 3 also show a dimension 'others' which included characteristics that did not fit into the three identified heritage dimensions but were related to the origin of raw materials, authentic recipe, etc.

For the heritage food concept, only a few definitions were found in the literature but they all addressed the characteristics related to all three heritage dimensions (Omar et al., 2015; Wahid, 2009). One of the most comprehensive definitions was provided by The Saudi Commission for Tourism and National Heritage. They defined heritage food as "Food that is associated with the customs and traditions of each region according to their distinct heritage. These practices have continued over generations and may vary depending on the climate, nature of life, and the type of plants occurring in each region" (Table 2). However, based on these few definitions, it is not possible to judge if all three dimensions are equally important. In Fig. 1, we, therefore, propose heritage food as a food concept encompassing all three dimensions legacy, people and place, whereas, for the other concepts, one or two dimensions seem to be particularly dominant. The local food is particularly related to place because it refers to a particular destination in which the raw materials and ingredients for food and drinks are produced locally (Ivanova et al., 2014). For ethnic food, it is placed between the people and legacy dimensions. People dimension is related to a specific ethnic group that has specific knowledge about food preparation which origins from a unique and distinct culture (Beer, 2016; Kwon & Tamang, 2015). For the legacy dimension, it means that this specific ethnic food is transmitted from the past generation to the present and it is part of the origin country (Dwyer & Bermudez, 2003). Traditional food is placed between the dimensions of legacy and place because these foods have been transferred from the past generations to the present in a specific country or region. Moreover, traditional food should not be necessarily cooked by people from the country of origin. For example, immigrants to a specific country can learn the knowledge of traditional food and they can start cooking the food (Kwik, 2008). Therefore, traditional food knowledge is crucial for the cultural tradition of sharing food, recipes, cooking skills and techniques and passing down this collective knowledge and skill through generations (Kwik, 2008).

According to Piernoi et al. (2016), heritage food also relates to food sovereignty, as culturally appropriate signifies that the food that is available and accessible for the population should fit with the cultural background of the people consuming it. Food sovereignty gives the right of local communities to shape their foodscapes and take care of their food bio-cultural diversity and heritage (Forum for Food Sovereignty,


















Table 2

The process of evaluation of food concepts on heritage dimensions.

Definitions	Reference	Dimensions			
		Legacy	Place	People	Others
Ethnic food					
"Ethnic foods are edibles that are eaten and prepared by groups of people who share a common religion, language, culture, or heritage."	Prakash (2016)	✓		✓	
"In narrow sense, ethnic foods are foods originating from a heritage and culture of an ethnic group who use their knowledge of local ingredients of plants and/or animal sources."	Kwon (2015)	✓		✓	✓
"In broader sense, it is an ethnic group's or a country's cuisine that is culturally and socially accepted by consumers outside of the respective ethnic group. Furthermore, foods eaten by people of different religions are also considered ethnic food."	Kwon (2015)		✓	✓	
"Ethnic foods have cultural identity and heritage concepts just like traditional food, but they are not related to the Western world. Ethnic groups are minorities that have formed part of a society relatively recently. In Europe, for example, Afro-Caribbean, Chinese, Indian, and Pakistani ethnic groups form part of a modern multicultural society."	Beer (2016)	✓		✓	
"Ethnic food is defined as products that a particular ethnic (racial, national) or cultural group favours, such as Mexican, Chinese or Kosher foods."	Food Marketing Institute (1998)			✓	
"Ethnic foods are foods that are regarded as unique to a particular cultural group, race, religion, nation, or heritage. Consumers of ethnic diets often have cultural but also socioeconomic, religious, or regional characteristics that are distinctive. From the cultural standpoint, ethnic foods serve as a familiar link with the past and help those who are accustomed to them maintain ethnic identity."	Dwyer and Bermudez (2003)	✓		✓	
Traditional food					
"Traditional food products are defined according to four criteria: (1) the key production steps of a traditional food product must be performed in a certain area, which can be national, regional or local. (2) The traditional food product must be authentic in its recipe (mix of ingredients), origin of raw material, and/or production process. Further, (3) the traditional food product must have been commercially available for at least 50 years and (4) it must be part of the gastronomic heritage."	Gellynck and Kühne (2008)	✓	✓		✓
"From consumers' perspective, a traditional food product is a product frequently consumed or associated with specific celebrations and/or seasons, normally transmitted from one generation to another, made accurately in a specific way according to the gastronomic heritage, with little or no processing/manipulation, distinguished and known because of its sensory properties and associated to a certain local area, region or country."	Guerrero et al. (2009)	✓	✓		✓
"traditional" related to foods: 'traditional' means proven usage on the domestic market for a period that allows transmission between generations; this period is to be at least 30 years."	European Union (2012)	✓			
"Traditional foods are foods that are typically whole, naturally grown or raised, and used in their original form or have undergone only basic processing (drying, cooking, and natural fermentation). They are nutrient-rich and have a long history of supporting health and wellness, and have been consumed for thousand years."	Prakash (2016)	✓			✓
"a coherent tradition of food preparation that rises from the daily lives and kitchens of a people over an extended period in a specific region of a country, or a specific country, and which, when localized, has notable distinctions from the cuisine of the country as a whole."	Ivanova et al. (2014)	✓	✓	✓	
"Derived from land and sea, which constitute an essential aspect of a country's culture, history, lifestyle, and local economy. These foods are recognized and commonly consumed by the local people for a long time."	Trichopoulou, Soukara, & Vasilopoulou (2007)	✓	✓	✓	
"A product must be linked to a territory, and it must also be part of a set of traditions, which will necessarily ensure its continuity over time."	Jordana (2000)	✓	✓		
Local food					
"Local food refers to food, which is served at a particular destination. It also refers to local food specialties and food that is prepared from local ingredients."	Björk and Kauppinen-Räsänen (2016)		✓	✓	✓
"Local food commonly describes food that has been produced, processed, and distributed within a particular geographic boundary or is associated with a particular geographic region."	Duram, (2010)		✓		
"There is no legal or universally accepted definition of local food. In part, it is a geographical concept related to the distance between food producers and consumers. In addition to geographic proximity of producer and consumer, however local food can also be defined in terms of social and supply chain characteristics. In terms of defining distance, opinions are quite varied. Distances that are perceived as local may vary by region. Concept of local food may extend to the production method, who produced the food, the characteristics of intermediate stages of the supply chain."	Martinez et al. (2010)		✓	✓	
"The term local food focuses on origin of produce, usually limited in terms of geographical distance (e.g. grown or raised within 50 km) or administratively (produced within the boundaries of the same administrative unit, usually a district)."	Ivanova et al. (2014)		✓		
"food and drink that is produced or grown in the local area or local specialty food that has a local identity."	Enteleca Research Consultancy (2000)		✓	✓	
"food products or dishes made or prepared locally, based on traditions, techniques, and non-generic products that are associated with a given geographical area."	Frisvoll, Forbord, & Blekesaune (2016)		✓		✓
"local food refers to food produced, retailed and consumed mainly in the specific area."	Bosona & Gebresenbet (2011)		✓		
Heritage food					
"classical and traditional foods, which are cooked by all generations without their flavours and tastes being altered and are still common today."	Wahid (2009)	✓		✓	✓
"(Malaysian) Heritage food is traditional local food which is inherited, prepared and practiced daily, rooted from mixture of various cultures, religious and beliefs."	Omar et al. (2015)	✓	✓		
"Food that is associated with the customs and traditions of each region according to their distinct heritage. These practices have continued over generations and years and it may vary depending on the climate, nature of life, and the type of plants planted in each region."	Saudi Commission for Tourism and National Heritage, (2018)	✓	✓	✓	✓

Table 3

Visual representation of the identified heritage dimensions for the existing food concepts.

Code System	Ethnic foods	Local food	Traditional food	Heritage food
 Place				
 Legacy				
 People				
 Others				

A larger circle indicates that the term was reported more frequently.

2007; Nolan & Pieroni, 2014). At the heart of the food sovereignty concept lies the idea of the crucial need to truly foster environmental sustainability and social justice in food production and consumption. It promotes short food chains based on heritage foods and conviviality (Biglino et al., 2011). Heritage food is thus also considered to be a foundation for sustaining safe, clean and equitable food throughout the world (Petrini, 2007).

5. Conceptual framework

The conceptual framework (Fig. 2) consists of four parts which are the activities in preparing heritage food (A), the heritage food dimensions related to the production of heritage food (B), the possible authenticity risk factors (C) and the possible safety risk factors in the production of heritage food (D).

Heritage food preparation starts with the sourcing of raw materials and ingredients. The *place* dimension is specifically relevant here because sourcing of ingredients must be from a specific place or area. According to Raji et al. (2017), the uniqueness of Malay heritage food is due to the ingredients which are produced locally. After sourcing, the heritage food is prepared and cooked. Here, the dimensions *legacy* and *people* seem to be more relevant because the way heritage foods are prepared and cooked relate to the recipes and knowledge inherited from the past to the present. Timothy (2015) stated that knowledge and recipes are important for heritage cuisine as they should be passed down to the next generation. The last two steps in heritage food preparation are serving and consumption. In these stages, all heritage food dimensions *legacy*, *people* and *place* play a role. The reason is that the presentation during serving and consumption should comply to specific rules that are passed through generations, which relate also to the knowledge of people and a specific culture (Bessière, 2013; Bessière & Tibère, 2010; Civitello, 2011; Molnár et al., 2011; Montanari, 2006;

Timothy, 2015). The possible risk factors of the authenticity and safety of the production of heritage food will be discussed in the following two sections.

5.1. Possible risk factors compromising the authenticity of heritage foods (HF)

Fig. 2 shows six possible authenticity risk factors, which may compromise the production of heritage food. Scarcity of raw ingredients can be a risk factor in the sourcing activity of heritage food production. Ingredients are usually seasonal, hence they are only available at certain times of the year (Ivanova et al., 2014). Heritage food ingredients can be sourced from a region with a characteristic local climate, topography and soil composition (Brulotte & Di Giovine, 2016; Trubek, 2008). Using alternative ingredients compromises the authenticity of a dish, therefore any changes in the ingredients, whether alternatives or alternatively sourced may thus compromise the authenticity of heritage food (Nor et al., 2012).

Furthermore, not following the exact instructions of the recipe on the preparation and cooking process can be a risk factor. The recipes include the description of the composition or formulation of ingredients and the procedures or instructions to make the dish, are essential for the authentic preparation of heritage food (Bessière & Tibère, 2010; Raji et al., 2017; Wahid, 2009). Several studies confirmed that both preparing the heritage food dishes according to the authentic recipes and the way of cooking are important for dining restaurants which provide heritage dishes related to their regional traditions (Association, 2015; Jang & Ha, 2015; Sukalakamala & Boyce, 2007). Therefore, adding or missing or changing a step of the recipe during preparation and cooking heritage food could compromise the authenticity of the heritage dish.

Also, using modernized cooking equipment and methods and or limited availability of original equipment and tools can be a risk factor for the production of heritage food. Hashimoto and Telfer (2015) discussed that using modernized cooking equipment and methods may disqualify a dish from being authentic. Raji et al. (2017) stated that some of the traditional equipment and tools to prepare Malay heritage food are hard to find in urban areas and may only be used in rural areas or villages. They also mentioned that usage of modernized tools may cause alteration of the dish's taste, making it no longer original, thus compromising the authenticity.

The strict food safety regulations may also influence the authenticity of heritage food. Some of the authentic practices may not be following current food safety standards, which may require adjustments in ingredients, equipment or ways of cooking. A study about the gastronomic heritage quality in traditional Azorean restaurants in a Brazilian city revealed that difficulties were observed in the control of the productive process of typical dishes when following the methodologies and legislations of hygienic and sanitary quality (Uggioni et al., 2010). This challenge could influence the authenticity of heritage food if it is conflicting with food safety regulations. This challenge could differ for every heritage food dish. Sometimes, food safety risks are more related to the equipment used in that particular case, therefore, it might be less compromising for authenticity. However, in case of the processing

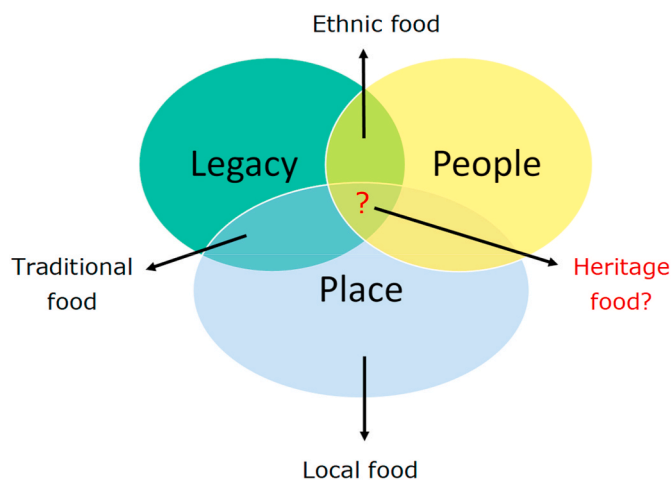


Fig. 1. Proposing heritage food as a food concept encompassing all three dimensions legacy people, and place.

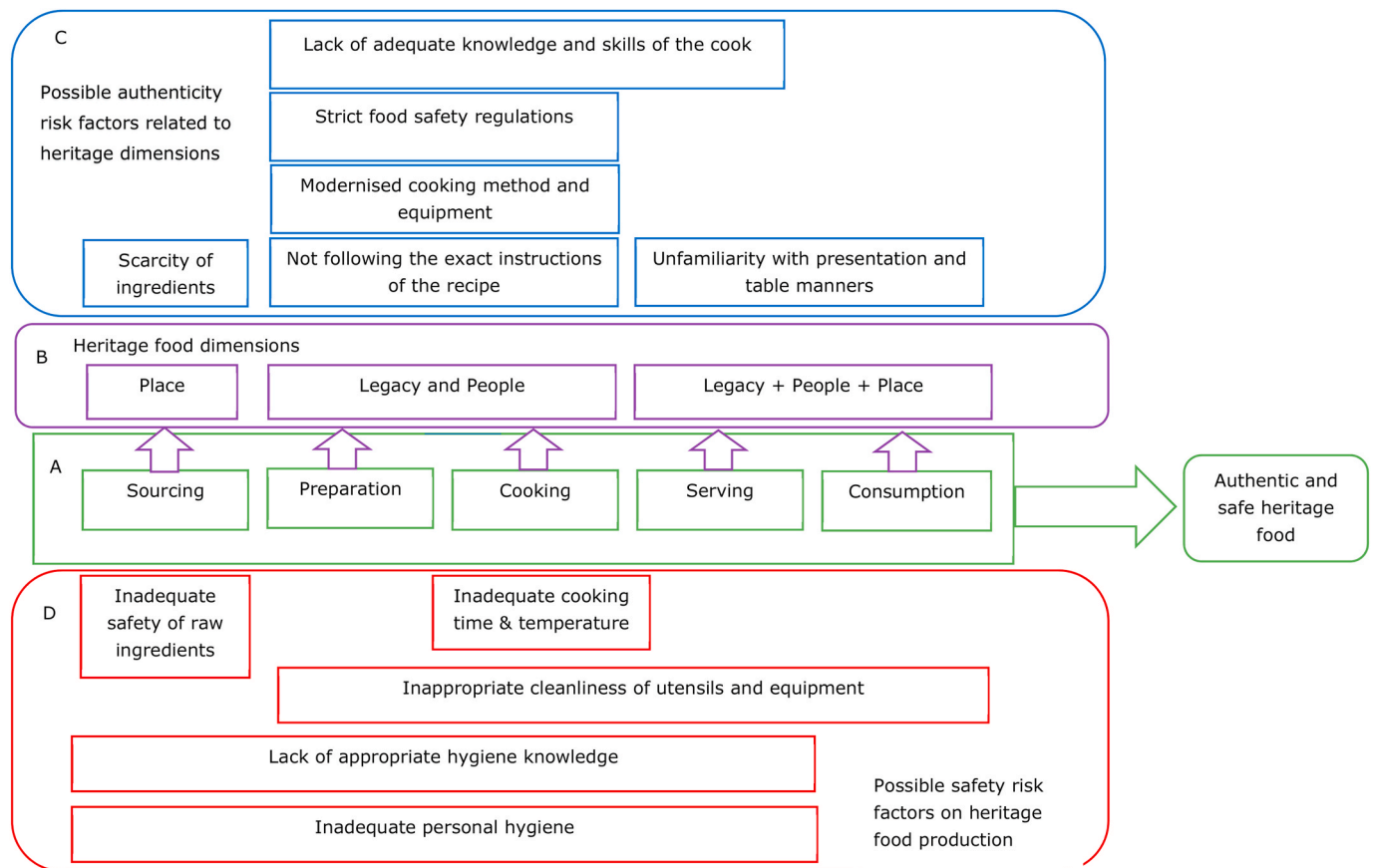


Fig. 2. Conceptual framework of heritage food and related risk factors of authenticity and safety.

conditions or recipe may be conflicting, then indeed more in-depth risk assessment needs to be done to check to what extent the heritage food preparation could lead to safety issues and if exceptions could be made in specific legalisation in case of low risks.

Lack of adequate knowledge and skills of the cook for producing heritage food dishes is another possible risk factor. Nor et al. (2012) stated that traditional food knowledge is an important part of cultural identity to transfer this knowledge of a particular culture via the recipes and cooking skills. The knowledge and skills should be transmitted to the next generation to preserve traditional food practices, and one should be knowledgeable on the requirements regarding ingredients, equipment, preparation and cooking methods, and cooking skills of the heritage food. Therefore, without the precise knowledge and skills about the heritage food dish, the cook will not be able to produce authentic heritage dishes.

Lastly, unfamiliarity with the presentation of heritage food and table manners could be a risk factor. The presentation of heritage food dishes reveals the particular culture determining its authenticity (Nield et al., 2000). Each nation has its unique gastronomical tradition, which comprises the selection of food, presentation of dishes, preparation skills, and the aesthetics of each dish (Long, 2004). Furthermore, Bessière (2013) stated that adopting table manners are a step towards understanding the cultures, tastes and all the good things the region has to offer in consuming gastronomic specialities. Therefore, unfamiliarity with the presentation of heritage food dishes and table manners could compromise the authenticity of these dishes.

5.2. Possible risk factors compromising the safety of heritage foods (HF)

Fig. 2 shows five safety risk factors that are common for food service establishments and thus also for the production of heritage food.

Inadequate safety of raw ingredients is a potential risk factor as found in many restaurant premises. For instance, a study found that the vehicle of pathogens in some traditional Greek dishes were the raw ingredients as well as the contamination from processing (Panagou et al., 2013). Nabeel and Alamgir (2018) observed in their study that traditional South Asian restaurants relied heavily on the way their dishes are produced to provide an authentic taste but food contact surfaces were not properly washed, rinsed and sanitized after each use. Another study confirmed that around 28% of the food code violations in the ethnic restaurants were the inappropriate cleanliness of equipment and utensils (Lee et al., 2014).

Furthermore, inadequate personal hygiene of food handlers is an important safety risk during the whole process in the kitchen. The commonly reported food handlers' errors, which can lead to food safety issues, are handling of food by an infected person or by a person carrying a food-borne pathogen, bare-hand contact with food, improper hands washing practices, and insufficient cleaning of processing or preparation equipment (Greig et al., 2007; Nørnung & Buncic, 2008), as also reported in a study to ethnic restaurants (Roberts et al., 2011).

Moreover, inadequate compliance with the required temperature and time conditions in cooking is another common food safety risk factor. Several outbreaks were reported in England, Germany, Turkey, and Canada because of Doner kebab (traditional food) that was prepared at an improper cooking temperature (Cagri-Mehmetoglu, 2018). Likewise, O'leary et al. (2009) identified the undercooked meat as the cause of a *Campylobacter* infection outbreak in a traditional restaurant. In the same vein, *Salmonella* caused an outbreak during a wedding party in Saudi Arabia where heritage foods with meat and rice were the items incriminated because of inadequate heat treatment, time and temperature misuse (Aljoudi et al., 2010). Another common risk factor is the lack of appropriate hygiene knowledge resulting in poor sanitary practices.

Studies demonstrated that the lack of hygiene knowledge associated with poor compliance to crucial control measures such as checking food-holding time and temperature e.g. (Niode et al., 2011). A study among ethnic restaurants in the United States indicated the lack of hygiene knowledge as a major source of food safety problems (Kwon et al., 2010).

The described common food safety risk factors are mainly inferred from the literature about traditional food and ethnic food, but to what extent these factors are more or less relevant for heritage food is not yet clear. It is expected that particular requirements on the preparation of certain heritage foods could lead to higher food safety risks, such as using the traditional methods to prepare certain heritage food dishes. However, no empirical studies have yet been done to provide evidence for these potential safety risks.

6. Conclusion and future perspective

To our knowledge, this is the first study that conceptualised heritage food and related potential authenticity and food safety risk factors. The three general heritage dimensions identified from literature are legacy, people and place. The food concepts traditional, ethnic, local food, and heritage food were evaluated for these three general heritage dimensions. Traditional food was most frequently associated with legacy and place dimensions. Ethnic food was typically related to the dimensions of people and legacy, whereas for local food the dimension place was most dominant. Literature showed that all dimensions are relevant to heritage food. However, due to the limited number of definitions available in the literature, it is not yet clear if all dimensions are equally important.

Furthermore, a conceptual framework was developed presenting the main activities for the production of heritage food, their connection to the identified heritage food dimensions, and the potential risk factors that could compromise the authenticity and safety of heritage food. The identified authenticity risk factors mostly origin from ethnic and traditional food literature; they are related to the ingredients, recipes, utensils and equipment, knowledge of chefs, presentation and table manners. The safety risk factors are likely to be similar to the common ones reported for food service establishments. However, it is expected that particular requirements for the preparation of certain heritage foods could lead to specific food safety risks. This presumption needs to be further investigated to provide empirical evidence. Moreover, the validity of the heritage food concept as well as the proposed framework needs to be further assessed through studies with various stakeholders in heritage food production.

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