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ADVANCING SUSTAINABLE HEALTHY FOOD CONSUMPTION IN TOURISM

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PhD

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Advancing Sustainable Healthy Food Consumption in Tourism

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor
of Philosophy

August 2025

CERTIFICATE OF ORIGINALITY

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Abstract

This thesis consists of three studies aiming to address the global challenge of sustainable healthy food consumption in tourism. The first study synthesizes the perspectives of the state-of-the-art literature on how to engage tourists with sustainable healthy food consumption. Methodologically, this study follows the PRISMA guidelines to conduct a systematic literature review of 87 studies on this topic. The behavior change wheel with its COM-B model (Capability, Opportunity, Motivation, and Behavior) provides a consolidating theoretical lens to map the review results. The findings indicate the underdevelopment of intervention studies in the field. In contrast, most studies focus on predicting tourists' behaviors based on cognitive-based theoretical approaches. This raises the need for future research focusing on non-cognitive and sociological theories in designing behavioral interventions.

Addressing the theoretical shortcomings outlined in the first study, the second study grounds a novel sociological-based conceptualization in the field by combining practice theories with the holiday appropriation framework. This exploratory study conducts 28 in-depth interviews to compare participants' sustainable healthy self-catering practices at home and on holiday. The findings observe the influence of the holiday appropriation steps on the trajectories of at-home practices during the holiday. 'Nesting' during self-catering holidays encourages the maintenance of most at-home practice elements (e.g., convenient meal preparation and familiar cooking skills), whereas 'Investigating' and 'Stamping' encourage (dis)embedding novel (old) practice elements (e.g., cultural immersion), thereby likely modifying or introducing new practices.

The third study extends the contribution to the sociological foundation in the field by focusing on the interplay between agency and structure from the perspective of the home-holiday continuum. Methodologically, it designs a longitudinal study, combining visual and qualitative methodologies, to explore the evolution of agency-structure interplays across pre-holiday, during-holiday, and post-holiday stages. The findings indicate unique interactions between agency and structure. Pre-holiday practices rely on the interaction of iterative and evaluative agency with lay and intergenerational knowledge and carnism symbols. Holiday practices reflect heightened culinary curiosity, local food cultures, and sensory food experiences in shaping projective and evaluative agency. The post-holiday stage reveals (de)contextualization effect and shifting food perceptions,

combined with lingering holiday lethargy, which delays the re-establishment of iterative and evaluative agency primarily embedded in home routines.

Theoretically, this thesis enhances the understanding of sustainable healthy food consumption in tourism by moving beyond conventional individual-centric theories. Instead, it emphasizes a more comprehensive approach of behavioral determinants, involving non-cognitive factors such as automatic (habitual) behaviors, social structures, shared meaning, and material factors to inform more effective behavioral interventions and policy initiatives. It offers an overarching view of the home-holiday continuum, encompassing pre-holiday, holiday, and post-holiday stages, regarding sustainable healthy food consumption in tourism. This broader approach provides a unique perspective for illustrating the reciprocal influence of home practices on holiday practices, and vice versa. Practically, this thesis provides recommendations for a wide range of tourism and hospitality stakeholders to enhance sustainable healthy food consumption in tourism. These recommendations include, but are not limited to, promoting plant-based local specialties, engaging culinary guides, offering sustainable healthy food souvenirs, and organizing sustainable healthy food-themed tours or cooking classes.

Publications Arising from the Thesis

Salehi, M., Lin, M. S., Filimonau, V., Kim, B., & Lin, P. M. (2024). How to advance sustainable healthy food consumption in tourism: a systematic literature review. *Journal of Sustainable Tourism*, 1-29. <https://doi.org/10.1080/09669582.2024.2431845> (Chapter 2)

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Chapter 1 Introduction

1.1 Background and research questions

The integrative discussion on the sustainability and health aspects of diets is gaining global importance. This is because sustainable healthy diets intersect with several Sustainable Development Goals (Willett et al., 2019), including Zero Hunger (SDG 2), Good Health and Well-Being (SDG 3), and Responsible Consumption and Production (SDG 12). Sustainable healthy food consumption is viewed as a solution to save both public and planetary health (Garnett, 2016). Food and Agriculture Organization [FAO] & World Health Organization [WHO]'s (2019) definition of sustainable healthy diets reflects the essentiality and imperativeness of this integrative discussion. According to this definition, sustainable healthy diets should “promote all dimensions of individuals’ health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable” (P.9). Hence, such overarching integration of health and sustainability is crucial in tackling global food challenges.

This PhD dissertation is evolving to advance this integrative discussion regarding sustainable healthy food consumption in tourism. Although a significant body of research on tourists’ food consumption is devoted to healthy or sustainable food separately, the integrative discussion of sustainable healthy food consumption is rare in tourism literature. Existing tourism research recognizes the importance of sustainable healthy food consumption from diverse perspectives. These perspectives include environmental friendliness (Alsuwaidi et al., 2022; Birch & Memery, 2020; Doran et al., 2022), nutritional value and food safety (Chang, 2017; Dedeoğlu et al., 2021; Koc, 2013; Lin et al., 2022), cultural acceptability or sensory features (Choe & Kim, 2019; Hiamey et al., 2021; Kock et al., 2019; Mynttinen et al., 2015), and economic affordability or fairness of food (Dimitrovski & Crespi Vallbona, 2018b; Hussain et al., 2023; Soltani et al., 2021). This dissertation aims to bring these multiple views together while advancing sustainable healthy food consumption in tourism in terms of both theory and practice.

To begin with, a systematic literature review (the first study) is conducted to conceptualize state-of-the-art knowledge regarding sustainable healthy food consumption in tourism. In addition to its multi-dimensional nature, the field of tourists’ sustainable healthy food consumption has grown in diverse geographies, thereby embedding varied socio-cultural and material influences.

Moreover, the field has progressed from the lenses of diverse theories grounded in various disciplines, including marketing, psychology, sociology, communication, nutrition, and economics (**Figure 1.1**). The above characteristics have resulted in a fragmented research agenda on tourists' sustainable healthy food consumption in tourism. Therefore, it is both timely and imperative to keep up with the state-of-the-art knowledge, as well as to integrate and analyze collective evidence from across studies, to develop a comprehensive framework (Snyder, 2019). Such a framework can not only broaden theoretical sensitivity and highlight future research directions in the field (Demeter et al., 2023) but also facilitate the development of proportionate interventions in the field (Dolnicar & Demeter, 2024). Study 1 aims to provide such a comprehensive framework from the perspective of systematic behavior change.

According to Michie et al. (2014), a systematic approach to behavior change involves identifying and linking three key elements: behavioral causes, behavioral interventions, and policy initiatives. These elements form the foundation of the Behavior Change Wheel and its COM-B model (Capability, Opportunity, Motivation, and Behavior) developed by Michie et al. (2014). Guided by the theoretical and operational components of this framework, this study conducts a systematic literature review to address the following research questions: *(1) What behavioral determinants influence tourists' sustainable healthy food consumption? (2) What potential behavioral and policy interventions could enhance tourists' engagement in sustainable healthy food consumption?* By answering the above questions, this study bridges the existing knowledge and practice to enhance tourists' engagement in H&S food consumption. The agendas for the expansion of both knowledge and practice in this area will also be considered by this systematic literature review study.

Inspired by future research directions outlined in the first study, the second study aims to enhance our understanding of sustainable healthy food consumption in tourism from a broader theoretical perspective. Since the existing studies on tourists' sustainable healthy food consumption have predominately centered their analytical focus on individuals or tourists (particularly their attitudes, motivations, or behavioral habits), they lack the adequate sensitivity to capture the influential factors embedded in socio-material arrangements and shared meanings, such as food environments and carnism ideologies (Joy, 2009) beyond the individuals. Sustainable healthy food consumption in tourism represents a complex system of determinants. To deal with

this complexity, this study integrates Shove's (2012) modes of practice – proto-practice, sticky practice, modified practice, and ex-practice, each emphasizing competence, meaning, and material – with Isabelle's (2019) three-step model of holiday appropriation: nesting, investigating, and stamping. This combination is theoretically novel, which allows for an exploration of how the temporal, spatial, and emotional dimensions of holidays influence tourists' sustainable healthy food consumption, and how different practice modes shape each step of holiday appropriation. This underscores the importance of practices as a unit of analysis (Spaargaren, 2016), thereby moving beyond psychological factors to understand tourists' food consumption in tourism more comprehensively.

Informed by the above integrative practice-based framework, this study adopts an exploratory approach to explore the following research questions: *How do tourists perform sustainable healthy food practices during self-catering holidays? And, under what circumstances can sustainable healthy food practices occur during self-catering holidays?* To this end, this study focused on self-catering holidays, which resemble 'normal' home food consumption, to explore tourists' engagement across the entire food consumption journey. On the one hand, this novel approach adds value to mainstream holiday research, which predominantly focuses on all-inclusive holidays as a high-enjoyment context (Albrecht et al., 2024) but limits the range of tourists' food-related practices and options to what hotel buffet restaurants can offer. On the other hand, focusing on self-catering holidays enables this study to link holiday practices to home practices (pre-holiday stage) from a food consumption journey perspective, rather than viewing them in isolation. This latter approach enriches our understanding of the interlinked dynamics that influence sustainable healthy self-catering practices across both home and holiday contexts, going beyond earlier models such as Quan and Wang (2004).

The third study expands on the second study by incorporating the post-holiday stage into the exploration of sustainable healthy food consumption in tourism. This allows for an overarching view of the home-holiday continuum (Jafari, 1987), without overlooking the often-neglected roles of pre-, but especially, post-holiday stages. Prior research on the post-holiday stage in this context lacks in-depth insights. They have limited their focus to measuring individual-focused variables such as satisfaction and revisit intentions (e.g., Stone & Zou, 2025) while rarely discussing if or how sustainable healthy holiday practices are integrated or dissolve into everyday life after the

holiday ends (Bargeman & Richards, 2020). Aligned with this overarching home-holiday continuum, this study proposes a dynamic agency-structure framework to explore the determinants of the evolution of sustainable healthy food consumption across time and space. This theoretical perspective challenges the notion of tourists as entirely autonomous agents and instead emphasizes the evolving role of structural influences across the pre-holiday, holiday, and post-holiday stages. To overcome the methodological limitations of past studies, mostly associated with a survey-based approach, this study introduces an innovative research methodology into sustainable tourism scholarship, combining visual (photo-elicitation) and qualitative methodologies (semi-structured interviews). This methodological combination allows for a more vivid and authentic interpretation of tourists' emotions and practices. Based on these theoretical and methodological approaches, this study sets the following research questions to answer: *(1) How do sustainable healthy food practices evolve across pre-holiday, holiday, and post-holiday stages? (2) How do social structures constrain or enable these practices at each of these stages?*

Accordingly, this PhD dissertation will evolve through three studies (the 3-Study route or thesis-by-publication format), each of which focuses on answering one of the following main research questions:

RQ1: How to engage tourists in healthy and sustainable food consumption? (The First Study)

RQ2: Under what circumstances can sustainable healthy food practices evolve during self-catering holidays? (The Second study)

RQ3: How do tourists' sustainable healthy food consumption evolve across pre-holiday, holiday, and post-holiday stages? (The Third study)

The summaries of these three studies are presented in **Table 1.1**.

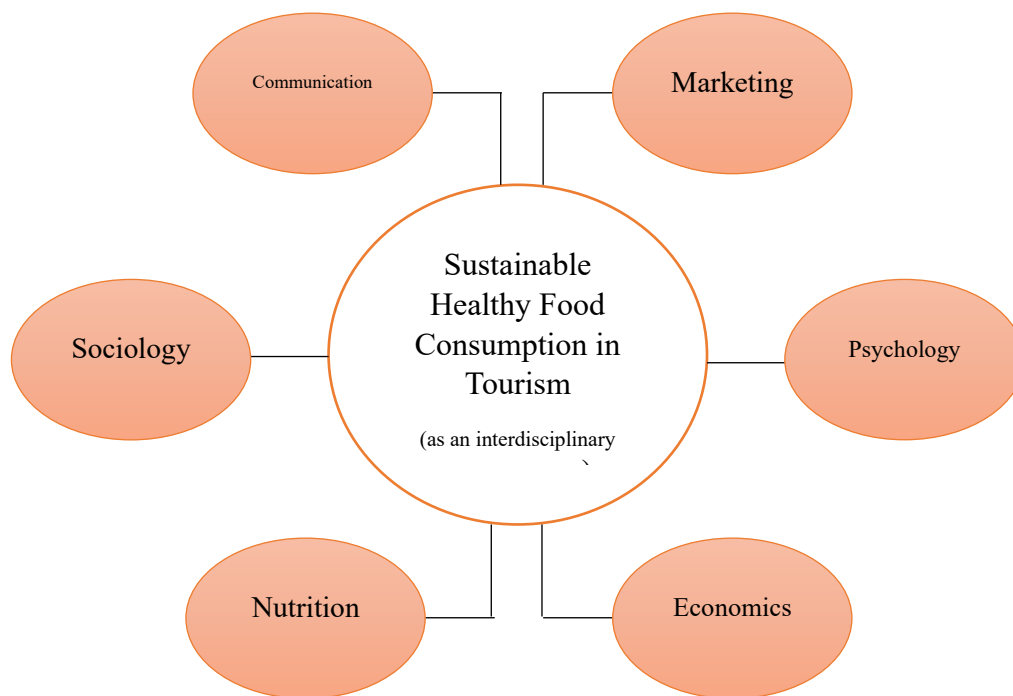


Figure 1.1 The interdisciplinary field of Healthy and Sustainable food consumption in tourism

Table 1.1 Summary of three Studies

Gaps	Main Research question(s)	Key research objectives	Theory(ies) in Use	Research design	Status
Chapter 2- The First Study - The research agenda on tourists' sustainable healthy food consumption is interdisciplinary, dispersed, and fragmented. - Lack of consolidated framework embodied the dimensions of tourists' behavior change	RQ1: How to engage tourists in sustainable healthy food consumption?	Reviewing and analyzing the existing literature to find the relevant answers for: i) the behavioral causes; ii) behavioral interventions; and iii) policy initiatives.	- The COM-B (Capability, Opportunity, Motivation-Behavior) model - The Theoretical Domains Framework (TDF) - The Behavior Change Wheel	Systematic Literature Review	Published in the <i>Journal of Sustainable Tourism</i>
Main contribution	Propose a comprehensive framework linking behavioral causes, behavioral interventions, and policy initiatives to support the enhancement of tourists' engagement with sustainable healthy food consumption.				
Chapter 3- The Second Study - The domination of individual-centric paradigm in sustainable healthy food consumption research in tourism - Lack of understanding of tourists' sustainable healthy food consumption from the perspective of practice theories	RQ2: Under what circumstances can (un)sustainable healthy food practices evolve during self-catering holidays?	1) Conceptualizing tourists' food consumption from a practice-based approach; 2) Identify and explore determinants of the evolution of sustainable healthy food consumption in tourism context.	- Practice theories - Holiday appropriation	Qualitative (Semi-structured interviews)	Published in the <i>Journal of Travel Research</i>
Main contribution	Broadens the view toward the complex determinants of the evolution of sustainable healthy food practices in tourism from a sociological practice-based perspective.				
Chapter 4- The Third Study - Lack of in-depth exploration of the overarching home-holiday continuum regarding tourists' food consumption - Dearth of empirical insights regarding an overarching agency-structure perspective towards sustainable healthy food consumption in tourism	RQ 3: How do tourists' sustainable healthy food consumption evolve across pre-holiday, holiday, and post-holiday stages?	Investigating the dynamic interplay between and within agency and structure dimensions across the stages of the home-holiday continuum.	- The Chordal Triad of Agency - Virtual and actual structure framework	Visual (photo-elicitation) and Qualitative (semi-structured interviews)	Submitted to <i>Annals of Tourism Research</i>
Main contribution	Challenges agentic accounts of sustainable healthy food consumption by highlighting underlying structural forces; additionally, adds fresh insights into how holiday practices influence and are influenced by home practices.				

1.2 Overall contributions

The thesis significantly advances the theoretical development of sustainable healthy food consumption in tourism. From a behavioral perspective, this thesis introduces the Behavior Change Wheel to sustainable tourism scholarship, particularly in the area of food consumption, to illustrate the link between behavioral causes and behavioral interventions. In particular, it highlights the importance of considering the full range of behavioral determinants, especially non-cognitive factors such as automatic (habitual) behaviors, contextual influences, and capability-related factors, which are often neglected in tourism research on sustainable healthy food consumption. Notably, this thesis pioneers the use of sociological theories, including practice-based theories and agency-structure theory, to broaden our understanding of sustainable healthy food consumption in tourism beyond tourists' attitudes and motivational factors. It particularly highlights the role of structural influences, such as carnism ideologies, lay knowledge, market dynamics, as well as material influences on tourists' sustainable healthy food consumption practices.

The thesis also suggests a reciprocal, dynamic relationship between home and holiday domains in influencing tourists' sustainable healthy food consumption, moving beyond the traditional perspective that treats holiday and home as separate phenomena. In particular, it distinguishes self-catering holidays from other holiday contexts and enriches the holiday appropriation framework from a practice perspective, thereby deepening the understanding of the nuances and complexities in the dynamics of tourists' sustainable healthy food consumption during these holidays. Additionally, this thesis sheds light on the often-overlooked pre-holiday and post-holiday stages, illustrating that holiday food consumption practices are shaped by pre-holiday, at-home food-related practices, while holiday experiences can, in turn, influence post-holiday practices. It demonstrates that these practices follow different evolutionary trajectories as they move across the pre-holiday, holiday, and post-holiday stages.

Practically, this thesis examines the self-catering accommodation sector, which is experiencing rapid growth and increasing popularity worldwide, especially across Europe and the UK (European Resorts Owners' Coalition, 2025). In England, the sector has expanded by 1.9% annually since 2016, now comprising over 147,000 units, while Wales has seen a 4.1% annual increase since 2021, with more than 22,000 units (Professional Association of Self-Caterers, 2025). Similar growth is evident in the rise of short-term rentals in leading European cities such as Barcelona and

Madrid (Garcia-López et al., 2020). The appeal of self-catering stems from their capacity to support a wide range of lifestyles, providing guests with greater meal flexibility, spacious environments, cost-effective options, and equipped kitchens (Johns & Lynch, 2007; Professional Association of Self-Caterers, 2025). In the UK, where self-catering holidays have a long-standing tradition, the sector contributes £1.98 billion to the economy and supports over 120,300 jobs (Professional Association of Self-Caterers UK, 2021, 2025). However, the sector faces significant challenges from regulatory pressures, housing concerns, and inflation, which threaten its resilience (Khodadadi & Campbell, 2025) and the well-being of operators (Campbell & Khodadadi, 2025). Despite these challenges, self-catering accommodation remains vital for regional development, economic redistribution, and community cohesion.

Integrating sustainable healthy food practices into self-catering operations presents a viable solution to the sector's regulatory, economic, and reputational challenges. By collaborating with local chefs, farm-based producers, local food retailers and food service providers, self-catering businesses can foster inclusive economic opportunities for a diverse range of local enterprises while preserving local culinary traditions. Moreover, by catering to the dietary preferences of varied tourist segments, including health-conscious travelers, vegetarians and vegans, halal food consumers, and backpackers, the sector can broaden access to sustainable healthy food options to wider populations, especially budget-conscious travelers and families (Professional Association of Self-Caterers UK, 2025). As regulatory and economic pressures continue to mount, adopting sustainable healthy food initiatives is vital for enhancing resilience, supporting small businesses and local employment, and securing the long-term sustainability of self-catering accommodations within local economies (Hassanli & Williamson, 2023). This thesis also underscores the pivotal role of industry associations and local authorities, such as the Professional Association of Self-Caterers, in empowering self-catering businesses to overcome marketing challenges and champion best practices in sustainable healthy food consumption.

Chapter 2 How to Advance Sustainable Healthy Food Consumption in Tourism: A Systematic Literature Review

This chapter introduces the first study of this thesis, a systematic literature review published in the *Journal of Sustainable Tourism* (Salehi et al., 2024). Section 2.1 outlines the motivations for conducting the review. Section 2.2 presents the conceptual framework used to synthesize the reviewed studies. Section 2.3 describes the study design employed in developing the review. Section 2.4 analyzes and synthesizes the findings based on the conceptual framework. Finally, Section 2.5 discusses the theoretical and practical implications and sets the agenda for future research.

Abstract

Sustainable healthy diets are crucial for achieving multiple United Nations' Sustainable Development Goals. However, tourism research has often examined patterns of (un)sustainable and (un)healthy food consumption separately, lacking a comprehensive, holistic analysis. This highlights the need to identify and explore behavioral interventions that reinforce sustainable healthy food consumption among tourists. This study conducted a systematic review of 87 studies on sustainable healthy food consumption in tourism, following the PRISMA guidelines. The analysis was informed by the Behavior Change Wheel with its COM-B model (Capability, Opportunity, Motivation, and Behavior). The findings indicate that interventions related to sustainable healthy food in tourism are underdeveloped, focusing on behavioral diagnosis without linking it to informed intervention development. Most studies emphasize motivational factors, often overlooking the capability and opportunity components. Future research should more effectively incorporate non-cognitive and sociological theories in designing behavioral interventions. At a destination and national level, key policy interventions include developing indicators of sustainable healthy food for destinations, creating inventories of vegan-friendly cuisines, and implementing regulatory schemes to advance best practices. Locally, efforts should concentrate on designing menus that highlight sustainable healthy options, providing tailored information on their benefits, and enhancing service quality to support sustainable healthy food consumption.

Keywords

Behavior change; Interventions; Public health; Food consumption; Environmental conservation

2.1 Introduction

Multiple benefits from changes in food consumption behaviors are essential to advancing sustainable development goals (Garnett, 2016). The “sustainable healthy” approach to diets, promoting healthy diets from sustainable food systems (Food and Agriculture Organization [FAO] & World Health Organization [WHO], 2019), underpins a win-win condition for human and planetary health (Willett et al., 2019). Consequently, more plant-based and less animal-based foods are increasingly embedded in dietary guidelines across the globe (James-Martin et al., 2022), with notable examples in the United Kingdom (DEFRA, 2022) and Germany (Springman, 2023). However, societal challenges persist, such as engaging consumers in sustainable healthy food consumption (Biesbroek et al., 2023). This is particularly true for the tourism domain, often characterized by hedonism and liminality. Tourism poses challenges not only to consuming environmentally friendly food (Liu et al., 2022) but also to maintaining healthy eating habits (Koc, 2013). Moreover, showcasing a culturally diverse setting (Kock et al., 2019) while impacting tourists’ food expenses (Türker & Süzer, 2022), tourism affects the conviviality and affordability of sustainable healthy food choices. Therefore, it is vital to examine how tourism policymakers and destination managers can overcome the challenges of advancing the dual objective of healthiness and sustainability in food consumption.

The integration of healthiness and sustainability in food consumption is not novel (Barbour et al., 2022). A sustainable healthy approach to diets often relates to diverse food prescriptions, including lower intakes of certain foods (e.g., animal-based food, high calorific and ultra-processed food), higher intakes of vegetables and fruits, organic and natural food, local and seasonal food, eating as conviviality and pleasure, and food waste reduction (Godin & Sahakian, 2018). Nevertheless, tourism scholars have only recently begun to acknowledge the significance of the interconnected benefits within the combined sustainable healthy approach, albeit in relation to air travel, and encourage the design of related behavioral interventions (Cohen & Kantenbacher, 2019; Higham et al., 2024). A synthesis of tourism studies on sustainable healthy food consumption is therefore timely to understand how this body of literature has evolved to date theoretically and methodologically, addressing research gaps and proposing future research directions. In doing so, a comprehensive analytical framework is needed that, on the one hand, broadens theoretical sensitivity regarding tourists’ food consumption behavior (Demeter et al., 2023) and, on the other hand, facilitates the development of proportionate interventions (Dolnicar & Demeter, 2023).

This study adopts a systematic literature review approach to conceptualize state-of-the-art knowledge in sustainable healthy food consumption in tourism. The Behavior Change Wheel with its COM-B model (Michie et al., 2014), possessing both theoretical and operational features, guides this study in answering two research questions: 1) What behavioral determinants influence tourists' sustainable healthy food consumption? 2) What potential behavioral and policy interventions could enhance tourists' engagement in sustainable healthy food consumption? The COM-B model conceptualizes the existing evidence on tourists' behavior from the perspectives of Capability, Opportunity, and Motivation (Michie et al., 2011), which broadens the current theoretical focus in tourism scholarship related to tourists' beliefs and the activation of social norms. The Behavior Change Wheel enables this systematic literature review to identify areas where research is lacking in supporting practical applications and policy formulation (Michie et al., 2014). Therefore, this study aids practitioners and policymakers in staying current with progress in sustainable healthy food consumption in the tourism field (Lame, 2019). Before going on to explain how the Behavior Change Wheel with its COM-B model informs this review study, the conceptualization of sustainable healthy food in tourism is outlined.

2.2 Literature Review

2.2.1 Sustainable healthy Food Consumption

The "Sustainable Healthy" approach to diets highlights benefits across multiple policy areas simultaneously. This approach is defined as “dietary patterns that promote all dimensions of individuals' health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable” (FAO & WHO, 2019, p.9). There is a broad agreement that these diets are lower in animal-based food, energy-dense, nutrient-poor, high calorific and ultra-processed foods (e.g., sweets and deep-fried food) and higher in plant-based foods (e.g., fruits, vegetables, whole grains) and can provide good nutrition at lower environmental cost (Macdiarmid, 2019). For example, Westhoek et al. (2014) demonstrated that substituting animal-based foods with plant-based options by 25%–50% can lead to a 25%–40% decrease in greenhouse gas emissions, significant improvements in both air and water quality, and a 40% reduction in saturated fat intake, which is a risk factor for cardiovascular mortality. Importantly, sustainable healthy diets need to be culturally acceptable and economically

affordable, which are related to 'eating as a pleasure and conviviality' (Godin & Sahakian, 2018) and household income levels (Macdiarmid, 2019), respectively.

The existing literature suggests a growing convergence between healthiness and sustainability. For instance, a recent review study published in *Nature* showed the similarity of patterns for health and environmental behavior change (Albarracín et al., 2024). Nevertheless, there is a gap between science and public beliefs regarding what constitutes sustainable healthy diets. For example, the public often views organic, regional, and seasonal foods as components of sustainable diets that are both healthy and environmentally friendly. In contrast, the sustainability and health benefits of reducing meat consumption are often undervalued or not fully recognized by the public (Polleau & Biermann, 2021). Moreover, consumer beliefs can hinder the integration of health and sustainability concepts. Research indicates that sustainable eating is often seen as benefiting others, while healthy or pleasure-driven eating is viewed as self-focused (Onwezen, 2023). Nonetheless, recent research, conducted outside the food sector, but in the tourism context, suggests that the synergetic relationship between healthiness and sustainability can be leveraged to promote pro-environmental behaviors (Higham et al., 2024). The present study adopts this synergic approach to conceptualize sustainable healthy food consumption in tourism.

Delving into the multi-dimensional aspects of sustainable healthy diets, this study examines the body of tourism literature concerned with sustainable healthy food consumption in tourism. Acknowledging the heterogeneous meanings embedded in tourists' food consumption (Estrada et al., 2023), this study recognizes that a healthy diet is vital to sustaining tourist mobility, especially as tourists navigate unfamiliar local eating environments and the complex health challenges they may pose. In other words, rather than adopting a purely biomedical perspective focused on nutrition and hygiene, this study employs an assemblage approach to understanding health as a relational outcome influenced by material, psychological, and cultural dimensions (Lin et al., 2022). From a sustainability perspective, food consumption in tourism cannot be considered without acknowledging the role of local communities. In fact, tourism facilitates the co-participation of tourists and local actors through activities such as cooking classes, culinary tours, and local harvesting (Stone et al., 2018), thereby reinforcing the role of food in the local economy and cultural preservation. For instance, local food production can not only promote environmental conservation but also support local enterprises, such as farmers' markets, and boost local employment. Therefore, this study adopts a sustainable food consumption approach that advocates

for reciprocal benefits for local communities, tourists, and the environment, while also emphasizing the importance of healthiness in these interactions.

The following section is devoted to how this study conceptualizes the existing evidence on tourists' sustainable healthy food consumption regarding behavioral determinants and policy interventions.

2.2.2 Theoretical Framework

The Behavior Change Wheel with its COM-B model serves as the overarching theoretical framework of this literature review study. Originally developed in healthcare settings, the main strength of this theoretical framework lies in its ability to link the root causes of behaviors with potential behavioral and policy interventions (Michie et al., 2009). It therefore aligns with the two research questions on behavioral determinants and subsequent behavioral and policy interventions designed for this study (**Figure 2.1**). The Behavior Change Wheel is composed of three layers. The fundamental determinants or causes of behavior are central to the wheel, based on the COM-B model, encompassing capability, opportunity, and motivation. These dimensions, defined below according to Michie et al. (2011), provide targets for intervention (Michie et al., 2014).

- **Capability** is an internal aspect of individuals, encompassing their *psychological* and *physical* capacity to engage in specific behaviors. The model distinguishes psychological capability (e.g., knowledge, memory) and physical capability (e.g., strength, skills, stamina) as two categories of behavioral determinants.
- **Opportunity** is an external aspect reflecting the context in which behavior occurs. This dimension is linked to providing *social* and *physical* support that facilitates behavior.
- **Motivation** is an internal aspect that guides individuals' behaviors through *reflective* and *automatic* processes. Reflective motivation pertains to conscious decision-making, while automatic motivation is associated with habits and impulsivity.

Supplementary to the COM-B model, the Theoretical Domains Framework provides a clearer understanding of psychological capability and reflective motivation, in particular (Atkins et al., 2017). This framework, informed by the synthesis of 33 behavior change theories, includes 14 domains and 128 theoretical constructs (Atkins et al., 2017). The domains encompass knowledge, skills, beliefs about capabilities, beliefs about consequences, social/professional role and identity, optimism, reinforcement, intentions, goals, social influences, emotions, environmental context and

resources, and memory, attention, and decision processes (Atkins et al., 2017). Initially widely adopted in the medical field to guide intervention generation and the development of evidence-based health guidelines (e.g. Acampora et al., 2023; Musson et al., 2024), the integration of the Theoretical Domains Framework with the COM-B model has also enhanced food-based review studies. This integration helps more rigorously identify the barriers and drivers associated with sustainable healthy food consumption (Graça et al., 2019, 2023). This approach underpins our study's exploration of the determinants influencing tourists' engagement with sustainable healthy food consumption.

The analysis of the behavioral determinants informs the identification of interventions and policy initiatives positioned in the wheel's middle and outer layers (Michie et al., 2014). This has been interpreted as translating research on behavioral determinants into practice (Tensi et al., 2022). Regarding the practical part, the Behavior Change Wheel affords the evaluation of comprehensive intervention and policy options (Michie et al., 2011). Possible behavioral interventions include education, persuasion, incentivization, training, coercion, restriction, environmental restructuring, modeling, and enablement. Policy initiatives encompass communication/marketing, guidelines, fiscal, regulation, legislation, environmental and social planning, and service provision (Michie et al., 2011).

Regarding tourism and hospitality settings, the Behavior Change Wheel with its COM-B model holds significant potential to address the existing knowledge gap in changing tourists' behaviors. As stressed by Demeter et al. (2023), intervention-based studies in tourism suffer from a narrow theoretical focus. This is largely due to the excessive emphasis placed on theories such as Planned Behavior and Value Belief Norms (MacInnes et al., 2022), which has resulted in disproportionate intervention development (Dolnicar & Demeter, 2023). To address this issue, Demeter et al. (2023) advocated for a broader set of theoretical frameworks focusing beyond tourists' beliefs and activating social norms. As a result, the Behavior Change Wheel with its COM-B model can be helpful in several ways:

Firstly, this integrative framework can uncover the role of significant variables such as unconscious processes, habits, emotions, self-regulation, skills, and physical as well as psychological strengths in the formation of tourists' sustainable behavior. These variables have been largely overlooked in previous tourism research (Dolnicar & Demeter, 2023; Demeter et al., 2023).

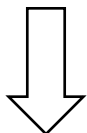
Secondly, despite the crucial role of contextual variables in shaping tourists' sustainable behavior (Liu et al., 2022; Wu et al., 2021), these variables have been under-theorized and under-investigated. The Behavior Change Wheel, with its opportunity component which focuses on the external environment of consumption (Michie et al., 2011), is well-equipped to address this research gap.

Thirdly, while theories such as Planned Behavior (Ajzen, 1991) and Value Belief Norms (Stern, 2000) aid in understanding and predicting tourists' behavior, they fail to provide a direct link to behavioral intervention (Tensi et al., 2022). The Behavior Change Wheel effectively bridges this gap by linking behavioral causes to both sets of behavioral interventions and policy initiatives.

In addition to the points mentioned above, the Behavior Change Wheel can stimulate the creation of a shared language surrounding the identification and classification of intervention types (Atkins & Michie, 2015), a feature that appears to be scarce in tourism literature (Demeter et al., 2023). Such a shared language can be crucial for the incremental development of the 'technology of behavior change' (Michie et al., 2009) in tourism.

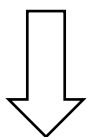
Despite the above merits, the Behavior Change Wheel has been rarely applied in tourism. The exceptions are tourists' adoption of new technology (Wells et al., 2022) and visiting attractions (Hockenhull et al., 2022). More research is needed to harness the potential of the Behavior Change Wheel, especially in the context of designing interventions to facilitate more sustainable and responsible tourist behavior. To close this research gap, this study focuses on sustainable healthy food consumption which has been recently viewed from the lens of the Behavior Change Wheel and COM-B model, albeit in non-tourism contexts (e.g., Graça et al., 2023; Jiang & Frag, 2023). The following section will discuss the methodology used to develop this review study.

Theory phase	Sources of behavior (COM-B)	Capability		Motivation		Opportunity	
		Physical	Psychological	Reflective	Automotive	Physical	Social
	Theoretical Domains	Physical skills	Knowledge, Cognitive and interpersonal skills, Memory, Behavioral regulation	Identity, Beliefs about consequences, Optimism, Intention, Goals	Reinforcement and emotions	Environmental context and resources	Social influences



Identifies fruitful targets for behavioral interventions

Practice phase I	Intervention Functions	Restrictions	Environmental restructuring	Modelling	Enablement	Training	Coercion	Incentivization	Persuasion	Education
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Enlightens effective policy initiatives based on the identified behavioral interventions

Practice phase II	Policy categories	Guidelines	Fiscal measures	Regulation	Service provision	Legislation	Communication / Marketing	Environmental/ Social Planning
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Figure 2.1 The Behavior Change Wheel with COM-B model and Theoretical Domains Framework (Adopted from Michie et al., 2014; Atkins et al., 2017)

2.3 Methods

2.3.1 Study design

A systematic literature review was conducted based on three justifications. First, the nature of the review questions requires an in-depth understanding of the behavioral determinants and interventions related to tourists' engagement with sustainable healthy food consumption. This understanding can only be achieved by carefully examining existing study findings, which a systematic literature review is better equipped to provide than other review methods (Paré & Kitsiou, 2017). Second, following the approach presented by Graça et al. (2019, 2023), the review questions can be addressed by integrating existing qualitative and quantitative evidence. The systematic review approach to the literature better supports evidence-based practice than single-method reviews (Stern et al., 2021). Third, the systematic literature approach minimizes, yet does not eliminate, bias (Pickering & Byrne, 2014). This is ensured through clear, step-by-step guidance provided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology (Pahlevan-Sharif et al., 2019).

2.3.2 Search strategy

Scopus and Web of Science (WoS) databases (Dhir et al., 2020) were the primary sources for this review study. As for the search strategy, in line with the purpose of this study, three categories of terms were utilized, namely: 1) food-related terms (i.e., diet, food, din*, eat*, cuisine, gastronom*, cook*, culinary*, “food waste”, “food preparation”); 2) tourism-related terms (i.e., touris*, hospitality, holiday, vacation, travel) – to distinguish tourism-based studies, e.g., focusing on tourists' food waste generation in all-inclusive holidays or tourists' purchase of local food from farmers' markets, from non-tourism based studies which may have focused on customers of restaurants, takeaways, food deliveries or event catering (e.g., Filimonau et al., 2021); and 3) health- and sustainable-related terms (i.e., “healthy and sustainable”, health, sustainabl*, unsustainabl*, slow, Mediterranean, vegan, vegetarian, local, organic, gluttony, pescatarian, environment*, carbon, nutrition, “over-indulgence”, “excess eating”) (Godin & Sahakian, 2018). The Boolean operators, AND (between the categories) and OR (within the categories), were used to unite the categories. The search scope was limited to Article title, Abstract, and Keywords.

2.3.3 Eligibility criteria

To narrow down the results further, following the approach suggested by Huang and Wang (2023) and Ong et al. (2022), only Q1 and Q2 journals from the ‘Hospitality, Leisure and

Hospitality Management' category in Scimago (2022) were investigated. This selection was based on the rigorous peer-review process and the high-quality work these journals typically represent (Huang & Wang, 2023). The further inclusion criteria were: 1) representing tourism, hospitality, or events (THE) context; 2) focusing on any version of sustainable health food consumption; 3) covering the demand side of tourism, i.e., tourist behaviors as opposed to the supply side, such as hotel or restaurant managers' behaviors. The exclusion criteria were (a) studies associated with other domains such as animal feeding and interaction, the environmental footprint of the food supply side, non-food related impacts on the local community, social entrepreneurship, wines, and drinks, (b) literature reviews and discussion papers, and (c) duplicate documents.

2.3.4 Data collection process

Figure 2.2 provides a diagram illustrating the steps of navigating the literature search. The initial search generated 563 journal articles. Next, these articles were combined with three articles found through reference checking before proceeding with a duplication check. Once duplications (n=189) were removed, abstract screening of the remaining sample started based on the inclusion criteria. This led to further deletion of articles (n=195). After a rigorous full-text screening, 87 journal articles were retained for analysis. The administration of the literature search, conducted from March to August 2023, was led by one researcher and supported and confirmed by a collaborative team, ensuring both a comprehensive scope and a rigorously maintained review process.

2.3.5 Reliability and validity

The reliability and validity of our results were assessed in four domains, including comprehensiveness, objectivity, rigorousness, and transparency (Uttley et al., 2023). We adopted a reflective approach, continuously revising and refining the search strategy to ensure the inclusion of all relevant evidence. This was complemented by a manual search, which further augmented the comprehensiveness of data collection. The objectivity of the process was maintained through a collaborative review process, allowing a synergy of expertise to be involved in both data searching and coding processes. As for the rigorousness, this study embraced a heterogeneous approach to synthesizing data, allowing for the integration of analyzed studies despite the differences in their study populations, methodologies, and findings. Overall, the adherence to the PRISMA guidelines and the pre-specification of eligibility criteria reinforced the transparency and methodological rigor of this systematic review.

2.3.6 Data synthesis

Data transformation was initially conducted to integrate quantitative and qualitative evidence (Stern et al., 2021; Lizarondo et al., 2022). This involved transforming quantitative data into a qualitative format (e.g., themes and categories), known as *qualitizing*, which is often preferred to the quantifying approach (Stern et al., 2021). Next, the qualitative synthesis techniques were utilized to extract and synthesize study findings. Specifically, a thematic synthesis was employed suggesting three moves: coding text, generating descriptive themes, and developing analytical themes (Booth et al., 2016). This technique allowed going beyond the findings of the analyzed primary studies to generate additional concepts and insights (Thomas & Harden, 2008). To facilitate this, a prior coding framework was used to translate descriptive themes into analytical themes, aligned with the review questions. This suggests incorporating another qualitative synthesis technique, known as *framework synthesis* (Booth et al., 2016), affording a structured and efficient integration of the extensive data involved in this systematic literature review (Mantzourani et al., 2024; Musson et al., 2024).

The COM-B model and the Theoretical Domains Framework informed a prior coding framework for this study, analyzing and synthesizing the behavioral determinants of tourists' sustainable healthy food consumption (Acampora et al., 2023). The translation process from descriptive to analytical concepts is The COM-B model and the Theoretical Domains Framework informed a prior coding framework for this study, analyzing and synthesizing the behavioral determinants of tourists' sustainable healthy food consumption (Acampora et al., 2023). The translation process from descriptive to analytical concepts is often viewed as challenging and controversial since it depends on the insights and judgments of reviewers (Thomas & Harden, 2008). To tackle this issue, a collaborative review process was involved in the coding process. The coding process was undertaken by the lead author. However, the coding results were presented to the rest of the research team consisting of academics with expertise in sustainable tourism and sustainable healthy food consumption. The team examined the coding results carefully and raised queries in the case of potential ambiguity. The coding process was considered complete after all queries were resolved and the entire research team agreed on the result.

The coding process was initiated by categorizing each data extract into relevant sub-themes or constructs of the Theoretical Domains Framework. The next step involved consolidating these identified constructs under each domain, categorizing them as either drivers or barriers to tourists'

sustainable healthy food consumption. These domains and their associated constructs were integrated into the COM-B model, which provides higher-level concepts for understanding tourists' behavior. Finally, data extracts were coded into their corresponding intervention functions based on the Behavior Change Wheel, designed to outline behavioral interventions. This framework is particularly applicable to contexts like sustainable healthy food consumption in tourism, highlighting actionable measures that can be implemented.

To illustrate the coding process by example, the authors unanimously categorized the concept of 'food involvement' under the theoretical domain of 'beliefs about consequences', as suggested by the facets of this concept (Andersson & Mossberg, 2017). These facets include: 1) perceived importance of negative consequences, (2) perceived probability of negative consequences, (3) perceived importance of food, (4) perceived symbolic value of food, and (5) perceived hedonic and enjoyment value. Accordingly, the authors further coded this concept by linking it to 'reflective motivation' in the COM-B model and specific intervention functions in the Behavior Change Wheel. Moreover, they extracted and coded the corresponding sub-intervention categories associated with 'food involvement' by further analyzing the selected studies.

The following section presents the research profile of the included studies together with a synthesis of the findings through the analytical lenses of the COM-B model, the Theoretical Domains Framework, and the Behavior Change Wheel.

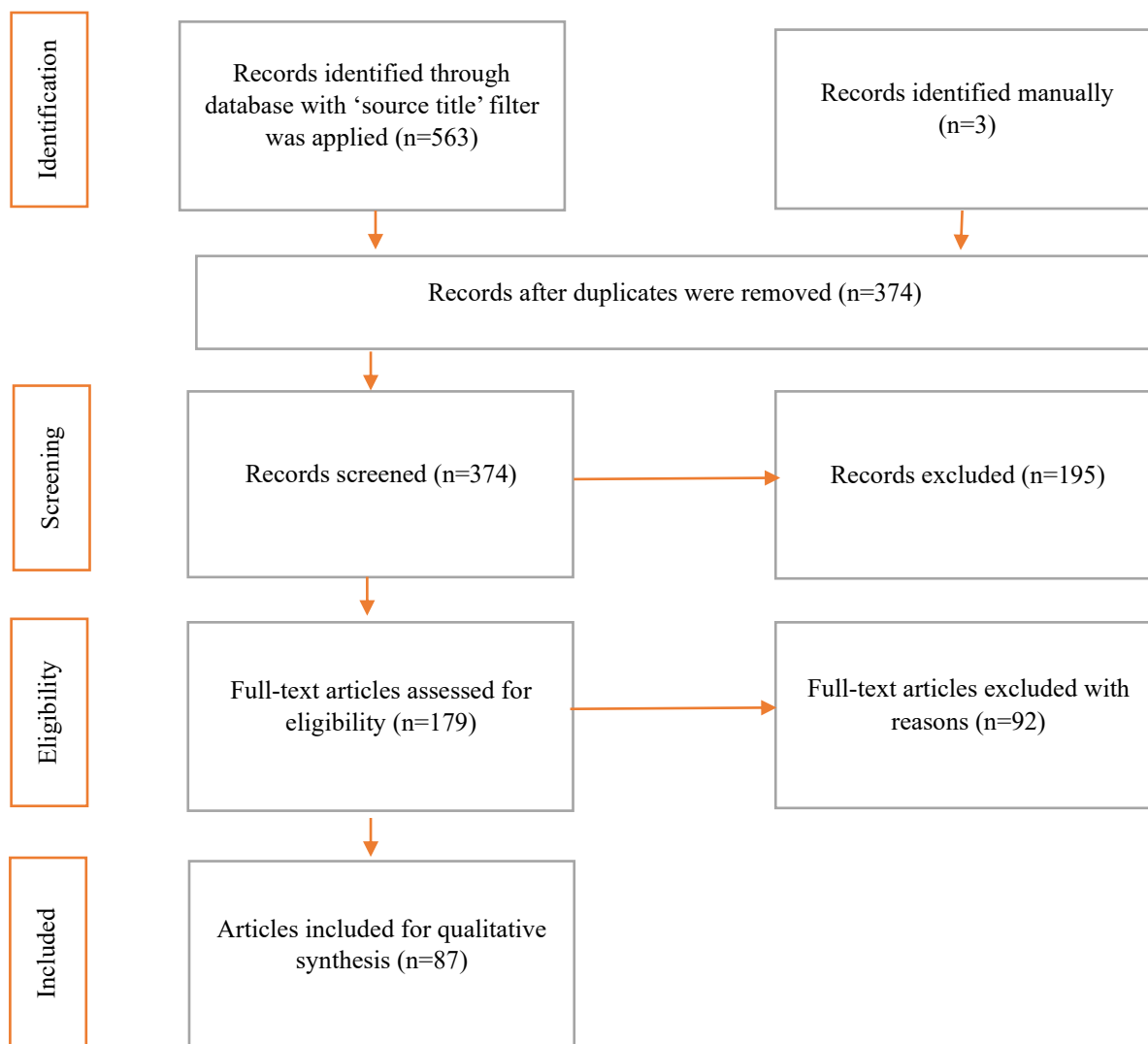


Figure 2.2 The PRISMA Flow Diagram

2.4 Results

2.4.1 The Characteristics of Studies

Journals and Publication Years

The shares of Q1 and Q2 tourism journals were 78 and 9 papers, respectively. The publication year of the studies ranged from 2002 to 2023, with the highest proportion (70.1%) published between 2018 and 2023. 20.1% were published between 2012 and 2022, whereas fewer than 10% were published from 2002 to 2011. This signifies a dramatic growth of research interest in this field over recent years.

Methodologies of Studies

The most significant proportion of the studies (72.6%) had a purely quantitative design (e.g., Chen & Huang, 2019), a noticeable share of which adopted the SEM approach (40%). A smaller proportion of the studies (16%), e.g., Li et al. (2021), had a purely qualitative design. Only 8% utilized a mixed-method approach. Studies with an experimental nature (e.g., natural, quasi, and hypothetical), including Cozzio et al. (2022) and Dolnicar et al. (2020), were rare (3.4%).

Geographical Information

Most studies came from Europe (Campón-Cerro et al., 2023), Asia (Choe & Kim, 2018, 2019), and North America (Joensuu et al., 2022). However, more recently, the geographical focus has been extended to other regions, namely Africa (Baah et al., 2020), Oceania (Williamson & Hassanli, 2020), and the Middle East (Soltani et al., 2021). Additionally, the studies on international tourists (Lin et al., 2022) gained more than twice the empirical interest compared to the studies on domestic tourists (Choo & Park, 2020) i.e., 38 versus 15 studies.

Contexts of the Studies

As for food service settings, the focus of research has been on four types: collective meal settings, e.g., restaurants and hotels (Graça et al., 2023), home-based accommodations, e.g., homes of friends and relatives (Hassanli et al., 2016), natural settings, e.g., farms, national parks and mountains (Nordbø et al., 2023), and food events, e.g., festivals and farmers' food markets (Organ et al., 2015). This suggests an extension to the typology of culinary distribution channels provided by Smith and Xiao (2008). Whereas collective meal settings were by far the most investigated (56.4%), food-related events and home-based accommodations were the least investigated categories (3.4%). The reason behind this domination may relate to the significant potential of

collective meal settings in accelerating sustainable healthy food transformation (Graça et al., 2023).

Theme of the Studies

More than any food-related process, food consumption (the digestion of food) has taken center stage, accompanied by the leading role of local food. Tourism studies with a pure focus on local food consumption made up circa 65% of the studies, whereas the rest of tourism studies focusing on either healthy food (Chang, 2017), organic food (Doran et al., 2022), or plant-based food (Cozzio et al., 2022) were small in number. Much fewer studies were conducted on shopping, cooking, and food waste in the tourism context (Li & Wang, 2020; Lee et al., 2014).

Theoretical Framework of the Studies

Most studies (58.6%) lacked a theoretical framework, partly due to their exploratory nature. Rational behavioral models were popular. Presupposing the significance of human rationality in explaining or predicting tourists' sustainable healthy food consumption, studies utilized such theories as the theory of planned behavior (Zhang et al., 2018), self-determination (Lin et al., 2023), consumption values theory (Soltani et al., 2020), Maslow's hierarchy of needs theory (Lin & Chen, 2014), pull-push motivation theory (Nordbø et al., 2023), and Herzberg's two-factor theory (Kim et al., 2020). On the other hand, there has been the adoption of such concepts and theories as habitus (e.g., Lee et al., 2014), habit theory (e.g., MacInnes et al., 2022), and goal framing theory (e.g., Liu et al., 2022), underpinning the role of other behavioral dynamics (e.g., social dynamics, emotions, automatic responses).

Table 2.1 The characteristics of the reviewed studies on sustainable healthy food consumption in tourism

Study characteristics	Observations
Source and trend	Primarily from Q1 journals with a notable growth in publications from 2018-23
Methodological focus	Quantitative research predominantly prevails (72.6%), with a strong emphasis on Structural Equation Modeling
Theoretical focus	Largely influenced by rationalist theories, such as the theory of planned behavior and consumption values theory
Thematic focus	More skewed towards local food consumption (65%), with a comparably lighter emphasis on healthy options, organic, and plant-based (35%, collectively)
Sample	Key socio-demographic factors influencing sustainable healthy food consumption in tourism include: - Younger generations (Prayag et al., 2022) - Higher education levels (Bah et al., 2019; Kim et al., 2009) - Higher income brackets (Kim et al., 2013; Chang, 2017) - Tourists with children (Chang, 2017)
Context	Hotels and restaurants dominate as the primary focus of collective meal-setting research (56.4%)

2.4.2 Behavioral Components of Tourists' Sustainable Healthy Food Consumption: Analysis and Synthesis of the literature

The following sub-sections analyze and synthesize the findings of the selected studies, elaborating on the components of tourists' sustainable healthy food consumption behavior. **Table 2.2** showcases these elements in detail.

Table 2.2 Expanded behavioral change wheel framework for sustainable healthy food consumption in tourism based on the existent literature

		Sources of behavior	Intervention functions
COM-B		Theoretical Domains Framework- domains Tourism-related themes (Number of articles referring to each theme)	Sub-interventions in tourism (Number of articles referring to each theme)
Capability	Physical	Personality traits - Food-related personality traits (9) - Non-food-related personality traits (2) - Tourists' xenophobia (1) - Tourists' xenophilia (1)	Environmental redesigning - Food diversification (13); taste testing (5), service quality (14) Education, Persuasion - Providing information (27) (e.g., on service quality, nutrition, certification)
	Psychological	Knowledge - Informational knowledge (8) - Experiential knowledge (6) Memory - Memorable experience (5) Behavioral regulation - Goal attractiveness (2) - Goal attainment (1) Other - Trust in communication sources (1) - Trust in localness of food (1)	Education, Persuasion - Providing information on the attributes of food (9) Upskilling, Education - Tourist engagement programs (13) Environmental redesigning - Taste testing (5), service space designs (8)

Motivation	Reflective	Beliefs about consequences • Food consumption or experiential values (49) • Attitude towards food (13) • Food/visit satisfaction (6) • Food image or food destination image (6) • Food involvement (5) • Tourists' wellbeing (3) • Attitude towards the environment (2) • Loss aversion (1) Intentions • Intention to consume/or buy food (24) • Intention to recommend food or tourist destination (11) • Intention to revisit food destinations/markets (8) Identity • Place dependent and identity (1) Beliefs about capability • Perceived behavioral control (2) • Self-efficiency (1)	Environmental redesigning • Menu redesigning (11), service space designs (5), service quality (14), enhancing sensory features (9), and standard policies (7) Education • Providing information (e.g., cultural and health values of food) (27) • Tourist engagement programs (13) Social redesigning • Stakeholder engagement programs (10)
	Automatic	Reinforcement • Habitual factors (5)	Environmental redesigning • Nudges (9)
Opportunity	Physical	Environmental context • Product identification (10) • Price (5) • Accessibility (5) • Restaurant quality (5) • Meal plan or type (2) • Accommodation type (2) • Length of stay (2) • Food activity opportunities (2)	Environmental redesigning • Branding (10); food diversification (13), increasing food availability (9); decreasing food availability (2); pricing policies (5); substituting (1); pairing programs (1); taste testing (5); infrastructural changes (3) Education • Branding (10), providing information (27) Social and environmental redesigning • Tourist engagement programs (13)
	Social	Social influences • Subjective norms (5) • Cultural orientation or beliefs (5)	Social redesigning • Stakeholder engagement programs (10) Education • Providing information (through parents and other close stakeholders) (27)

2.4.2.1 Capability Components

Physical Capabilities

As illustrated in Table 2.2, scholarly evidence on capability showed the significance of both physical and psychological dimensions regarding sustainable healthy food consumption in tourism. Food-related personality traits can affect tourists' eating capabilities. These traits often result from the interaction between the physical attributes of food (e.g., appearance or smell) and human-based physiological elements (i.e., certain genetic predispositions or biological instincts), which can elicit emotions like dislike, disgust, or fear of negative consequences (Bennett, 2020; Okumus et al., 2021). As a consequence of this combined effect (hereafter categorized as physical capability), there is variation in tourists' capabilities when encountering novel foods, with

individuals ranging from food-neophobic (or xenophobic) to food-neophilic (xenophilic) tourists (Kock et al., 2019). Most affected, the neophobics may experience anxiety and discomfort when encountering local, unfamiliar food while traveling (Baah et al., 2019). This phenomenon refers to sustainable food neophobia (Faria & Kang, 2022), which needs to be examined more extensively (more sustainable food types) and deeply in the tourism context. The underlying causes of such high sensitivity towards sustainable eating in tourism require further investigation, which may relate to tourists' high local identity, norms, and contextual factors.

Psychological Capabilities

The review showed the significance of tourists' food familiarity from two perspectives: experiential familiarity (Organ et al., 2015) and informational familiarity (Madaleno et al., 2019). While the former refers to tourists' actual experiences with a particular food, the latter underscores the role of informational sources in promoting sustainable healthy food (Seo et al., 2013). In examining the role of informational familiarity, Kauppinen-Räsänen (2016) and Torres (2002) highlighted the enabling influence of prior knowledge on tourists' local food consumption. In contrast, Madaleno et al. (2018) emphasized its diminishing impact. This acknowledges the misleading assumption that deliberation on the costs and benefits of sustainable eating is always present in tourism consumption settings. Moreover, these studies rely on self-reported data and may not accurately reflect the true influence of information on tourists' actual behaviors.

The weaknesses of the informational approach have led to the placement of more emphasis on experiential familiarity, which seems to have a superior effect (Seo et al., 2013). However, this review does not suggest consistent findings. While some studies revealed that higher experiential food familiarity led to higher intention toward local cuisine (e.g., Seo, 2013), Xu and Zeng (2022) showed the allure of food unfamiliarity for neophilic tourists. Therefore, the influence of experiential familiarity depends on food personality and contextual factors.

Regarding other aspects of psychological capability, some findings indicated the importance of memory creation and nostalgia for tourists to trigger sustainable healthy food recommendations or re-exploration in the future (e.g., Kim et al., 2020). This enablement, however, requires such supportive initiatives as the enhancement of food attributes (Badu-Baiden & Kim, 2022), food service staff's active involvement (e.g., Badu-Baiden & Kim, 2022), and an appealing design of the food service atmosphere (Kim et al., 2020). Nonetheless, such sentiments as nostalgia, which refers to longing for the past, may not always benefit sustainable consumption, a future-oriented

concept. For instance, albeit in the non-tourism field, it has been found that high-nostalgia compared to less-nostalgia consumers are less likely to prefer sustainable products (Wang & Chao., 2020). However, further relevant investigations in the tourism field are encouraged.

Goal attractiveness (Birch & Memery, 2020; Doran et al., 2022) and goal attainment (Joenpolvi et al., 2022) were the other themes identified as the drivers of sustainable healthy food consumption in tourism. Doran et al. (2022) showed that tourists who valued environmental preservation were more likely to purchase organic products. However, this research was based on self-reported data rather than tourists' actual behavior (Greene & Dolnicar, 2024). Similarly, based on a self-reported survey, Joenpolvi et al. (2024) documented a weak moral licensing impact for individuals with a high promotion focus. The last identified psychological capability factor relates to trust which is not incorporated into the Theoretical Domains Framework (Atkins et al., 2017). Lack of trust in food or its provider was perceived as a barrier to sustainable healthy food consumption in tourism, particularly when the reliability of information sources (Dedeoğlu et al., 2023) or content (Birch and Memory, 2020) needs to be assured.

2.4.2.2 Motivation Components

Reflective Motivations

The review shows the significance of reflective motivations, especially the beliefs about the consequences of sustainable healthy food consumption (**Table 2.2**). These beliefs primarily revolve around consumption values or experiential values. While consumption values involve tourists' evaluation during the pre-purchase stage or the post-purchase stage of products or services (Choe & Kim, 2019), experiential values refer to the value of tourists' judgment based on direct interactions with products or services (Soltani et al., 2021). Since both notions deal with tourists' evaluation of products or services, they fit in with reflective motivation (Michie et al., 2011).

Table 3 categorizes consumption or experiential values from the analyzed articles. This study bases this categorization of motivational factors on the dimensions of sustainable healthy food consumption discussed in section 2.1, encompassing health, environment, cultural acceptability, and economic affordability. Cultural acceptability emerges as the most significant motivator for tourists' sustainable healthy food choices, while environmental sustainability and economic affordability are less critical (Table 3). Tourism experiences can disrupt eating habits, encouraging exploration of local gastronomic cultures (Isabelle et al., 2019). This leads to a diverse set of values, such as sensory, cultural, emotional, hedonic, epistemic, interaction, authenticity,

familiarity, egoism, altruism, and aesthetics (**Table 2.3**). Thus, tourism provides a multidimensional view of cultural acceptability, a key aspect of sustainable healthy food consumption, which tourism research can leverage to promote sustainable healthy eating.

Table 2.3 Studies on consumption or experiential value associated with reflective motivations for sustainable healthy food consumption in tourism.

Influential consumption/experiential values (Number of articles referring to each sub-theme)	Dimensions of sustainable healthy food (Total number of the sub-themes)	Sources
Sensory values (18)	Cultural acceptability (110)	e.g., Choe & Kim, 2019, Mynttinen et al. 2015; Hiamey et al. 2021
Cultural experience (16)		e.g., Dimitrovski & Crespi-Vallbona, 2017; Madaleno et al., 2019; Williamson & Hassanli, 2020
Emotional value (14)		e.g., Hussain et al., 2023; Soltani et al., 2020; Choe and Kim, 2018; Seongseop et al. 2020;
Hedonic value (11)		e.g., Dedeoğlu et al. 2020; Björk & Kauppinen-Räsänen, 2016; Dolnicar et al., 2020
Educational or epistemic value (9)		e.g., Hwang & Quadri-Felitti, 2022; Ho et al. 2021; Suntikul et al. 2020; Hussain et al., 2023
Interaction value (10)		e.g., Dedeoğlu et al., 2020; Campón-Cerro et al., 2022; Lin et al. 2023; Kim and Eves; Kim et al., 2009
Authenticity (7)		e.g., Yu et al., 2020; Kim et al. 2020; Badu-Baiden & Kim, 2022
Prestige or boasting value (7)		e.g., Suntikul et al. 2020; Choe & Kim, 2019; Kim et al., 2009; Rousta & Jamshidi, 2020
Novelty value (6) vs. familiarity value (5)		e.g., Chang, 2017; Björk & Kauppinen-Räsänen, 2016; Xu and Zeng, 2022
Egoistic value (2) vs. altruistic value (2)	Health (16)	Cozzio et al., 2022; Nørfelt et al. 2023
Other motives (e.g., mindfulness, self-reflection, self-regulation) (3)		Li et al., 202; Joenpolvi et al. 2022
Nutritional value (12)		e.g., Mynttinen et al. 2015; Campón-Cerro et al. 2022; Santos et al. 2019; Ho et al. 2021
Risk avoidance or food safety (3)		e.g., Dedeoğlu et al., 2020; Ho et al. 2021; Chang, 2017
Dietary requirement (1)		Merkel et al., 2017
Price or gain value (6)	Economically affordable (6)	e.g., Hussain et al., 2023; Soltani et al., 2020; Dimitrovski & Crespi-Vallbona, 2018
Environmental values (4)	Environmental sustainability (4)	e.g., Doran et al., 2022; Linnes et al. 2023; Birch and Memery, 2020

The inferiority of environmental values, compared to cultural or health-related food values in tourists' reflective motivations is largely due to the design of the analyzed studies. Since most of these studies are quantitative (70.5%), there is a risk that environmental factors may have been overlooked in the original development(s) of consumption value scales. This oversight has likely led to their continued underrepresentation in subsequent studies. For instance, environment-based consumption values are noticeably absent in recent scale developments associated with local food consumption in tourism (Choe & Kim, 2019). Even when considered, environmental values are seen as less influential than health or hedonism. Evidence from experimental-based research revealed that health information impacts vegetable consumption more than environmental

information (Cozzio et al., 2022), and pleasure-driven interventions reduce plate waste more effectively than environmental appeals (Dolnicar et al., 2020). These findings underscore that sustainable eating is predominantly considered other-oriented, while healthy or pleasure-driven eating is self-oriented (Onwezen, 2023). Addressing this requires a co-benefits approach (Cohen & Kantenbacher, 2019) to encourage tourists' pro-environmental behavior in food consumption.

Other prominent domains of reflective motivations (Michie et al., 2011; Atkins et al., 2017), such as intention and attitude, were also found in the literature. Tourists' intentions towards sustainable healthy food consumption or recommendations can be reinforced through the enhancement of food destination image (e.g. Choe & Kim; 2018; Soltani et al., 2020), attitudinal variables (e.g., Alsuwaidi et al., 2022), tourists' food involvement (e.g., Andersson & Mossberg, 2017), and perceived behavioral control (e.g., Zhang et al., 2018). However, recent tourism research has importantly emphasized that intention and attitude are insufficient predictors of tourists' pro-environmental behaviors (Greene & Dolnicar, 2024).

Automatic Motivations

As for automatic motivations, this review identified the significance of habits as a driver of tourists' behavior (MacInnes et al., 2022). The findings of MacInnes et al.'s (2022) study showed the importance of habit-based interventions through breaking 'bad' habits, thereby reducing tourists' plate waste. Congruent with these results, Miller et al. (2015) found that habit was the major driver of organic food purchases and food waste reduction on holidays. Habitual factors have also been associated with core-eating behavior (Chang et al., 2010), healthy dietary habits (Lin et al., 2022), and frequency of past behavior (Levitt et al., 2019). However, this research path has remained underexploited. To address this, experimental tourism research should evolve by: a) modifying the food environment, b) adjusting the association between environmental cues and individuals' responses, and c) incorporating reinforcement or reward mechanisms to encourage sustainable healthy food consumption among tourists (Riet et al., 2011).

2.4.2.3 Opportunity Components

Physical Opportunities

Table 2.2 outlines several physical and social opportunity variables, potentially contributing to the shift towards sustainable healthy food consumption in tourism. Regarding physical opportunities, many studies acknowledged the importance of marketing and communication efforts to overcome product identification. Poor presentation of sustainable healthy food in destinations can lead to

tourists' lack of support for local economies (e.g., Mynttinen et al., 2015), limited consumption of local food (e.g., Birch & Memery, 2020; Hassanli & Williamson, 2023; Torres, 2002), and inadequate understanding of local food (Lin & Chen, 2014). To tackle this issue, Madaleno et al. (2018) proposed certifying policies targeting local food for tourism. Birch and Memery (2020) prescribed the employment of stronger branding strategies and boosting food specialties as souvenirs. Tsai (2016) suggested a cuisine-based branding for Taiwanese destinations, whereas Mynttinen et al. (2015) argued that local food branding should involve appropriate labeling to assure tourists of the authenticity, identity, and nature of food products. The anticipated challenge is to develop labels more efficiently (omni-labeling versus single-labeling, elements of persuasion such as health, environmental, and cultural aspects) with reduced ambiguity in language use, emotional tone, visualization, and other factors.

Several self-reported research has highlighted the importance of accessibility, price, and restaurant quality. For instance, Dimitrovski and Crespi Vallbona (2018) demonstrated that price, location, and accessibility were the most influential factors affecting tourists' revisit intention. Birch and Memery (2020) showed that high prices and restricted access hampered tourists' purchase of local food. While affordability was emphasized (Hiamey et al., 2021; Hussain et al., 2023; Santos et al., 2020), Linnes et al. (2023) found that US tourists reported willingness to pay more for sustainable healthy food. On-site data collection also revealed that convenient access was crucial for rural tourism in Norway (Frisvoll et al., 2016) as well as domestic tourists in Australia (Hassanali & Williamson, 2023). More research is needed to examine tourists' actual behaviors regarding these issues by addressing them more extensively—such as exploring other types of sustainable food like alternative protein sources, and more efficiently by investigating how technological mediums, for instance, can create new behavioral patterns.

Additionally, meal plans, accommodation type, length of stay and food-related activities at a destination were also found to determine tourists' sustainable healthy food consumption. In this regard, Santos et al. (2020) surveyed tourists' intake of vegetables and meat differed across a range of meal plans (e.g., all-inclusive, full-board, half-board) and accommodation types (e.g., room only, all-inclusive, bed and breakfast). However, their analysis was limited to statistical differences regarding consuming certain foods without providing an in-depth examination. This limitation was also valid for the study undertaken by Madaleno et al. (2019) providing lack of indepth analysis on how accommodation type can influence tourists' connection with agro-food products

(Madaleno et al., 2019). Based on field observation and casual conversations, Li and Wang (2020) demonstrated that buffet restaurants were a more conducive environment for the generation of food waste compared to a la carte restaurants. Such comparative investigations could be extended to other types of food service or accommodation providers in tourism, such as self-catering accommodation.

Social Opportunities

Studies have shed light on whether social influences support or hinder the advancement of sustainable healthy food consumption in tourism. Frisvoll et al. (2016) reported that tourists traveling with family or friends were more likely to buy local food compared to solo travelers. Drawing on the theory of planned behavior, the effect of subjective norms on local food consumption was shown to differ between international and domestic travelers. While, in the case of domestic Chinese tourists, this effect was found to be significantly positive (Zhang et al., 2018), for the international ones, this was not the case (Dedeoğlu et al., 2022). Nonetheless, the above studies relied on self-reported data and could not underpin the contextual social opportunities to trigger behavioral changes. Reinforcing the notion of social influences, Liu et al. (2022) observed that, for those tourists coming from a masculine collectivist culture, normative habits were suspended during international trips, and, as a result, their food-related behaviors were mostly overridden by hedonic and gain desires. Li and Wang (2020) further supported this notion by documenting the hedonic-driven behaviors of international tourists on cruise ships. On the other hand, studies found that international tourists tended to maintain some traditional aspects of their eating behavior when on travel (Lin et al., 2022), potentially facilitating their adoption of sustainable healthy food consumption on holiday. An experiment-based approach can provide further insights into interventions that efficiently address social issues related to sustainable healthy food consumption.

2.4.3 Potential Behavioral and Policy Interventions: Analysis and Synthesis of the Literature

This section addresses the second research question of the study. This systematic literature review is essential for guiding policymakers and practitioners in staying updated with the latest advancements in sustainable healthy food consumption in tourism (Lame, 2019). The behavior Change Wheel is an effective model to guide best practices in the field (Albarracín et al., 2024). This framework identifies areas where additional efforts in behavioral interventions and policies are needed to advance health and sustainability objectives (Lame, 2019).

Table 2.4 aligns the recommendations from the existing literature with the potential behavioral and policy interventions that are inspired from the Behavior Change Wheel, to be examined or tested by leading tourism stakeholders – they have yet to be empirically tested. In this sense, this table extends or provides more elaboration on the intervention functions (e.g., providing tailored information, service quality, diversification) that were discussed earlier in Table 2. The examples of interventions or policies related to each intervention function are also illustrated in **Table 2.4**. The following paragraphs discuss the practical recommendations in further detail.

Table 2.4 The list of interventions alongside implementation strategies informed by this review study

Leading stakeholder s in charge	Interventions (Number of articles referring to each theme)	Implementation strategies (Number of articles referring to each theme)	Examples of interventions
DMOs, Food service providers	Providing tailored information (16)	- Based on certain food values (12) - emotional content (8) - social interaction content (2) - health-related content (1) - authenticity content (1) - Based on tourists' ages (2) - Based on food interest (1) - Based on food-related personality traits (1)	Highlighting natural food ingredients and nutritional information on menus can help reduce food neophobia among tourists by familiarizing them with the health benefits of unfamiliar dishes
Food service providers	Service quality (14)	- Food quality and authenticity (9) - Cleanliness or hygiene (4) - Food decoration (1)	Implementing food or restaurant certifications like Safe Quality Food (SQF) can increase tourist trust in quality and hygiene
	Diversification (13)	- Supplying global cuisine or home selections (5) - Cuisines from tourists' home country (3) - Proliferation of global fast-food restaurant chains (2) - Innovative or unique local dishes (8)	Designing menus with local cuisines and ingredients, offered with storytelling, can enhance the dining experience and appeal to adventurous tourists through cultural immersion
DMOs, travel agencies, food service producers, festival organizers	Tourist engagement programs (13)	- Food-themed tours or events (8) - Festivals (3) - Gastronomic routes and food-themed tours (3) - Local food museums (1) - Small thematic fairs (1) - Learning new cooking skills (5) - cooking demonstrations (2) - cooking classes (1) - cooking traditional foods (1) - experimenting with new cooking styles (1)	Organizing fruits-and-vegetable-based events allows vegan or vegetarian tourists to engage actively with local produce, fostering education and participation

DMOs	General information (11)	• Destinations and their food products (4) • Food background and ingredients (3) • Food venues or geographical information (3) • Obesity issue (1)	• Pinpointing sustainable healthy food restaurants or vendors through travel guides or mobile apps can enhance tourist accessibility and convenience in tourist destinations
Food service providers	Menu redesigning (11)	• Presentation of nutritional values (5) • Storytelling of local food (3) • Explanation of benefits (1) • Special menus of authentic food (1) • Design of multilingual menus (1)	• Designing multilingual menus featuring sustainable healthy food options can facilitate understanding and accessibility, thereby increasing sales among international tourists
DMOs, food service providers, travel agencies, food producers	Stakeholder engagement programs (10)	• Restaurant staff participation (6) ○ Co-creation of memory by photographing (2) ○ Food recommendations (2) ○ Presentation of food benefits (2) • Local food producers (2) • Residents (2) ○ Sharing a dining table (1) ○ food festivals (1) • Tour guide performance (1) • Other tourists (1) • Creating forums for knowledge exchange (1)	• Training restaurant staff to highlight the nutritional and environmental benefits of dishes when recommending menus can lead to an increase in the choice of sustainable options
DMOs	Branding (10)	• Branding destinations based on cuisines (4) • Developing unique food names or brands (3) • Local food labeling or logo (2)	• Publicizing local food logos related to the destination in promotions inside or outside of destinations
Food service providers, chiefs and cooks	Enhancing sensory features (10)	• Taste, smell, appearance (4) • Novelty or uniqueness (3) • Taste (1) • Visual appeal (1) • Aesthetic (1)	• Offering samples of sensory-enhanced sustainable healthy food can demonstrate the appeal of plant-based alternatives, helping to convert meat-eaters to healthier food options
Food service providers	Nudges (9)	• Decreasing portion size (3) • Table signs (2) • Game-based appeals vs pro-environmental appeals (1) • Self-benefit vs other benefit appeals (1) • Moral norm messages on tables (1) • Managers' endorsement of products (1)	• Providing reward programs for sustainable healthy food purchases (e.g., fruits and vegetables) in destination food markets can incentivize tourists to make sustainable choices through discounts or loyalty points

Food service providers, DMOs, retailers, food producers, accommodation providers, travel agencies	Increasing availability of sustainable healthy food options (9)	<i>e.g., fresh locally grown foods, healthier food, light healthy meals, dishes with organic ingredients</i> - Widening/ intensifying distribution channels (8) - Developing food as souvenirs (3) - Intra-business collaborations (2) - Better product placement (2) - Joint promotion initiatives (1) - Online and Onsite selling (1) - Tour package designs (1)	Promoting chains of local food producers through partnerships can feature local cuisine and support regional producers
Food service providers	Service space redesign (8)	- Open kitchens (4) - Decoration with cultural elements (3) - Off-site, nature-based food provision (1)	Offering compostable takeaway packaging reduces plastic waste and enhances the sustainability image of food service establishments
DMOs, hospitality-related associations	Certification or standards policies (7)	- Restaurant quality (3) - Quality and authenticity of local food (3) - Hotels' eco-label certification (1) - Local food certification (1)	Promoting local food certifications in supermarket chains can increase consumer trust and sales of certified local products through strategic placements
Food service providers, food market managers	Price adjustment (5)	- Inclusion of affordable dishes on menus (2) - Defining price ranges (1) - Price reduction (1) - Discount offers (1)	Offering occasional discounts on sustainable healthy food on menus during off-peak hours or themed months such as Veganuary for January
Accommodations, food service providers, food producers	Taste testing or sampling (5)	- Welcome packages (2) - Restaurant offers (1) - Farm offers (2)	Designing local food welcoming packages for self-catering tourists to provide a taste of the region and promote local food producers
Market managers, food service providers	Infrastructural changes (3)	- Setting up larger food areas for restaurants (1) - Reducing areas for stalls in the market (1) - Placing multicompartment waste bins (1)	Placing composting bins in easily accessible locations in dining or outdoor spaces to facilitate waste reduction and promote eco-friendly practices among tourists
DMOs, Food service providers	Decreasing or substituting (3)	- Demarketing all-inclusive holidays (1) - Demarketing imported products (1) - Substituting a la carte services for buffet serving styles (1)	Demarketing meat-based products originating from long-distance places by highlighting the carbon footprint can encourage local consumption and support sustainability

Travel agencies, DMOs	Pairing programs (1)	Combining tours in destinations (1)	Promoting olive with wine tours in suitable destinations can combine culinary and cultural experiences, attracting enthusiasts and promoting regional specialties
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To enhance tourists' ability to consume sustainable healthy food, tourism practitioners and policymakers should focus on education, persuasion, environmental redesign, and upskilling. Educational and persuasive interventions can encompass tailored and general information (Hassanli & Williamson, 2023). Destination marketing organizations (DMOs) are advised to target tourists lacking capability (e.g., neophobic tourists) or information familiarity using branding strategies (Birch & Memery, 2020). Food service providers and marketing managers can redesign environments by diversifying food choices, enhancing service quality, or offering tasting opportunities (Li & Wang, 2020). Tourist engagement programs, such as food-themed tours and cooking classes (Chen & Huang, 2019), can also address capability issues. Additionally, while building knowledge on sustainable healthy food is promising, cooking opportunities and recipes for tourists must align with these criteria.

To address motivational issues, food service providers should primarily focus on creating sustainable healthy food-related consumption values. This includes environmental redesign (e.g., enhancing sensory features, service space, menu design) and developing tailor-made programs for multi-stakeholder engagement (Badu-Baiden & Kim, 2022). A co-benefit approach, particularly merging cultural and environmental values, is recommended. Additionally, habit-based interventions, underutilized in tourism, should be explored (MacInness et al., 2022). Providers can implement ecological interventions (e.g., default vegetarian options, attractive food labels, more fruit and vegetable purchase points), incentivization (e.g., rewards for healthy choices), and, where culturally appropriate, coercive interventions (Riet et al., 2011).

To expand opportunities for tourists' sustainable healthy food consumption, efforts can concentrate on several areas. One approach is using branding strategies to enhance product marketability (Birch & Memery, 2020). Another involves reconfiguring food markets by expanding distribution channels (e.g., for alternative protein-based food), demarketing unhealthy products, and promoting innovative foods for neophilic tourists (Koc, 2013). These interventions require collaboration between restaurant chefs, market managers, and accommodation owners.

Additionally, expanding social opportunities involve training restaurant staff, local producers, residents, and tour guides, with key roles played by restaurant managers, market managers, and DMOs to accelerate the shift towards more sustainable healthy food consumption.

In summary, the Behavior Change Wheel for tourists' sustainable healthy food consumption (Figure 3) shows that research mainly focuses on reflective motivations, with less emphasis on psychological capabilities and physical opportunities. However, several areas need more attention. First, existing knowledge doesn't fully cover all COM-B model components, particularly automatic motivations, physical capabilities, and social opportunities. Second, while recommendations for interventions and policies exist, they are fewer than in the original model and need testing in real contexts to identify success factors. The authors suggest using 'upskilling' and 'environmental and social redesigning' instead of 'training' and 'environmental and social restructuring' to enhance clarity and readability. These points inform the discussion on future research and industry practices (**Figure 2.3**).

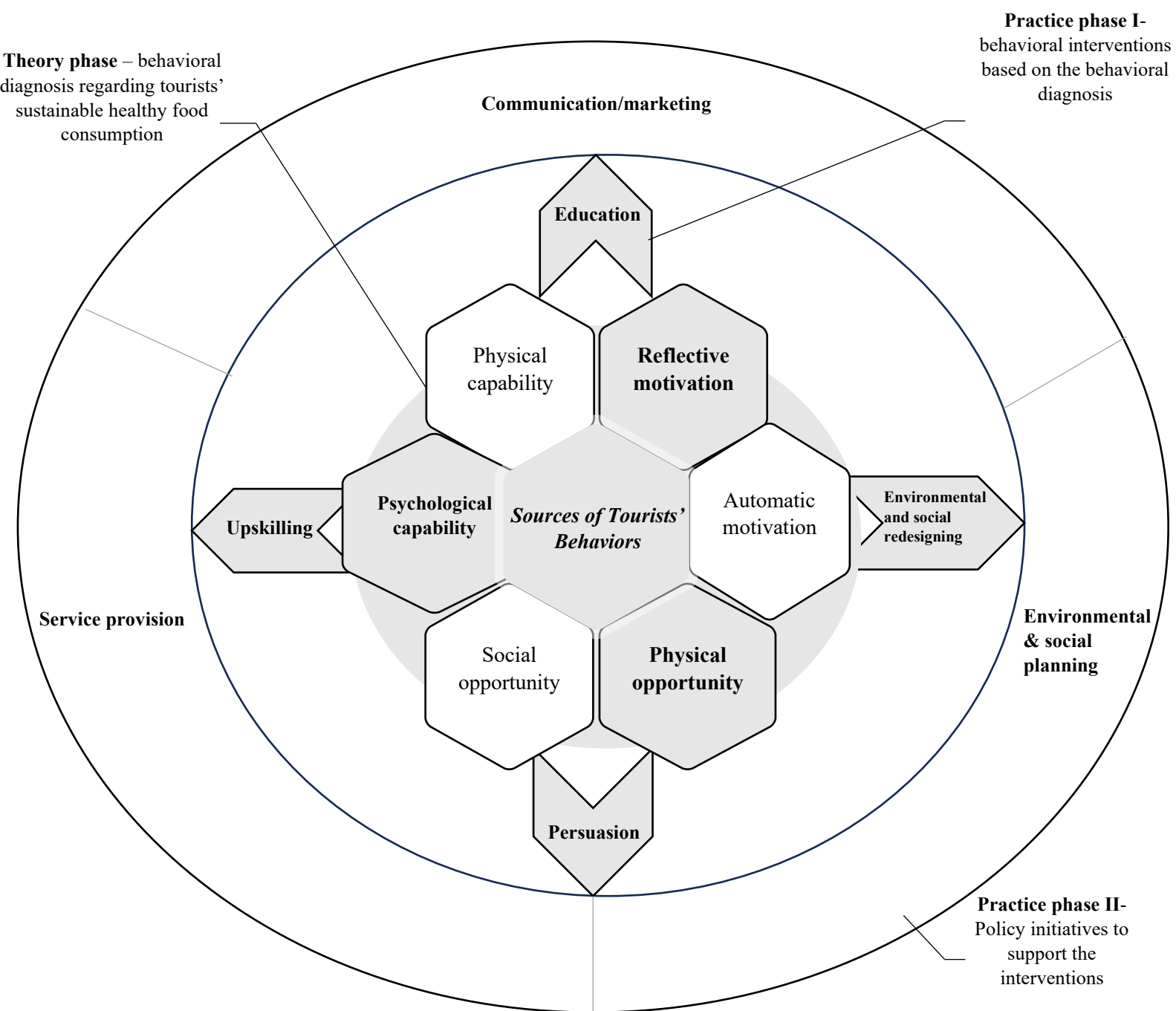


Figure 2.3 Proposed behavior change wheel targeting sustainable healthy food consumption in tourism

2.5 Discussion and Concluding Remarks

2.5.1 Theoretical Implications

A major direction for future research would be capturing the link between behavioral diagnosis and behavioral interventions. The literature on sustainable healthy food consumption in tourism focuses heavily on understanding or predicting tourists' behavior (i.e., a 'theory' stage), whereas attempts to develop, examine, or compare behavioral interventions are rare. The exceptions are Cozzio et al. (2022) and Dolnicar et al. (2020) who designed and tested certain sustainable healthy food interventions to enhance tourists' engagement with sustainable healthy food consumption. To facilitate intervention-based studies in tourism, the role of theoretical models is crucial (Michie et al., 2009), which needs to be explicitly addressed in future research.

Suitable theoretical frameworks indicate a full range of possibilities for interventions in a comprehensive manner (Michie et al., 2011). Not only do they pave the way for the accumulation of evidence, but also they facilitate establishing a common language across research groups (Atkins & Michie, 2015). While the use of explicit theories was considerable in the reviewed studies (41.4%), the motivation was rarely driven by developing effective behavior change interventions (Demeter et al., 2023). Therefore, future intervention-based studies must be theoretically driven while progressing towards the experimental stage.

Numerous theories underpin studies on behavior change (Hagger et al., 2020). The most prominent behavioral theories echoed in sustainable tourism literature include the Theory of Planned Behavior (Ajzen, 1991) and Value Belief Norm (MacInnes et al., 2022). However, there is an emerging consensus in recent tourism studies for a shift from predominantly cognitive-based theories (with an emphasis on tourists' beliefs and the role of norms) to frameworks that also consider non-cognitive determinants, such as automaticity, emotions, social influences, and physical capabilities. Suitable theories that encompass these aspects include COM-B model (Michie, 2011), Goal Framing Theory (Onwezen, 2023), the Stimuli–Organism–Response framework (Vieira, 2013), and Nudging (Cadario & Chandon, 2020).

Another promising theoretical avenue would be provided by the sociological theories that are highly underrepresented in tourism scholarship on sustainable consumption behavior (Wu et al., 2021), particularly regarding sustainable healthy food consumption. The exception was the study undertaken by Lee et al. (2014) investigating the role of habitus. This notwithstanding, there has

been a growing interest in conceptualizing consumption from the sociological perspective (Sahakian & Wilhite, 2014), which allows transcending the individual-focus in changing behavior in tourism (Spaargaren et al., 2016). Rather than individuals, social practices with their elements can constitute the unit of analysis in tourism studies (Shove et al., 2010). Further insights can also be provided by other sociological theories, such as the assemblage theory, which can provide a better understanding of tourism consumption (Volo & Wegerer, 2023).

In addition to theoretical models, the role of methodological approaches is also crucial in strengthening the link between behavioral diagnosis and interventions aimed at promoting sustainable healthy food consumption in tourism. This connection is largely unexplored in the existing literature. As mentioned earlier, studies focused on understanding or predicting tourist behaviors theoretically, rather than on developing, examining, or comparing practical behavioral interventions. To close this important gap, the adoption of field experiments should be encouraged (Demeter et al., 2023). The main merit of this methodological approach lies in enabling the establishment of the cause-and-effect relationships between behavioral constructs, thereby enabling the generation of actionable recommendations for hospitality and tourism stakeholders who are tasked with influencing tourists' food consumption behaviors (Viglia & Dolnicar, 2020). Furthermore, in comparison with hypothetical or lab experiments, field experiments can better capture the irrational elements embedded in tourist food consumption behavior in the real-world settings. Therefore, a greater attention should be invested into experimental studies to advance the practical applications of theories regarding sustainable healthy food consumption in tourism.

2.5.2 Practical Implications

This study suggests moving beyond the behavioral and policy initiatives identified in this review by exploring other areas of the Behavior Change Wheel. Regarding legislation and regulation, it is necessary to develop sustainable healthy food indicators for tourism destinations. This will help recognize and evaluate destinations to promote sustainable healthy food consumption. For instance, the inventory of sustainable healthy cuisines and vegan-friendly restaurants or vendors should be developed for destinations. Also, international organizations, such as the United Nations Tourism (UN Tourism) and the United Nations Environment Program (UNEP), should play a more proactive role in initiating regulatory schemes such as the codes of conduct, accreditation and certification programs, and best practices at local, regional, national, and international levels. International or regional funding bodies should support destinations in successfully implementing

strategies to promote sustainable healthy food consumption. These strategies could include offering vegan food options, developing alternative protein food sources, and reducing food waste. Additionally, initiatives should be undertaken to enhance training and establish business networks for exchanging the best practices in this area.

2.5.3 Directions for Future Research

Informed by the above theoretical and practical implications, specific directions for future research can be delineated (**Figure 2.4**). Underpinned by the COM-B model, this review has updated knowledge on the drivers and constraints of sustainable healthy food consumption in tourism. This knowledge could have, however, been more comprehensive and practically beneficial if: i) the link between behavioral diagnosis and behavioral interventions was better examined (Demeter et al., 2023); and ii) more attention was paid to some aspects of behaviors, including automatic motivations, social opportunity, and physical capability. To address these two issues, a set of specific directions for future research can be outlined:

a) Enriching intervention-based studies through co-benefits approach or longitudinal approach: This review shows that tourists' (reflective) motivations to consume sustainable healthy food have much more to do with their cultural motivations rather than with their pro-environmental motivations. This can present an ample opportunity to merge cultural values with environmental values through a value-based messaging approach (Higham et al., 2024) to enhance the efficiency of sustainable healthy food interventions in tourism. To achieve this, similar to health persuasion (Higham et al., 2024), "cultural persuasion", encompassing such values as epistemics, authenticity, novelty, prestige, and familiarity, can be proposed to nudge tourists' sustainable healthy food consumption. Also, a longitudinal approach can open up additional opportunities for the development of intervention-based studies in tourism (Organ et al., 2015). For instance, these studies can target tourist participation programs, such as cooking classes, and the role of other stakeholders, such as restaurant staff, local food producers, and local residents in influencing tourists' sustainable healthy food consumption.

b) Incorporation of capability components into interventions: Given the growing research interest in food neophobia and neophilia in tourism literature, sustainable food neophobia could be an interesting topic for extensive, in-depth investigation. Future studies could compare this issue in tourism with home food consumption and explore the factors influencing sustainable food neophobia in tourism. Additionally, the effectiveness of interventions, such as food sensory

features and tailored information, can be explored through observational and experimental research methods.

c) Inclusion of social opportunity into intervention designs: To unlock the untapped potential of this behavioral component in designing interventions, several concepts and frameworks can be beneficial. For instance, representing the middle level between agency and structure, the role of religious traditions and family upbringing in certain societies is worth considering (Filimonau et al., 2022). Additionally, intergenerational influences can provide interesting insights into the formation of social drivers of sustainable healthy food consumption during holiday (Filimonau et al., 2023). Further insights can be supported by the Higgs and Ruddock's (2020) framework to study social influences (i.e., modelling, impression management, and social facilitation of eating) on eating behaviors of younger tourists, in particular. For instance, future research can investigate the extent to which the characteristics of eating companions (e.g., vegan versus carnivorous) or social media influencers can affect tourism sustainable healthy food choices.

d) Non-cognitive determinants of behaviors: Habits and emotions are perceived as the non-cognitive determinants of behaviors (Michie et al., 2011), whose influences on sustainable healthy food consumption have not yet been investigated. Future research could examine how emotions like guilt, disgust, and anger influence behaviors such as food waste reduction (Russell et al., 2017). Similarly, studies could focus on the impact of affective nudges, such as portraying animal farms, on tourists' meat consumption behaviors (Mathur et al., 2021). Riet et al.'s (2011) approach to changing habits, encompassing changing performance cues, triggering (or inhibiting response), and changing behavior contingencies, can guide this line of future tourism-based studies. For instance, the role of habits in the design of nudging strategies associated with portion size, serving utensils, and menu design can be investigated.

e) Considering a more comprehensive range of food-related processes: Further insights into tourists' sustainable healthy food consumption behavior can also be obtained by going beyond the consumption process (i.e., the physical digestion of food), where other food-related processes, such as shopping, ordering, and food preparation, can be considered. An example of this can be a comparative study into all-inclusive holiday and self-catering accommodation in terms of food waste generation. This future line of research may also capture such newly established restaurants as menu-less restaurants as well as traditional hot pot restaurants, as a context of study, where tourists are provided with more freedom to choose what food to consume and how to consume it.

Additionally, food takeaways (e.g., online food delivery) in the tourism context represent an under-investigated research domain to be considered.

Directions for future research	Theory-informed	Practice-informed
Going beyond the environmentally sustainable focus - How can cultural persuasion messages such as authenticity and prestige promote sustainable food consumption? - Whether/how cooking classes can serve as agents for sustainable healthy food consumption?	Cultural acceptability components of sustainable healthy food consumption	Evoking tourists' sensations, hedonism, prestige, authenticity, and epistemological seeking
Incorporation of capability components into interventions - In what ways can goal framing theory be useful for explaining tourists' H&S behavior? - Which sensory experiences are more salient for food-neophobic tourists compared to food-neophilic tourists? - How can this contribute to memory formation regarding sustainable healthy food consumption?	More attention towards tourists' food-related traits	Focusing on upskilling, knowledge-building, and food market reconfiguration strategies
Inclusion of social opportunity into intervention designs - Does the presence of vegan (vs. carnivorous) eating companions affect tourists' food consumption choices? - How does traveling in business groups (vs. leisure groups) influence tourists' sustainable food choices? - How comparable are tourists' eating patterns in home-based accommodations versus collective meal settings	Emphasis on social factors such as family upbringing	Facilitating modeling and social impressions on sustainable healthy eating
Non-cognitive determinants of behaviors - In what ways can control theory contribute to designing intervention in the context of tourists' food consumption? - How comparable is the efficiency of self-regulatory-based interventions with educational interventions in terms of tourists' sustainable healthy food intake?	Focus on habitual and emotional aspects of behavior	Promoting interventions based on choice architecting
Considering a wider range of food-related processes - How can healthy food choices on all-inclusive holidays be promoted by tour operators? - How can environmental sustainability be communicated to guests by fine dining restaurants?	Wider attention towards food systems or food supply chains	Engaging different hospitality segments and stakeholders

Figure 2.4 Directions for future research into sustainable healthy food consumption in tourism with potential theoretical and practical implications (with proposed research questions in red color)

2.5.4 Limitations

The present study has two main limitations. First, the search strategy and the eligibility criteria designed for the conduct of this review were deliberately kept comprehensive to ensure an extensive understanding and coverage of the area of interest. However, some studies may have excluded due to key word choices. Second, limiting the selection to Q1 and Q2 peer-reviewed tourism and hospitality journals might have excluded relevant studies from other journals, theses, dissertations, conference papers, and reviews.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Chapter 3 Exploring sustainable healthy food consumption in self-catering holidays

This chapter introduces the second study of this thesis, an empirical research paper published by the Journal of Travel Research (Salehi et al., 2025). Section 3.1 establishes the background of research. Section 3.2 reviews the literature on sustainable healthy food consumption in the self-catering holiday context and introduces a novel practice-based conceptual framework. Section 3.3 details the methodology applied in this exploratory study. Section 3.4 presents and discusses the findings based on the conceptual model. Finally, Section 3.5 outlines the theoretical implications and offers managerial recommendations for self-catering accommodation providers.

Abstract

Sustainable healthy food consumption in tourism yields reciprocal benefits for tourists, food service providers, local communities, and the environment. However, its complex determinants call for a new practice-based conceptual framework to explore how such consumption occurs and evolves during self-catering holidays. Unlike all-inclusive tours, self-catering holidays uniquely mirror ‘normal’ home living, engaging tourists in the entire food consumption journey. Thematic analysis of 28 in-depth interviews reveals how holiday dynamics, conceptualized as holiday appropriation steps, influence the evolution of sustainable healthy self-catering practices. ‘Nesting’ within the self-catering setting encourages convenient meal preparation and adherence to dietary preferences, both of which require sufficient cooking skills and suitable kitchen facilities. ‘Investigating’ the destination’s food environment enables sustainable healthy choices when options are accessible, affordable, and aligned with self-caterers’ preferences and waste management expectations. Finally, ‘stamping’ through shared experiences and cultural immersion can embed local elements into tourists’ sustainable healthy self-catering practices.

Keywords: Food consumption, practice theories, public health, environmental conservation, self-catering holidays.

3.1 Introduction

Tourism can aid in the global advancement towards the Sustainable Development Goals (SDGs) (Force et al., 2018). This is especially relevant for holiday food consumption as food represents a core element of travel experience, a determinant of holiday choices (Cohen & Avieli 2004), and a strategic entry point for advancing Sustainable Healthy Diets that support human health, planetary health, social equity, cultural appropriateness, and economic viability (Food and Agriculture Organization [FAO] & World Health Organization [WHO], 2019). Aligned with these goals, tourists should be encouraged to practice more sustainable healthy diets (Salehi et al., 2024) exemplified by increased consumption of plant-based foods and reduced consumption of meat (Macdiarmid, 2019). However, structural barriers, such as the uneven accessibility and affordability of sustainable healthy foods (Paik et al., 2024), coupled with cultural ideologies like carnism, continue to hinder progress (Joy, 2009). Consequently, tourists' food choices often gravitate toward all-inclusive packages where hotel buffets are conducive to excessive eating, meat-centric meals, and significant food waste (Filimonau et al., 2023; Koc, 2013). In contrast, self-catering holidays offer a promising, but underexplored, opportunity for advancing sustainable healthy diets in tourism (Therkelsen, 2015). By enabling travelers to exercise greater personal agency through the entire food journey (Green et al., 2021), while reducing reliance on industrial food systems (Yao et al., 2025), self-catering contexts create space for more agentic sustainable healthy food choices. Unlocking this potential requires targeted interventions to enhance sustainable healthy food practices in self-catering holidays.

The present study focuses on behavioral change strategies to advance sustainable healthy food consumption during self-catering holidays. Behavioral change is widely recognized as essential to advancing sustainable healthy dietary practices (Graça et al., 2019), including in tourism contexts (Salehi et al., 2024). However, the best strategy to facilitate such changes among tourists is debated (Dolnicar et al., 2024). The literature emphasizes the need to move beyond examining pro-social consumer attitudes in tourism to more closely investigating actual behaviors, especially the ones shaped by consumer habits and routines (Kurz et al., 2015). This is particularly relevant to understanding sustainable healthy food consumption, where ingrained habits (Kaman & Yazicioğlu, 2024) and carnism ideologies (Joy, 2009) play significant roles. Kurz et al. (2015) identify two disciplinary approaches to this theoretical shift: social psychology and sociology. The latter – referred to as practice-based sociological perspective – offers a more comprehensive lens

by moving beyond individual motivation to account for the socio-material arrangements and shared meanings that constitute food practices (Spaargaren et al., 2016). These dimensions are often overlooked by the former, which tends to focus narrowly on individual attitudes and behavioral habits (e.g., MacInnes et al., 2022). Despite its benefits, the practice-based sociological approach remains underexplored in tourism scholarship on sustainable healthy food consumption (Salehi et al., 2024). This study reclaims this gap by adopting a practice-based sociological lens to unlock the potential of self-catering holidays in advancing sustainable healthy food consumption.

The focus on self-catering holidays offers a novel contribution to both theory and practice (Johns & Lynch, 2007). Theoretically, high-enjoyment contexts, such as all-inclusive holidays, have been the focus of most research in sustainable tourism scholarship (Albrecht et al., 2024), at the expense of lower-enjoyment contexts, such as self-catering holidays, which more closely resemble everyday home life (Johns & Lynch, 2007). However, self-catering holidays – less influenced by industrial food systems (Yao et al., 2025) – uniquely empower tourists to exercise personal agency by independently purchasing food, preparing meals, and managing food waste (Green et al., 2021). These socio-material arrangements can support all dimensions of sustainable healthy food consumption: tourists can source affordable food (economic viability) from local or farmers' markets (environmental impact), prepare home-cooked meals that align with their health, cultural, and dietary preferences (health and cultural appropriateness), minimize food waste (environmental sustainability), and contribute to the local economy by supporting small businesses and communities (social equity). Practically, the long-standing significance of the self-catering holiday segment to the tourism industry and broader economy is well established. In the UK alone, it accounts for £2.6 billion in visitor spending and contributes £1.98 billion to the economy (The Professional Association of Self Caterers UK, 2021). Yet, despite the importance of these holidays, there remains a notable gap in understanding how food practices within self-catering holidays may enable or constrain sustainable healthy eating.

To this end, this study conceptualizes sustainable healthy food consumption in self-catering holidays from a sociological perspective and explores the relevant enablers and constraints. Practice theories and the holiday appropriation framework, both focusing on 'practice' as the unit of analysis, guide this study in answering the following research questions: How do tourists perform sustainable healthy food practices during self-catering holidays? And, under what

circumstances can sustainable healthy food practices occur during self-catering holidays? Practice theories aid in establishing important linkages between holiday and everyday food practices, thereby enriching the holiday appropriation framework by introducing the roles of proto-practices, enhanced practices, and ex-practices in a tourism context (Shove et al., 2012). This integrated approach advances beyond earlier conceptual models, such as Quan and Wang's (2004) framework. It views tourism as opposing, extending, or intensifying everyday experiences, but overlooks the dynamic interplay of materials, competence, and meaning in shaping food-related practices. Incorporating the three steps of nesting, investigating, and stamping (togetherness) (Isabelle et al., 2019), the holiday appropriation framework enables a more dynamic and nuanced understanding of how certain holiday conditions can facilitate or constrain the evolution of food-related practices in tourism. Practically, this study contributes to the design of informed behavioral and policy interventions aimed at encouraging sustainable healthy food consumption during self-catering holidays.

3.2 Literature review

3.2.1 Sustainable healthy food consumption in tourism and self-catering holidays

The concept of sustainable healthy food consumption has recently been highlighted in tourism as a promising approach for advancing the industry toward sustainable development goals (Salehi et al., 2024). This multi-benefit dietary approach encompasses health and well-being, environmental conservation, food accessibility, affordability, safety, and cultural acceptance (FAO & WHO, 2019). In tourism, it has the potential to sustain tourists' healthy diets, foster engagement between tourists and local stakeholders to support the local economy and cultural preservation, promote environmental conservation, and provide culturally appropriate and affordable food options (Salehi et al., 2024). Ultimately, sustainable healthy food consumption can generate reciprocal benefits for local communities, tourists, and the environment.

Despite the growing scholarly attention to sustainable healthy food consumption in tourism, this field of research suffers from several limitations. First, the field remains theoretically underdeveloped. Much of the existing research relies on individual-centric models, such as consumption value theory (e.g., Soltani et al., 2021) and the attribute-benefit-value-intention framework (e.g., Kim & Choe, 2019), limiting the ability to account for the broader interpersonal,

systemic, and material influences on consumption practices (Bui et al., 2024). Recent studies have begun to address this gap using approaches such as assemblage theory (Lin et al., 2022) and the socio-ecological model (Hiamey et al., 2021), which acknowledge multi-level influences. However, while assemblage theory offers a valuable lens for capturing complexity and interconnectivity (Volo & Wegerer, 2023), it lacks the conceptual capacity to trace the routine trajectory of practices and explain how they are sustained, disrupted, or reconfigured over time. In contrast, this study applies practice theories, complemented by the holiday appropriation framework, to offer a more structured and process-oriented understanding of tourists' sustainable healthy food practices.

Second, this research area has a limited thematic focus, concentrating on food consumption as the physical act of digestion, thereby disregarding the entire food journey, including food acquisition, storage, preparation, and cooking, but also meal organization and food waste management (Salehi et al., 2024). Consideration of all elements of the food journey, thus adopting a lifecycle perspective, is necessary to provide a holistic view on the enablers and inhibitors of sustainable healthy diets in tourism and identify areas for most effective interventions. Moreover, only a few studies, such as Lee et al. (2014) and Slocum and Curtis (2016), have examined differences between home and holiday food consumption from a sustainability perspective. However, their focus was largely on behavioral continuity rather than discontinuity, and their scope was limited to specific tourist segments like slow food enthusiasts or national park visitors, without capturing the full spectrum of the food consumption journey. This study aims to address these research gaps by exploring sustainable healthy food consumption in self-catering holidays.

Research on sustainable healthy food consumption in self-catering holidays is scarce. While research has examined pro-environmental behaviors in these settings, it has focused on energy saving and plastic reuse behavior (Xie & Gjerald, 2022), showing minimal differences between Airbnb and at-home behaviors. This study adds to knowledge by exploring sustainable healthy food practices in self-catering holidays through a sociological lens, drawing on practice theories and the holiday appropriation framework.

3.2.2 Theoretical underpinning

3.2.2.1 Practice theories

Practice theories offer a distinctive perspective on the operation of social life as they consider social reality to be constituted by practices that are created and sustained across time and space (Giddens, 1984). At the heart of practices is the dialectic interplay between social structures and individuals (Bourdieu, 1990). Once practices are produced and then reproduced, they reinforce the properties of both agents (e.g., agency, intentionality, reasoning) and structures (e.g., rules and resources). Based on this mutual, intertwined relationship between agents (performers) and structures, practice theories suggest a shift in the unit of analysis from individuals/structures to practices (Spaargaren et al., 2016), which enables capturing the complexities of social realities (de Souza Bispo, 2016).

Nicolini (2012) proposes two analytical lenses in examining practices: *zooming in*, which focuses on the detailed dynamics of individual practices, and *zooming out*, which examines how practices connect within broader systems. Aligned with the *zooming in* approach, Shove et al. (2012) suggest that each (individual) practice is produced from the reciprocal interaction of three fundamental elements: 'materials' (e.g., bodies, things, technologies), 'competencies' (e.g., skills, know-how), and 'meanings' (e.g., symbolic meanings, ideas). These elements are not static but evolve through performance: “practices come into being as links between elements are established through performances, evolve as new elements and/or new interlinkages are (per)formed and disappear as links are broken” (Hue et al., 2017, p.83). For example, the availability of unfamiliar kitchen appliances may prompt changes in cooking practices, requiring new competencies or shifting the meanings attached to certain meals. This recursive interplay illustrates the mutually constitutive nature of practice elements and is critical for understanding how sustainable food practices emerge, adapt, or dissolve in the varied and situational context of self-catering holidays.

Aligned with the *zooming out* approach, (un)sustainable (un)healthy self-catering practices during holidays are interconnected. Food preparation and storage, for instance, are contingent on food acquisition. This perspective extends Warde’s (2013) conceptualization of eating as a compound practice encompassing food supply, cooking, meal organization, and aesthetic judgments. By emphasizing sustainable healthy food consumption, our study builds on Warde’s framework by incorporating additional interconnected practices – food storage, preparation, and waste management – into the consumption journey. This broader view allows capturing important nuances regarding sustainable healthy food consumption. While Warde (2013) suggests that food

supply leads directly to cooking, in practice, food may first require storage or preparation. For example, an onion must be peeled before frying, and perishable items like steak may spoil if left too long in the fridge. Each of these examples introduces opportunities for food waste (Filimonau & Delysia, 2019), highlighting the need to consider the entire journey of practices to understand sustainable food consumption in self-catering contexts.

Figure 3.1 illustrates how these '*zooming in*' and '*zooming out*' analytical approaches can be applied to sustainable healthy self-catering practices.

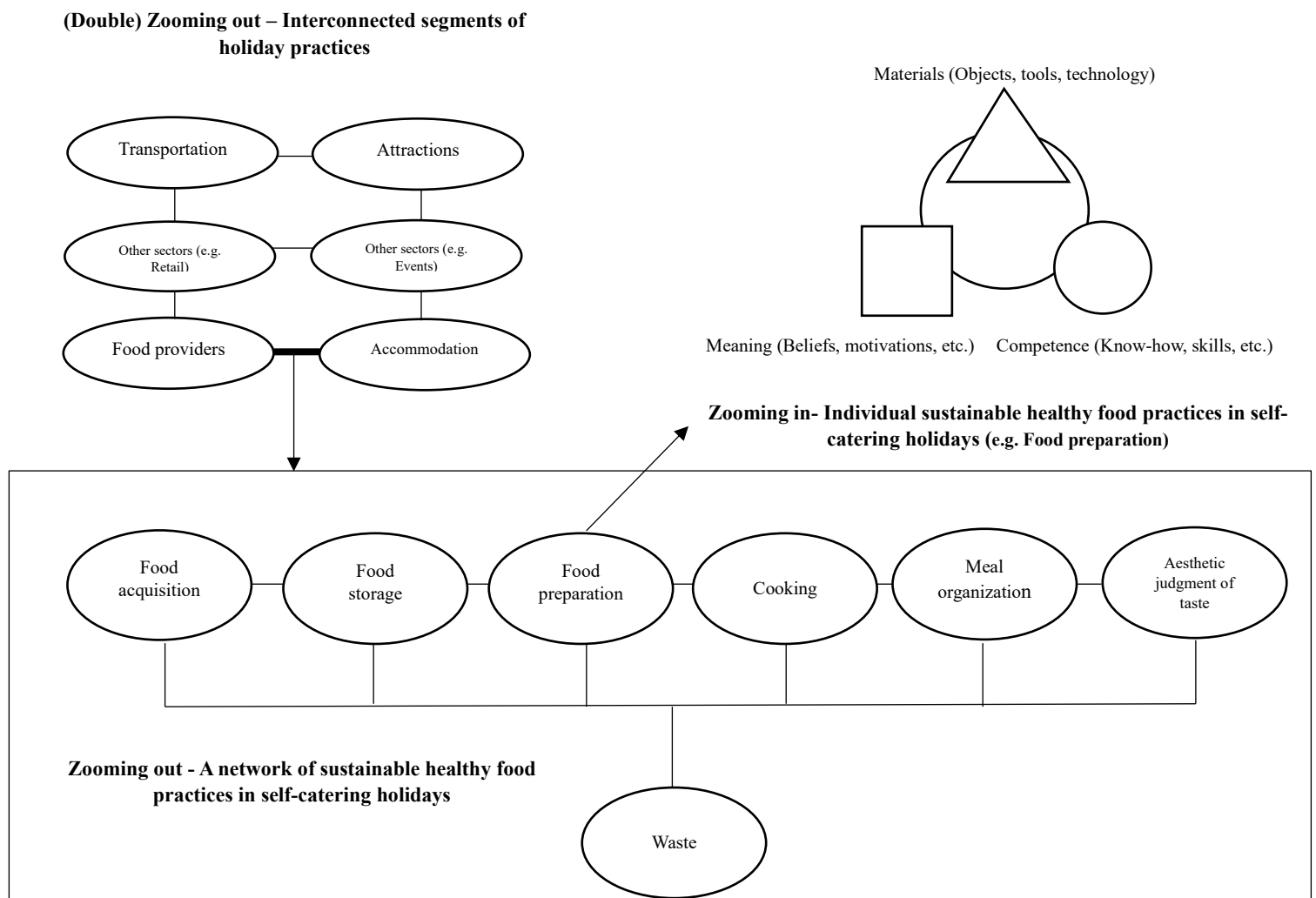


Figure 3.1 Zooming in and out regarding self-catering practices during holiday, adopted from Nicolini (2012) and Ward (2013).

Building on the zooming-out lens, our study further conceptualizes the connection between home and holiday practices using Shove et al.'s (2012) modes of practice framework (**Figure 3.2**). This approach is informed by the intertwined nature of self-catering practices across both contexts. Individuals exercise significant personal agency in both the provision and consumption of self-catering (Green et al., 2021), while the socio-material arrangements in these settings are similarly structured by broader industrial systems (Yao et al., 2025). As a result, practices may align or diverge across home and holiday settings. For example, a self-catering tourist may choose to buy local onions during their holiday rather than greenhouse-grown ones from a supermarket, reflecting different material choices. However, the practice of cooking it may remain the same if a tool (e.g., a frying pan) is available to them and if they understand how to use it, thus utilizing the same competency and meaning as if they were at home. Figure 3.2 illustrates how this interconnection between home and holiday practices can take multiple forms.

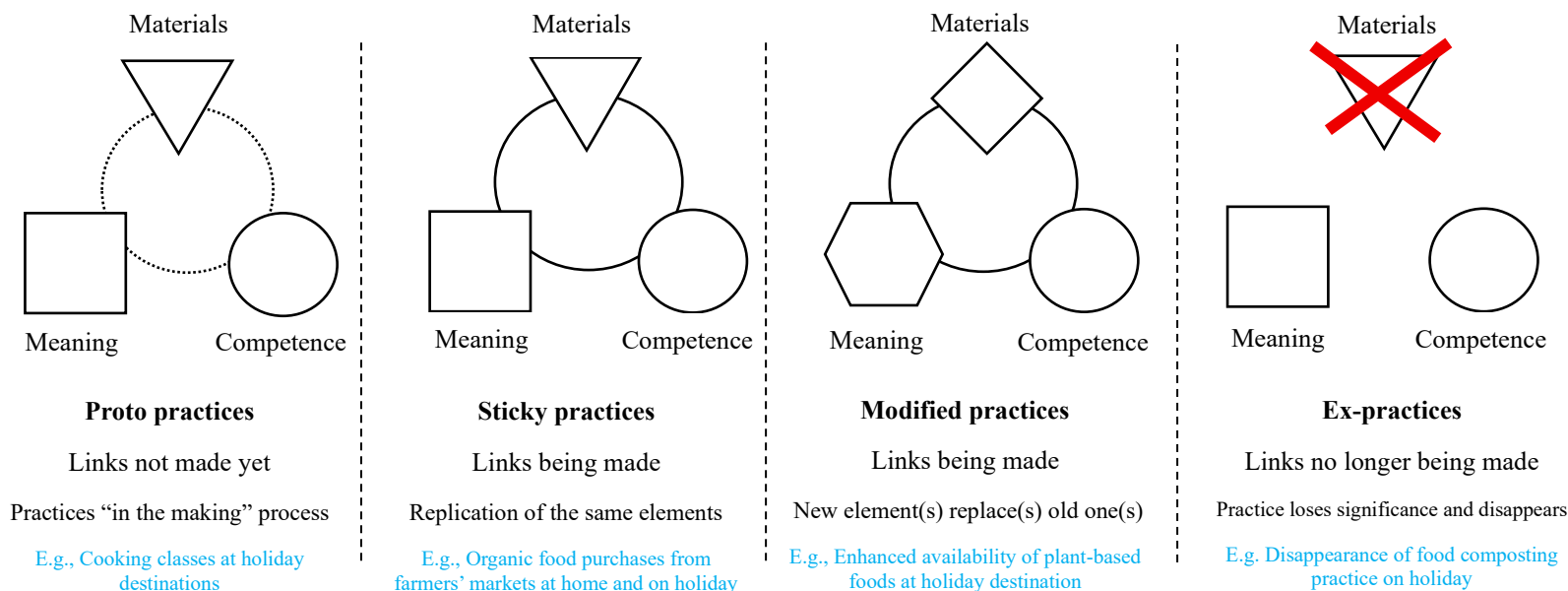


Figure 3.2 Modes of practice adopted from Shove et al. (2012) with examples from the holiday context. The cross-out symbol indicates the lack of a practice element.

Proto practices refer to emerging, novel activities that remain niche (Seyfang & Gilbert-Squires, 2019), such as participating in cooking classes or using online recipes during holidays. These practices can introduce new materials, meanings, and skills to holiday self-caterers. In contrast, sticky practices (Keller et al. 2022) involve the transfer of the same practice element from home

to the holiday context. Examples of sticky practices may include food composting whereby if tourists compost food at home, they can continue this practice on holiday, subject to available facilities in their ‘holiday’ home. Similarly, tourists with access to economic and cultural resources to prioritize organic food may sustain this practice while self-catering by seeking out farmers’ markets at their holiday destinations. Modified practices suggest either distortion or enhancement of home-based practices during holidays. For example, the increase in temperature during a holiday may prevent self-caterers from storing purchased or leftover food at room temperature as they would at home (distortion). On the other hand, the wider availability of vegetarian food options at a destination, such as tofu in Indonesia, can encourage tourists to consume this food more often than if they were at home (enhancement). Ex-practices refer to the temporary abandonment of home-based practice due to the absence or lack of certain practice elements (Shove et al., 2012). For example, the lack of food composting facilities at holiday accommodations can lead tourists to discontinue the practice of food composting when away from home. Similarly, influenced by the perceived temporary nature of holidays, holiday self-caters may discontinue their calorie-counting practices from home.

To our knowledge, sociological approaches have rarely been used in tourism research to dissect the relationship between tourists’ (food) consumption patterns at home and on holiday. Yet, such perspectives are essential for moving beyond linear behavioral models like the Theory of Planned Behavior (Ajzen, 1991) and the Value-Belief-Norm theory (Stern, 2000), by offering a middle ground between agency and structure. While sociological concepts such as Bourdieu’s (1990) habitus have informed past studies (e.g., Lee et al., 2014), they present theoretical limitations compared to the practice-based approach adopted in this study (Shove et al., 2012), which emphasizes the dynamic interplay of materials, competencies, and meanings over individual dispositions. In this way, this study responds to Barr et al.’s (2010) call to reframe the notion of sustainable lifestyles in tourism by applying a more robust sociological lens to explore the evolution, reconfiguration, and dissolution of (un)sustainable (un)healthy food practices in tourism. To understand the holiday circumstances underlying the evolution and occurrence of these practices, the concept of holiday appropriation is integrated into the study’s conceptual framework, as explained in the following section.

3.2.2.2 Holiday appropriation framework

The concept of appropriation explains how individuals immerse themselves in consuming products and services, such as food on holiday (Carù & Cova, 2006). This immersion fosters a sense of connection by reducing psychological distance from the experience. While similar to 'flow' (Csikszentmihalyi, 1990), which emphasizes internal absorption, appropriation focuses on the actions and conditions that facilitate immersion rather than underlying cognitive mechanisms. (Carù & Cova, 2006).

Isabelle et al. (2019) first introduced the appropriation framework to explore routines in travel experiences. Particularly, they identified three holiday appropriation steps, namely nesting, investigating, and stamping (also called togetherness) involved in the formation of tourists' routines within a one-week stay at a ski resort. Nesting refers to anchoring mentally and physically into new situations in a destination when tourists begin feeling like they are at (new) home, often through mundane practices like cooking, cleaning, and sleeping. Investigating refers to bodily actions tourists perform to experiment with new aspects of the holiday and extend their territory. This step deals with a sense of discovery and includes activities such as finding new places to visit in unfamiliar destinations. Stamping occurs when tourists assign personal meaning to their experiences, often by sharing good times and creating memories.

The integration of holiday appropriation concept into practice theories can enrich our understanding of tourists' sustainable healthy self-catering practices. This is because this combined theoretical approach has a paradigmatic compatibility since both practice theories and appropriation framework prioritize practices over individuals as the unit of analysis. This integration benefits both sides: practice theories enrich our understanding of holiday appropriation in terms of what mix of practice types (e.g., sticky, proto, modified, and ex-practices) constitute routines within each holiday appropriation step. Such understanding is limited in Isabelle et al. (2019) where they only document mundane and disruptive practices, such as cooking and temporary insomnia, respectively, when on holiday. Conversely, the appropriation framework can explain the emergence and co-existence of different practice types, exemplified in the previous section, within each appropriation step related to routines on holiday. This novel interaction approach between practice theories and appropriation framework is illustrated as a conceptual framework for this study in **Figure 3.3**.

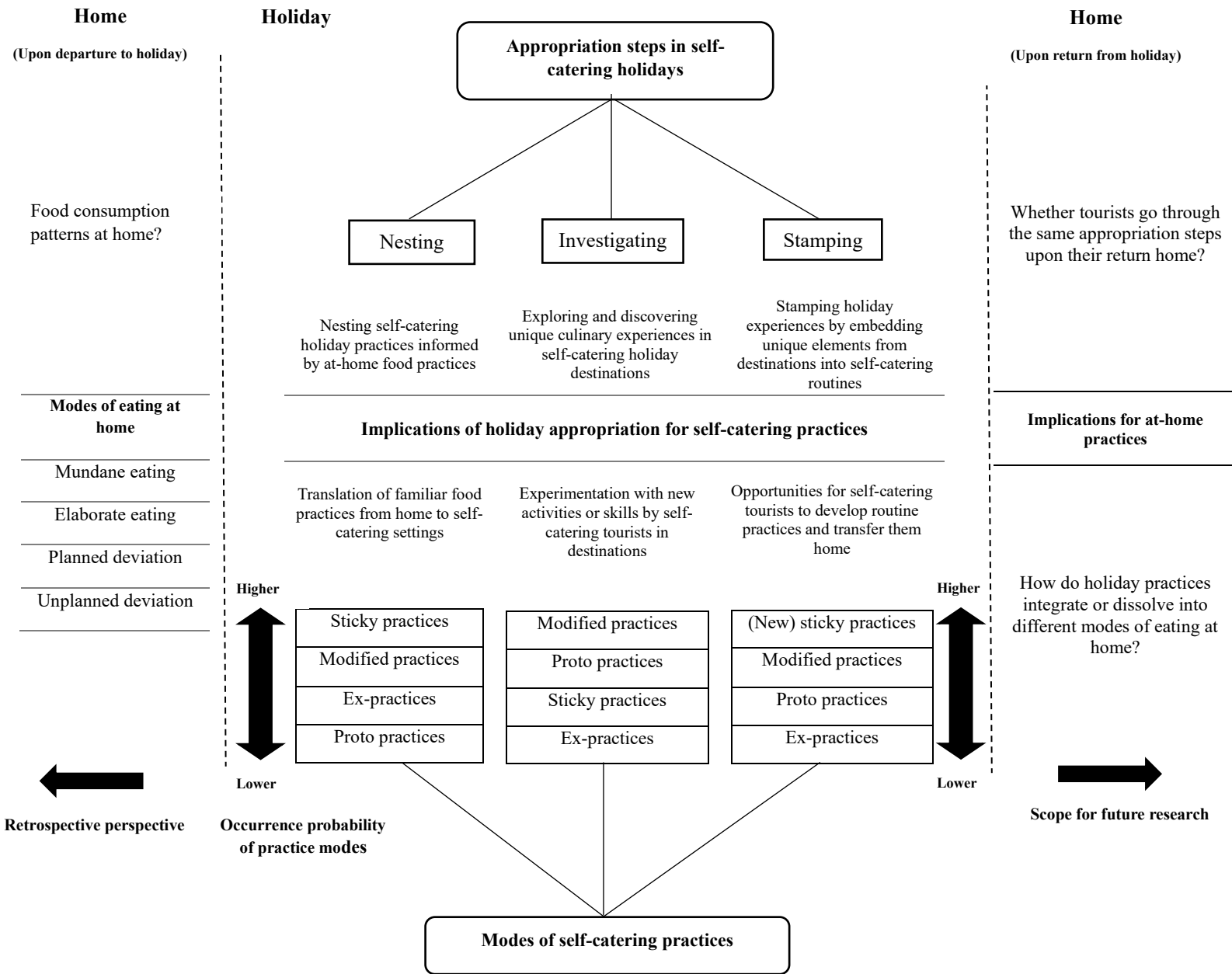


Figure 3.3 Conceptual framework- Modes of practices within self-catering steps adopted from Shove et al.'s (2012) practice theory and Isabelle et al.'s (2019) holiday appropriation framework.

Each appropriation phase in the holiday appropriation framework involves a co-existence of practice types, each with varying likelihood. In the nesting phase, self-caterers typically rely on ‘sticky practices’, like cooking and eating the same food as at home, to establish familiarity and accommodate their food preferences within the new environment. The familiar material setting of self-catering accommodation facilitates a range of actions similar to those at home, allowing guests to apply known competencies, such as culinary skills. This familiarity may reduce the likelihood of ex-practices and novel (proto) practices emerging during this step.

Within the investigation phase, self-caterers are more likely to engage in modified or proto practices as they explore local offerings unless the holiday environment strongly resembles home as seen in domestic holidays. For instance, shopping at farmers' markets instead of supermarkets during their holidays to obtain cooking ingredients may represent a modified routine.

In the stamping phase, depending on the stay length and the smoothness of the previous holiday steps, self-caterers may consolidate new sticky practices developed during their self-catering holidays. For instance, regular visits to local producers may become habitual. Our study explores how sustainable healthy food consumption can be integrated into self-catering holiday appropriation steps and identifies the drivers and constraints of this integration.

Furthermore, inherent to the conceptual framework of this study (Figure 3) is the relationship between holiday food practices and food consumption at home. This can be viewed from two perspectives: the influence of past at-home practices on holiday practices (retrospective) and the influence of holiday practices on at-home practices (prospective). In considering both views, it is important to account for different modes of eating at home, as outlined in a practice-based framework proposed by House (2019). He introduced four modes of everyday eating: mundane, elaborate, unplanned deviation, and planned deviation. The mundane mode focuses on functionality, ease, and convenience, whereas the elaborate mode involves more emotion and care, achieved through longer, more elaborate meals, such as cooking for a romantic partner. Individuals at home may also experience unplanned deviations from mundane eating, such as when they are unable to do typical shopping and cooking and then opt for a ready meal or a take-away meal. In contrast, planned deviation may involve actions like preparing Christmas meals on infrequent, celebratory occasions. Our study adopts a retrospective perspective, focusing on the mundane mode of eating at home to compare it with food practices during self-catering holidays.

3.3 Methodology

3.3.1 Methods

This study is grounded in social constructivism and adopts a qualitative approach to explore tourists' sustainable healthy food practices during self-catering holidays. Social constructivism emphasizes the social production and reproduction of meaning and experience, rather than viewing these as inherent to individual motivations or psychology (Braun & Clarke, 2006). This aligns with our theoretical framework, which treats practice as the unit of analysis. Qualitative methods are particularly suited for capturing the complexity of practices, including the interplay of human and non-human elements involved in the configuration of sustainable healthy food behaviors (de Souza Bispo, 2016), the emotions they invoke, and the assumptions they reveal (Lamer et al., 2017). Given the paucity of research on self-catering holidays and sustainable healthy food consumption in this context, a qualitative design is appropriate for exploring this under-researched phenomenon (Creswell & Clark, 2018). The study's use of open-ended 'why' and 'how' questions further facilitate in-depth exploration of participants' perceptions and actual behaviors related to their self-catering food practices (Jones et al., 2013).

3.3.2 Interview guide design

A semi-structured interview protocol was developed before data collection, informed by social constructivist approaches (Creswell & Poth, 2016). This perspective emphasizes the co-construction of shared meaning and the socio-material conditions shaping individuals' accounts of (un)sustainable and (un)healthy self-catering practices, both at home and during holidays (Braun & Clarke, 2006). Semi-structured interviews, with open-ended prompts, allowed participants to construct meaning and contextualize their self-catering experiences within broader historical and cultural frameworks.

Reflexivity was integral throughout the research process. The researcher's lived experience in both traditional agrarian and modern societies, combined with self-catering travel experiences in these settings, provided valuable insider knowledge. This background facilitated a deeper understanding of participants' feelings and helped elicit aspects of their practices that might otherwise have been taken for granted. Additionally, the researchers' expertise in sustainable healthy food consumption further contributed to the meaning-making process, particularly in clarifying key concepts such as 'sustainable food' and 'healthy food' consumption. Pilot interviews revealed that these themes

often required initial framing to prompt discussion. Thus, conceptual guidance was introduced at the outset in a neutral, open-ended manner to ensure mutual understanding without presuming participants' alignment with health or sustainability values.

As shown in **Appendix A1**, the main interview questions explored elements of food practices: materials (e.g., ingredients, equipment, waste infrastructure), competencies (e.g., knowledge of storage and cooking), and meanings (e.g., dietary needs, family roles, and values). Participants were asked to reflect on how these practices differed between home and holiday settings, offering insights into the evolution and dissolution of practices. They were also asked about meal planning during the initial days of their self-catering holidays to uncover how routines of (un)sustainable and (un)healthy food consumption emerged or evolved in the holiday context, aligned with the holiday appropriation framework. The interview concluded with questions on key barriers and facilitators of sustainable healthy food consumption during self-catering holidays. To ensure content and face validity, questions were piloted with hospitality and tourism experts. During data collection, interview questions were continuously refined for clarity and responsiveness to emerging themes.

3.3.3 Recruitment and data collection

Participants met two criteria. First, they had taken self-catering holiday activities, domestically or internationally, at least once within the past two years, ensuring accurate recall (Cohen & Conway, 2007). Second, they were UK-based, providing a common ground, given that self-catering accommodation is a substantial element of the tourism supply in the UK, with 86,445 properties and 9.5 million visitor nights per year (The Professional Association of Self Caterers UK, 2021). Also, this sector is diverse and fast-growing, despite the impact of the COVID-19 pandemic (The Professional Association of Self Caterers UK, 2021). This focus also enabled exploration of comparable domestic holiday experiences.

Purposive and snowball sampling were used to identify participants with relevant profiles and access a hard-to-reach populations (Czernek-Marszałek & McCabe, 2024). Self-catering holidays are often presumed to have lower marketing visibility compared to hotel accommodations, making it more challenging to identify and recruit participants who engage in this type of holiday (Flognfeldt & Tjørve, 2013). Initial participants were recruited via a research member's personal contacts; subsequent participants were identified through snowballing and purposive sampling,

which expanded the participant pool beyond the researcher's immediate network. Participants varied in age (20-60), nationality (European, Asian, Middle Eastern, and American), self-catering holiday destinations (domestic and international), and food consumption patterns (dietary restriction, backpacking, regular, responsible) as detailed in **Table 3.1**.

In total, 28 interviews were conducted between June and October 2024, either face-to-face or online, depending on participant availability and location. Face-to-face interviews occurred in informal public settings (e.g., cafés, parks, homes), while online interviews used Microsoft Teams. This sample size meets both conceptual and numerical criteria for saturation (Czernek-Marszałek & McCabe, 2024). Interviews averaged 45 minutes and were audio-recorded with permission for transcription. The study received IRB approval, and no financial incentives were provided.

Table 3.1 The characteristics of study participants.

Participant	Age	Nationality	Companion	Accommodation, Location (from their most recent trip)	Length (days)	Reasons of stay	Transport	Food consumption patterns
P1	30-40	Pakistan	Friends	A Cottage in Oxfordshire	2	Low-cost accommodation and last-minute option	Car	Dietary restricted
P2	40-50	France	Family	Self-catering villas - South of France	15	Parenting responsibilities, privacy, convenience, and flexibility	Car	Responsible
P3	30-40	Morocco	Couple	An Airbnb in Spain	4	Food sensitivity and vegan diet	Flight	Dietary restricted
P4	30-40	Indonesia	Family	A hotel apartment in Bali	3	Parenting responsibilities, budget, and cultural preferences	Flight	Dietary restricted
P5	20-30	Indonesia	Friends	A hostel in Poland	4	Healthy lifestyle, cost, socialization	Train	Responsible
P6	20-30	Ecuador	Solo traveler	A hostel in South Korea	8	Low-cost meals	Flight	Backpacking
P7	30-40	India	Solo traveler	A hostel in Cyprus	4	Socialization, flexibility	Flight	Backpacking
P8	30-40	Denmark	Friends	Airbnb in France	5	Cost, home-cooked food	Flight and car	Responsible
P9	40-50	Spain	Family	Airbnb in Spain	7	Home-cooked food, socialization, flexibility, accommodation cost	Flight and car	Responsible
P10	30-40	Pakistan	Family	A rental house in Pakistan	1	Home-cooked food	Car	Regular
P11	20-30	India	Family	Airbnb in England	2	Socialization, Low-cost accommodation, space	Cars	Regular
P12	20-30	England	Friends	Airbnb in Austria	11	Low-cost meals	Flight	Backpacking
P13	20-30	China	Friends	Airbnb in England	7	Availability, Low-cost accommodation, spacious, homely feeling	Train and ferry	Regular
P14	20-30	India	Friends	Airbnb in Wales	7	Location and accessibility to markets, activity types	Cars	Backpacking
P15	20-30	China	Family	Airbnb in Scotland	7	Low-cost accommodation	Train and flight	Regular
P16	20-30	Taiwan	Friends	Airbnb in Japan	14	Socialization, local food	Flight	Backpacking
P17	30-40	Iran	Friends	Airbnb in North of England	2	Low-cost, available accommodation, socialization	Cars	Regular
P18	20-30	Italy	Family	Beach house in Italy	8	Home-cooked food, Low-cost accommodation	Flight and car	Responsible
P19	20-30	India	Solo traveler	Belgium and England	7	Cheap accommodation, socialization	Train or bus	Backpacking
P20	30-40	England	Family	Airbnb in Croatia	14	Socialization	Cars	Regular
P21	30-40	Spain	Friends	Hostels in Portugal	15	Available, affordable accommodation	Flights and ferries	Dietary restricted
P22	40-50	Lebanon	Family	Airbnb in Marseille, France	5	Affordable accommodation	Flight	Responsible
P23	30-40	Thailand	Family	Airbnb in Japan	7	Flexibility, spacious	Flight	Regular
P24	30-40	Turkey	Family	Airbnb in Croatia and Norway	7	Affordable accommodation	Flight	Regular
P25	50-60	England	Family	Cottage in Scotland	7	Home-cooked food, larger private space	Flight	Regular
P26	30-40	Hong Kong	Family	Hostel in Taiwan	7	Intimacy and socialization	Flight	Regular
P27	20-30	China	Family	A house in Australia	15	Intimacy and socialization	Flight	Regular
P28	30-40	China	Family	A homestay in China	3	Intimacy and socialization	Car	Regular

3.3.4 Data analysis

A constructionist thematic analysis was conducted (Braun & Clarke, 2006), consistent with our focus on practices and the interplay between social structures and individuals rather than individual psychologies (Kurz et al., 2015). Following Fereday and Muir-Cochrane's (2006) hybrid approach, both deductive and inductive reasoning guided analysis. Deductive logic incorporated our integrative theoretical framework (Figure 3), informed by practice theories and holiday appropriation approach. Shove et al. (2012)'s elemental practice approach informed a priori template of codes. Inductive logic enabled themes to emerge directly from the data (Fereday & Muir-Cochrane, 2006), generating novel insights that expanded the original theories of practice and the holiday appropriation framework based on participants' discussions.

Data were organized and analyzed using NVivo 14 and manually to trace relationships between themes. **Appendix A2** illustrates how coding revealed the configuration of (un)sustainable (un)healthy food practices during self-catering holidays. Coding was led by the first author, followed by collaborative team discussions to confirm and refine the themes until full consensus was reached.

3.4 Findings and discussion

Participants' narratives across the holiday appropriation steps revealed enablers and constraints to sustainable healthy food consumption during self-catering holidays. These can be understood from an evolutionary perspective offered by the modes of practice framework, which links home-based practices (and, to a lesser extent, other holiday practices such as those in all-inclusive holidays) with practices during self-catering holidays. The following section zooms in to the elements (i.e. materials, meaning, competence) of different modes of practice, namely sticky, proto, modified, and ex-practices, to uncover enablers and constraints inherent in sustainable healthy food consumption within self-catering appropriation steps.

3.4.1 Modes of sustainable healthy practices within self-catering appropriation steps

3.4.1.1 Nesting

Sticky practices

Nesting is a crucial step in shaping sustainable healthy food consumption during self-catering holidays. Sticky food consumption practices, originating from home context, served as anchors – both cognitively and physically – for self-caterers as they adapted to holiday environments. These practices enabled participants to accommodate diverse dietary preferences and needs. For instance, healthy food practices were largely maintained for self-catering tourists with healthy diets, while vegans and vegetarians often opted for plant-based meals associated with greater environmental sustainability, nutritional benefits, and economic efficiency (Takacs et al., 2025).

Moreover, self-catering holidays provided adaptability for individuals with dietary restrictions based on religious beliefs, such as Muslims or Hindus, as well as those with specific medical conditions, including food intolerances or allergies. Furthermore, backpackers could adhere to their habitual food consumption patterns during holidays, prioritizing convenience and quickness in food preparation, while families with parenting responsibilities could find it more feasible to accommodate their children's dietary needs during self-catering holidays.

This variation in participants' nesting styles associated with diets led us to categorize self-catering tourists into four principal groups: regular self-caterers (e.g., families, couples), self-caterers with dietary restrictions (e.g., religious or medical), backpackers (e.g., solo or group travelers), and responsible self-caterers (e.g., vegans/vegetarians, health-focused eaters). This expands on Mohammadi et al.'s (2023) dietary classification of travelers based on medical, religious, and lifestyle reasons. The differences may relate to contextual factors (self-catering vs. general holidays), cultural and geographical factors, and methodological approaches to data analysis.

“I like to stay in self-catering (accommodations) because I like to get adequate micronutrients. I go to the gym. I need a certain amount of calories, protein, carbs and fibers per day, and it's a lot easier for me to monitor them (in self-catering accommodation).” (P5)

“Many restaurants in Bali contain pork. This was my biggest consideration because we did not evaluate the restaurants beforehand; we prepared the food before we went, just in case we were hungry, so we have spare food to eat” (P4)

Despite these variations in food consumption patterns, there are convergent patterns in participants' perceptions of sustainable healthy food. The participant groups perceived sustainable healthy food according to five main themes: environmental (e.g., food waste, food miles), health (e.g., low-chemical food, low-calorie food), ethical (e.g., animal welfare), socio-economic (e.g., local community support), and sensory (e.g., taste, appearance). This corroborates the dimensions of sustainable healthy diets proposed by the FAO and WHO (2019). Moreover, the dataset suggests some synergistic relationships, particularly among the environmental and health themes.

“Healthy food can be anything that doesn't harm the environment and is also readily available. It must be good for your mind, your body, and the environment as well.” (P23)

Sticky practices within nesting also evolved through maintaining certain competencies. The most relevant competencies for study participants were resource management, culinary skills, and allocation of kitchen roles, in agreement with Isabelle et al.'s (2019). Culinary competence, in particular, enabled participants to prepare meals typically linked to higher intakes of vegetables, fruits, and essential nutrients, and lower consumption of processed, high-calorie foods compared to eating out (Jones et al., 2014). To manage resources effectively, most participants traveling by car organized their food in advance at home, ensuring a smooth arrival at their self-catering destinations. The following quote illustrates how culinary skills within a family support the consumption of healthier and culturally acceptable food.

“When we cook at a (holiday) home, we eat food that we know how to make it. This could be healthier as my mum and my aunt like to cook some vegetables and soup, but when we go to restaurants (on holidays), we often end up with fast food or expensive meals with small portions. Cooking ourselves also let us enjoy Chinese food, which would not be easy to find in Australia.” (P27)

Modified practices

Upon nesting within self-catering holidays, some meaning elements of food practices may change. Convenience and simplicity often become priorities, leading to the preparation of less elaborate, more convenient self-catering meals. This allows individuals to save time and money for holiday

activities like sightseeing (Isabelle, 2019). However, such simple food preparation appeared to have inherent health or environmental benefits, such as reduced meat consumption (e.g., P13) and lower waste generation (e.g., P19). However, liminality and indulgence sometimes undermined sustainable healthy food consumption by suspending individuals' usual commitments and responsibilities.

“Mommy needs a vacation! We shouldn't be like we're living at home when we're on holiday. When you're on holiday, you tend to give yourself excuses to indulge in unhealthy foods, like eating more sweets, sugar, and unhealthy stuff. And then, my boys would argue, 'Oh, we're going to have sandwiches for breakfast? We're in a totally different place, so let's go and have breakfast at a French or Spanish restaurant, or a coffee shop, or whatever.' We tend to do this.” (P22)

Social influences can either disrupt or facilitate sustainable healthy food consumption within self-catering nesting. Empirical evidence from tourism research shows that travelers with family or friends are more likely to buy local food than solo travelers (Frisvoll et al. 2016). In our study, some vegetarian participants experienced pressure from meat-eating companions, which negatively affected their diets (distortion). Conversely, others noted that support from travel companions helped them maintain sustainable and healthy eating habits during self-catering holidays (enhancement).

“It could have been like 70% vegetables and 30% meat, but my dad would completely refuse, like I thought, a total vegetarian was only me” (P18)

“When I arrived, my partner had already prepared food. Since she was already there, she had kindly prepared a gluten-free meal for me” (P3)

Some disruptions in material elements of self-catering practices hindered sustainable healthy food consumption during nesting. For example, in holiday destinations hotter than home, extra care was needed to store food properly, as food spoilage was more likely at room temperature. Similarly, inappropriate kitchen tools (e.g., blunt knives, small chopping boards for vegetables) or the lack of certain ingredients (e.g., herbal spices) contributed to higher food wastage and lower

consumption of sustainable healthy food ingredients, undermining sustainable healthy food practices within self-catering nesting.

“The temperature comes into effect. It's hotter (in France). So that affects what you're going to eat, how you're going to store food, and what you can buy.” (P2)

Linked to the competence element of self-catering practices (e.g., time management), travel schedules distorted sustainable healthy food consumption within the nesting step (e.g., P11, P13, P14). In such situations, participants found limited available or easily accessible food options, often leading to the consumption of unhealthy, highly processed, or nutrient-poor food.

“On the first day, we arrived at midnight and were so tired that we didn't have anything in our head... we found McDonald's fast-food chains, available on the road” (P14)

Other practice types: ex-practices and proto-practices

Compared to sticky and modified practices, ex-practices and proto practices within the nesting step emerged less frequently. The lack of such material elements as composting and gardening infrastructures restricted participants' resourcefulness compared to at home (e.g. P9, P25, P23). On the other hand, due to the enjoyment embedded into some self-catering experiences, some reported loss of control over body weight, nutrition (e.g., P8) or culinary confidence (e.g., P18).

The evidence of proto-practices was also limited, but novel initiatives such as providing a welcoming gift containing local food products from self-catering owners (as the material elements), could facilitate sustainable healthy food consumption for self-caterers (e.g., backpackers) within the nesting step. Also, online food recipes could have been useful for many participants' (e.g., P12) to consume sustainable healthy food if the holiday home providers had incorporated (more) sustainable healthy cooking recipes with appropriate timing onto their websites.

3.4.1.2 Investigating

Modified practices

In the investigating step, modified practices significantly shaped participants' sustainable healthy food consumption. Enhancement in meaning elements related to local food perception, self-control in avoiding unhealthy food purchases, and positive social influences. For instance, when vegetarian self-caterers struggled to access sustainable healthy food due to unfamiliar food markets, assistance from a local resident facilitated their access to sustainable healthy food options (e.g., P8). Also, exploring local food markets enhanced some participants' appreciation of local foods, an experience that was rare at home.

"Honestly, when I am at home, I rarely go to the local market, ..., so most of the food ingredients come from supermarkets. But when I am on holiday, local markets are kind of a sexy spot for me...because the local market at home is not that much attractive and I can buy the stuff from supermarkets." (P26)

In contrast, the meaning of healthiness and sustainability often diminished during market visits, particularly among regular self-caterers and backpackers. This finding is consistent with attitude-behavior gaps (e.g., Juvan & Dolnicar, 2014), often driven by enjoyment, convenience in accessing food, and budget constraints.

"The impact on my health will be lessened compared to eating the same food over a prolonged period. In general, healthy eating and maintaining a balanced diet are very important to me. However, when traveling overseas or within the UK, I'm less concerned about eating healthfully." (P12)

Material elements of self-catering practices may undergo some modifications within investigating. On the distortion side, the logistics of food, particularly for island destinations, posed a significant obstacle (e.g., P21, P25), limiting some participants' access to fresh fruits and vegetables. This challenge was also present during overseas in-land self-catering holidays, where limitations included poor availability of sustainable healthy food options in local markets, lack of transportation for long-distance shopping, and higher food costs. Responsible self-caterers and those with budgetary constraints (such as backpackers) or dietary restrictions (such as gluten-free or ketogenic diets) echoed most of these limitations.

“There seems to be less focus on alternative protein foods (e.g., legumes, soy products) in places like Croatia (compared to the UK). The focus is still very much on animal-based protein foods like meat, dairy and poultry eggs, that kind of thing. They seemed to have less vegetarian and vegan and plant-based options in the supermarkets there compared to the supermarkets that we have in the UK”
(P20)

“My sister was on a ketogenic diet. So, this diet requires eating no sugar at all, and no carbs or a very minimal amount of carbohydrates. So, you cannot always find the options that you're looking for. For example, part of her breakfast routine was eating avocados with peanut butter, which is, of course, unsweetened organic peanut butter. So, we couldn't find this option for example, in the supermarket”
(P22)

Conversely, access to unhealthy or unsustainable food products, such as sweets and fast food, highly processed food, and animal-based food, was found to be more convenient (e.g., P20, P14, P27). Distortions to investigating practices were also linked to the availability of bulky or heavily packaged products (as the material elements), which exceeded participants' needs or expectations. For example, items like oil, milk, and garlic were sold in larger quantities than necessary for the duration of their stay (e.g., P9). Additionally, even local shops predominantly offered heavily packaged food products, which puzzled some participants, as P25 noted uncertainty about whether this was due to health and safety regulations or preservation concerns.

On the other hand, accessibility to sustainable healthy food options improved for participants who had revisited self-catering destinations, drawing on their experiential knowledge (Seo et al., 2013). Among these participants, responsible self-caterers (e.g., vegetarian diets) stood out. This may have been because this group often requires customized food and drink options while traveling, which might be better accommodated in familiar self-catering holiday destinations.

“In Italy [her country of birth], for me, it's easier to find like more fresh and diverse products from local producers compared to Portsmouth (in the UK).” (P18)

Self-catering holidays tend to enhance, rather than distort, competencies like resourcefulness and food waste management skills. Remarkably, most participants across all self-caterer groups reported minimal waste generation, mainly from food acquisition and preparation. This may be due to greater control and planning over food purchases and preparation, as well as increased waste visibility in self-catering holidays compared to all-inclusive ones. Participants frequently used various food management strategies to reduce waste during their vacations, including meal planning (e.g., buying less food), reusing leftovers, monitoring expiration dates, preventing spoilage, being flexible in cooking, and planning portion sizes. When feasible and considering factors such as luggage weight restrictions or access to a private vehicle, many participants were inclined to, and indeed did, transport certain ingredients from their holiday destination back home.

“... because I'm in control. I can find what I believe to be the right portions for my diet. So I'm able to recognize on my own how much I'm likely to eat over the course of a week and prepare for that. If I went to a buffet for instance, they have to cater for a worst-case scenario” (P12)

“I'm more flexible with what we eat on the last day of our trip, and I try to find ways to mix and match different recipes. Since all four of us are comfortable cooking, we're able to use up all the food we have, and we never waste any. Whether we're at home or on vacation, we always try to find ways to avoid wasting food.” (P9)

These findings suggest that self-catering holidays may be more sustainable than all-inclusive holidays regarding food waste (e.g. Filimonau et al., 2023), though further comparative research is needed.

Sticky practices

Sticky practices within investigating step were especially common in domestic self-catering holidays, where familiar food environments, such as UK supermarket chains, mirrored home conditions. This made sustainable healthy food more accessible, but sometimes at the expense of small, local retailers.

“There were other options for buying from, like small shops, but we did not look around. Because Coop is a big brand, which is spread out across the UK. So, it was easier to search on the web and just follow the Google Maps and know that it is definitely going to be there as compared to the local shops which we might just stumble upon and then we might die” (P11)

Unlike large supermarkets, which have a strong online map presence (as noted by P11), farmers’ markets and local vendors known for stocking sustainable healthy food were considered less visible online by some participants, especially those with strong preferences for healthy sustainable options.

“We couldn't go to any market instead of a supermarket simply because we didn't know where the market was or when it would be open. So, if you look at Google Maps, it tells you where the supermarkets are, but it does not tell you what other markets are taking place or where they are.” (P9)

Other practice types: ex-practices and proto-practices

Loss of certain competencies led to ex-practices. Language barriers, in particular, embedded in dispersed practices (Schatzki, 1996) like communicating with local retailers or residents, disrupted participants’ ability to shop, negotiate portion sizes at farmers’ markets, or interpret food information or cooking instructions.

“Maybe I could not speak their local languages and did not know the way they sold things; maybe they had some minimum portions. Sometimes, I found it hard to understand how much or how many they expected me to buy as a minimum.” (P26)

“In my hometown, I can easily contact local suppliers and so on. It's quite easy and convenient. People are also prone to talking about their products, and you can even ask them for cooking advice. However, when shopping at local markets while on holiday, you should be able to speak English well enough to express your needs. But when it comes to specific things, like describing the texture or quality of meat, we have a lot of Turkish terms that are hard to translate.” (P24)

Proto practices emerged in the investigating step were few, such as sampling local cuisine or observing cooking techniques. However, these proto practices may not always be sustainable or healthy. For instance, cooking classes could have promoted plant-based food products alongside local specialties (as the material elements) for those participants seeking sustainable healthy food. However, due to various reasons, their focuses were on animal-based albeit local food (e.g., P26), thus implying unsustainability and unhealthiness. Furthermore, while demonstrating local cooking through open kitchens in restaurants is considered culturally valuable (P16), the sustainable and healthy aspects of the dishes being demonstrated should not be overlooked.

3.4.1.3 Stamping

The stamping step evolved through the development of certain meanings (Isabelle et al., 2019) for self-catering participants. These meanings included togetherness, identity, place attachment, nostalgia for home, and immersion in destinations' food offers, expanding Isabelle et al.'s (2019) emphasis on togetherness. Sharing sustainable healthy meals with family or travel companions fostered a sense of togetherness by strengthening existing socio-cultural bonds or creating new ones, exemplifying sticky or enhanced self-catering practices (e.g., P27). Meanwhile, proto practices as organizing sustainable healthy common meal events, which may be rare or non-existent in participants' daily lives at home, further reinforced togetherness through novel social interactions and enhanced communal experiences.

“Some of the hostels where I've stayed make dinner for everyone who wishes to join. Most of the time, these meals have lots of fruits and vegetables. They make it something generic but very sustainable.” (P7)

Visiting farmers' markets at destinations reinforced holiday stamping through proto-practices related to sustainable healthy food consumption. The following quotation illustrates how such visits provided unique opportunities to explore different food cultures (e.g., while watermelon is a staple at the destination, it may not be at home) and to enjoy fresh, local produce without a conscious focus on sustainability.

“There was a lot of fresh produce in the area where we stayed. Melons, for example, are one of their staples. So, you know, buying fresh melons is super cheap. Everyone

loved them. You know, in the markets in France, they sell melons or whatever they have produced themselves. I'm not sure that I'm consciously thinking about sustainability. Most of the time, I'm more focused on immersing myself in the culture and experiencing what's happening around me. It's enjoyable and feels like a treat, rather than thinking about doing good because it's sustainable.” (P2)

3.4.2 Revisiting practice theories and the holiday appropriation framework

Sustainable healthy food consumption in self-catering holidays provides a suitable context to demonstrate how our integrated practice-based approach to tourism can enrich and extend existing theoretical frameworks. Our findings revealed that a mix of practice modes supports or constitutes each step of the holiday appropriation process, offering a more nuanced understanding of the original framework proposed by Isabelle et al. (2019). Notably, while Isabelle et al. (2019) rarely acknowledged the relevance of proto-practices, enhanced practices, and ex-practices in tourism context, our study provides empirical evidence of their presence within (un)sustainable (un)healthy food practices during holidays. In doing so, while the original framework did not explicitly engage with Shove et al.’s (2012) elemental approach, our study conceptualizes each practice mode through the interplay of meanings, materials, and competences. In turn, each step of holiday appropriation shapes this interplay by introducing, disrupting, enhancing, or causing the disappearance of one or more key practice element(s) identified in this study. In addition, our findings revealed meaningful linkages between holiday practices and at-home food practices – connections that were largely absent in the original framework. This adds complexity to the notion of appropriation, suggesting that holiday practices are not isolated but deeply entangled with everyday routines.

We also extend the conceptualization of specific holiday steps within the original holiday appropriation framework. For instance, whereas Isabelle et al. (2019) restricted the stamping step primarily to togetherness, our findings highlight additional meaning elements such as place attachment, cultural immersion, and a sense of identity, thereby expanding the scope of meaning associated with this appropriation step.

By integrating the holiday appropriation framework with practice theories and extending the integrated framework towards sustainable healthy food consumption in self-catering tourism, we

demonstrate that specific holiday conditions can be particularly conducive to the emergence, continuation, or disruption of food-related practices – dynamics that are often overlooked in tourism studies using practice theories. For example, while studies such as Lamers et al. (2017) and Bargeman and Richards (2020) offer valuable insights into tourist practices, they do not explicitly address how the temporal, spatial, and emotional dimensions of holidays actively shape the configuration and transformation of these practices. Our findings suggest that these holiday-specific dynamics are critical to understanding how sustainable healthy food practices are adopted, adapted, or suspended during travel, offering a more nuanced view of practice evolution and occurrence in tourism contexts.

3.5 Conclusions

This exploratory study provides initial insights into the determinants of the occurrence and evolution of sustainable healthy food practices in self-catering holidays. In doing so, it extends the holiday appropriation framework (Isabelle et al., 2019) by introducing the roles and dynamics of proto-practices, enhanced practices, and ex-practices (Shove et al., 2012) within this context. It also highlights important links between holiday and everyday food practices, challenging the notion that holiday practices are isolated from routine life. By integrating practice theories with the holiday appropriation framework, we demonstrate that specific holiday conditions can enable, sustain, or disrupt practices – offering a more dynamic and context-sensitive understanding of practices in tourism settings.

The findings revealed the key determinants of sustainable healthy food consumption across each holiday appropriation step. Within the nesting step, maintaining dietary preferences and ensuring the convenience of food preparation (meaning) were essential for most participants. These factors needed to be joined by culinary confidence or skills (competence) and the availability of appropriate kitchen materials or ingredients (materials). In the investigating step, the findings were inconsistent or equivocal concerning the role of (un)accessibility and (un)availability of sustainable healthy food options (materials). These inconsistencies depended on factors such as local market knowledge, whether the holidays were overseas or domestic, and the complexity of food logistics. Additionally, while waste management knowledge (competence) and self-control in avoiding unhealthy food (meaning) were facilitators of sustainable healthy food consumption, challenges arose from diminished health and sustainability awareness (meaning), food

unaffordability (meaning), and language barriers (competence). In the stamping step, the (co-)creation of meanings or values, such as a sense of togetherness, cultural immersion, and nostalgia, emerged as critical enablers of sustainable healthy food consumption.

3.5.1 Theoretical implications

This study's contribution to literature is fourfold. First, it conceptualizes a practice-based framework for sustainable healthy food consumption in tourism. In this context, Warde's (2013) eating approach is enhanced by incorporating new sustainability-related food practices, namely food storage, food preparation, and waste management, into the original model. To the best of our knowledge, such a comprehensive lens, viewing the entirety of the food consumption journey from acquisition of raw food ingredients to leftovers, is novel in the tourism and hospitality literature.

Second, this research introduces new concepts adapted from Shove et al.'s (2012) modes of practice to expand the 'zooming out' theoretical lens (Nicolini et al., 2012). This adaptation can generate novel sociological insights into tourists' behavior changes across different consumption contexts – both at home and away – moving beyond individualistic theories that focus solely on cognitive factors (MacInnes et al., 2022). Based on the modes of practice lens, the present study compares sustainable healthy food consumption practices during self-catering holidays with those at home and, to a lesser extent, during all-inclusive holidays. It is established that while some at-home practices, such as food waste management and purchasing local fruits and vegetables, are maintained or even enhanced during self-catering holidays, tourists may abandon other at-home practices, including body weight monitoring or parental control over children's diets, as well as practices from past all-inclusive holidays, such as indulging in hotel buffets. However, the study made only a marginal comparison between self-catering and all-inclusive holidays as the complexity and novelty of this topic warrant a separate, further investigation.

Third, this study proposes a novel theoretical framework combining practice theories with the holiday appropriation concept. This integrative framework enriches our understanding of how the modes of practice can evolve within different holiday appropriation steps in the case of sustainable healthy self-catering practices. It not only deepens our insights into holiday appropriation steps from a practice perspective but can also explain the evolution of different modes of practice under certain circumstances in tourism. Beyond the self-catering context, this integrative approach can be utilized in a wider range of sustainable or pro-environmental practices on holiday by

investigating how tourists adopt or give up certain practices, such as conserving water and energy, within the holiday appropriation steps. Additionally, this framework may also be applicable to explore the determinants of occurrence and evolvement of sustainable healthy food consumption among tourists upon their return home. Moreover, it may also be valuable to examine this novel framework in so-called higher enjoyment-focused contexts, such as all-inclusive holidays, where a greater variety of food services are available to tourists compared to self-catering holidays.

Lastly, this study differentiates self-catering holidays from other holiday contexts in understanding tourists' sustainable healthy food consumption and designing relevant interventions. This is novel as prior research tends not to distinguish between holiday contexts, treating them as homogeneous entities, or has explicitly focused on contexts where food is readily available to tourists, such as all-inclusive holidays. By contrast, this study sheds light on the unique dynamics of self-catering holidays, where tourists prepare and cook their own food. This allows for a more nuanced understanding of how routinized behaviors from home influence their food consumption patterns on holiday. This focus on self-catering holidays fills a significant gap in the literature and provides a foundation for the development of targeted managerial interventions, which are presented in the following section.

3.5.2 Managerial recommendations

Reinforcing the enablers and reducing the constraints to sustainable healthy food consumption is an important managerial task that requires the involvement of various stakeholder groups at destinations. **Table 3.2** displays some potential interventions drawn from the findings, detailing the key practice sub-elements, mechanism of elements, and the stakeholders in charge of implementing the interventions. The proposed interventions target the different holiday appropriation steps (i.e., nesting, investigating, and stamping) during self-catering holidays to promote sustainable healthy food consumption. For self-catering accommodation providers, the motivations can be diverse, including cost savings, competitive differentiation, social legitimacy, alignment with lifestyle values, and value creation for the local community (Hassanali & Ashwell, 2020; Hassanali & Williamson, 2024). These motivations align with the providers' strategic interest in meeting the needs of the self-catering tourist segments identified in this study. For instance, backpackers may be engaged through social meals and cooking classes that offer novel, voluntary experiences. Guests with plant-based or health-conscious preferences may benefit from

well-equipped kitchens and access to sustainable healthy cooking ingredients. Families might appreciate colorful, child-friendly recipe books that encourage participation in sustainable healthy self-catering practices during their stay. If implemented carefully, segment-specific initiatives can enhance guest satisfaction and contribute to improved operational outcomes and profitability (Hassanali & Williamson, 2024). Local agencies and industry associations, such as The Professional Association of Self Caterers UK, can assist self-catering accommodations in overcoming challenges related to promotion and design, particularly in their initiatives to attract specific segments and circulate best sustainable healthy food-related practices. Further practical recommendations are now provided for each holiday appropriation step.

For the nesting step, considering the importance of food preparation convenience and culinary skills, interventions can focus on providing self-caterers with easy-to-cook, sustainable healthy recipes, tailored to the duration of stay. For instance, for a short stay (two or three days), three or four recipes would be appropriate to encourage individuals' consumption of sustainable healthy food without feeling overwhelmed or restricted. Additionally, providing a multilingual guide or translation tool for key food-related terms embedded in the recommended recipe list would enable self-caterers to make informed purchasing decisions when purchasing from local farmers' markets or supermarkets. Meanwhile, to address most tourists' struggles with time management and travel schedules when on holiday, offering free samples of sustainable healthy food along with basic cooking ingredients upon their arrival at self-catering accommodation can greatly ease tourists' nesting.

For the investigating step, interventions should focus on enhancing self-caterers' knowledge of sustainable healthy markets, tailored to their specific dietary needs. This can be achieved by identifying local farmers' markets, restaurants, cooking classes, and vendors that cater to their requirements. For instance, responsible self-caterers can be supplied with a vegan food itinerary or a map to navigate their food choices across suitable food providers in destinations. Additionally, partnering with social media influencers or content creators can amplify the reach and impact of certain market interventions. By sharing their self-catering stories – where to shop, what to cook, recipes, and what they will keep doing back home based on what they have learned about the destination food – content creators can inspire audiences and promote sustainable healthy food consumption.

While enhancements in nesting and investigating steps can contribute to the stamping step by establishing routine sustainable healthy food practices, stakeholders can further facilitate this process by implementing interventions that focus on a sense of togetherness and cultural immersion. Examples include inviting tourists to participate in or volunteer to set up vegetarian or vegan community meals, with incentives such as discounts on their accommodation costs, as well as organizing local cultural events and vegetarian food festivals. Additionally, cooking classes in destinations can provide tourists with hands-on experience and knowledge of local cuisine, while also promoting sustainable healthy food practices. These recommendations can create a more engaging and memorable experience for self-caterers, encouraging them to adopt sustainable healthy food practices during their stay and upon returning home.

Table 3.2 Practical recommendations for each holiday appropriation step

Appropriation steps	Suggested Interventions	Main Practice elements involved	Mechanism of influence (through practice elements)	Stakeholder(s) in charge
Nesting	List of easy-to-cook sustainable healthy (local food) recipes	Competence, Meanings	Supports <i>competence</i> by offering know-how and enhances <i>meaning</i> by making sustainable cooking feel easier and more convenient.	Self-catering accommodations
	Information about local or organic food enterprises provided in an email before the arrival	Materials, Competence	Targets both <i>materials</i> and <i>competence</i> by improving guests' access to specific markets	
	Recycling facilities with multiple bins and clear instructions on how to recycle	Materials, Meanings	Supports <i>materials</i> (e.g., bins, composting facilities) that are easily accessible to participants, guided by the <i>meanings</i> associated with recycling or composting behaviors	
	Composting facilities (e.g. wormery) with detailed instructions			
	Suitable kitchen equipment (sharp knife, chopping boards for vegetables)	Materials	Addresses the need for specific <i>materials</i>	
	Basic demonstrations of kitchen equipment to encourage cooking	Meaning, Materials	Associates certain <i>meanings</i> with kitchen <i>materials</i> to encourage cooking	
	Setting up the right seasonal temperature for refrigerators and freezers	Materials	Maintains <i>materials</i> in usable condition	
	Materials, such as Tupperware and foils, supporting leftover reuse	Materials	Ensures sufficient kitchen <i>materials</i> (e.g., tupperware) to support food waste reduction	
	Basic cooking ingredients (e.g., oil, spices) in refillable containers	Materials	Ensures cooking ingredients are available to support home cooking	
	Free samples of sustainable healthy food, such as local food, with information on the producer	Materials, Meanings	Provides local food samples as <i>materials</i> , linked to <i>meanings</i> about supporting local producers.	
Investigating	Storage guide in kitchens on ambient, chilled, and frozen foods	Competence	Supports <i>competence</i> by providing storage know-how for kitchen materials	Self-catering accommodations
	Recipe applications or websites with sustainable healthy food filters alongside timing	Materials, Competence	Leverages technological <i>materials</i> to enhance cooking <i>competence</i> .	
	Owners' verbal communication on local or vegan-friendly shops to investigate	Meanings	Facilitates interpersonal sharing of <i>meanings</i> and experiences to promote sustainable food consumption	
	Information leaflets pinpointing vegetarian, healthy, or Halal restaurants or vendors in destinations			
	Map of farm-based markets detailing their locations as well as opening hours	Materials, Meanings, Competence	Draws on specific <i>materials</i> (physical or technological) to communicate sustainable healthy <i>meanings</i> and practical knowledge to self-caterers.	Self-catering accommodations, DMOs
	Web-based visibility of ongoing sustainable food markets or events in destinations			Global internet service
	Listing local, sustainable food options in destinations			DMOs, travel agencies
	Design online platforms to connect with farmers' markets			
	Ensuring smooth food supplies (fruits and vegetables) to islands	Materials	Facilitates <i>material</i> access to sustainable healthy food markets through improved connectivity	Food market managers or associations
	Promoting chains of local producers or shops in destinations			
	Information on the origin of food in local shops	Competence, Meanings	Enhances customers' <i>know-how</i> by sharing <i>meanings</i> related to food origin	
	Availability of small-sized packages for travel food products in the market	Materials	Supports reducing food waste <i>materials</i> at the source market level	Cooking class managers, DMOs
	Cooking classes with sustainable healthy food menus	Materials, Meanings, Competence	Uses the menu as a <i>material</i> to convey sustainable healthy <i>meanings</i> and enhance customer <i>know-how</i>	
	Designing local restaurants with open kitchens for the cooking demonstration	Meanings, Competence	Supports sharing of <i>meanings</i> and <i>know-how</i> for cooking local food through <i>material</i> interventions	Food service providers

	Designing multilingual menus featuring sustainable healthy food options	Materials, Meanings, Competence	Employs the menu as a material to communicate sustainable healthy <i>meanings</i> and <i>know-how</i> across languages	
Stamping	Vegan parties or vegetarian common meals to be co-organized by volunteers and participants	Meanings, Competence	Facilitates sharing of sustainable healthy <i>meanings</i> and <i>know-how</i> through events	Self-catering accommodations
	Information on local cultural events or vegetarian food festivals at the destination	Materials, Meanings	Uses communication media as a material to promote cultural events around sustainable healthy food <i>meanings</i>	Self-catering accommodations, DMOs, travel agencies, food event organizers

3.5.3 Limitations and future research directions

This study has several limitations. First, the sample was culturally diverse and heterogeneous in terms of the categories of self-caterers. Future studies can focus on culturally homogeneous or specific categories of self-caterers, such as families or backpackers, to generate a more nuanced perspective. The wide range of travel destinations represented also suggests the value of future studies targeting particular destinations or distinguishing between domestic and international travel contexts. As the findings are most applicable to individuals who can afford both travel and sustainable healthy food, further research should examine the experiences of tourists from low-income backgrounds to better understand barriers and enhance inclusivity in tourism studies.

Second, the study focused exclusively on self-catering accommodations, which may limit the transferability of findings to other self-catering contexts, such as outdoor picnics or restaurant-based self-catering experiences (e.g., hotpot restaurants).

Third, although this study captured some participants' learning experiences from cooking classes, cooking demonstrations, and communal meals, as well as their immersion in local food products such as bakeries or fruits at tourism destinations, it did not explore in depth how their (un)sustainable (un)healthy practices evolved or dissolved after returning home. This presents an opportunity for future research using unconventional research methods, such as food diaries, to track consumption patterns before, during, and after holidays. This approach would provide a first-hand understanding of home-based food practices, how they change during holidays, and whether they are reinstated upon returning home, as well as which holiday practices, if any, are sustained.

Lastly, the study only briefly compared self-catering and all-inclusive holidays from a sustainable healthy food perspective. Future research could explore food consumption patterns across various holiday types more comprehensively. Finally, further studies could investigate the role of key stakeholders, such as self-catering accommodation providers, to test the feasibility and impact of proposed interventions from a supply-side perspective.

Declaration of competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Chapter 4 Agency-structure: tourists' sustainable food journey

This chapter introduces the third study of this thesis, an empirical research paper submitted to *Annals of Tourism Research*. Section 3.1 discusses the background of the research. Section 3.2 introduces the theoretical framework of this study. Section 3.3 focuses on an innovative methodology designed for this exploratory study. Section 3.4 presents and discusses the findings based on the conceptual model. Finally, Section 3.5 provides the theoretical and practical implications, as well as the directions for future research.

Abstract

This study integrates visual and qualitative methodologies within a longitudinal framework to examine how agency and structure shape tourists' sustainable healthy food consumption before, during, and after holidays. Pre-holiday food practices are influenced by intergenerational knowledge, lay beliefs, and supermarket routines. Holiday food practices often disrupt or enhance these patterns through culinary curiosity, local food cultures, sensory engagement, and improved infrastructure. Post-holiday food consumption is shaped by the decontextualization of food practices, evolving perceptions, and lingering holiday lethargy. Theoretically, this research underscores the dynamic interplay of structural influences and multidimensional agency, addressing the often-overlooked post-holiday stage of food consumption in tourism. Practically, it highlights a feedback loop where tourists inspire tailored sustainable holiday offerings, with potential extension to everyday life.

Keywords: Sustainable healthy food consumption; Self-catering holidays; Mini-longitudinal study; Tourist behavior

4.1 Introduction

Food consumption in tourism is a critical enabler of the global shift toward sustainable healthy diets (Higgins-Desbiolles & Wijesinghe, 2021). This aligns with the 'win-win' diet concept (Garnett, 2016), where healthy food for tourists is sourced from food systems that are environmentally sustainable, economically viable, and culturally appropriate (Food and Agriculture Organization [FAO] & World Health Organization [WHO], 2019). Sustainable healthy diets would encourage tourists to consume more plant-based foods (Handayani et al., 2025), such as local vegetarian specialties or traditional dishes prepared with environmentally sustainable ingredients or healthy cooking methods, while reducing their intake of meat-based specialties, ultra-processed foods, and minimizing food waste (Bui et al., 2024).

The transition towards sustainable healthy food consumption in tourism requires a comprehensive understanding of its determinants. Traditional approaches that focus solely on individual freedom are insufficient to drive this dietary shift (Wilson, 2021). Greater attention must be given to the significant roles played by structural and market factors influencing tourists' food consumption. By way of example, carnism ideologies (Joy, 2009) embedded in food marketing at destinations often encourage travelers to consume meat-centric or resource-intensive specialties, such as Spanish Hamon, Italian Salami, and New Zealand lamb. Additionally, lay perceptions of food, such as overestimating the nutritional importance of meat compared to plant sources, can lead tourists to prepare food in unsustainable ways. Furthermore, the absence of effective food waste collection systems in a destination or cooking/storage facilities in tourist accommodation can constrain sustainable food practices. Therefore, the scope of interventions should be extended to embrace both individual efforts and broader social structures in designing interventions to advance sustainable healthy food consumption in tourism. This remains, however, unexplored, both conceptually and empirically (Salehi et al., 2024).

This gap underscores the need to introduce the agency-structure framework (Giddens, 1984), particularly from a 'home-holiday continuum' involving pre-holiday, holiday and post-holiday stages (e.g., Jafari, 1987), rather than just focusing on a single holiday transition. This enables more holistic establishment of sustainable lifestyles across the life domains of household and holiday (Bar, 2010), without overlooking the often-neglected pre-, but especially, post-holiday stage. Such an overarching view can offer a more dynamic interpretation of how agency and

structural influences evolve throughout the complete tourist journey, which incorporates consumption both at home and away. For example, home food consumption practices can affect what tourists eat when on holiday, especially in its initial stages (Isabelle et al., 2019). Consider Inari Sushi (tofu pockets), which may be a favorite dish for a Japanese tourist; if the opportunity arises to try it while visiting Hong Kong, they may be inclined to do so. Concurrently, holiday context can influence what tourists consume when returning home, through savored or memorable food experiences (Filep et al., 2013). For instance, after trying Fasolada (Greek white bean soup with Tomato, olive oil, and vegetables) while on holiday in Greece, tourists may be motivated to seek out recipes or ingredients to prepare these dishes at home.

Herein, agency is defined as individuals' freedom to make sustainable healthy food choices, shaped by the interplay of heuristic thoughts or actions (iterational dimension), values and judgments (practical dimension), and hopes and fears for the future (projective dimension) (Emirbayer & Mische, 1998). Societal structures (re)configure tourist agency through cultural ideologies and human/non-human resources (Sewell, 1992). The holiday stages can influence the interplay between and within agency and structure dimensions. For instance, for tourists on a vegan diet at home, holidays in Uzbekistan or Kazakhstan can be more restrictive of their agency in terms of food choices than in India, where plenty of vegan dishes are culturally embedded. On the other hand, greater exposure to farm-based food markets in Thailand may disrupt tourists' unsustainable supermarket-based purchasing habits formed during the pre-holiday stage in England. Similarly, learning vegetarian local recipes on holiday can inspire new cooking practices after returning home.

Prior research on sustainable healthy food consumption in tourism often lacks an integrative discussion of the complex relationship between agency and structure, resulting in fragmented analyses (see Choi & Kim et al., 2019; Hiamey et al., 2021). Structural factors such as market dynamics or carnist ideologies are frequently taken for granted, without explicit theorization of their roles. Furthermore, there is limited depth in comparing the holiday stages across the home-holiday continuum with respect to food consumption in tourism. In particular, studies addressing the post-holiday stage remain superficial, focusing primarily on measures such as satisfaction and revisit intentions (e.g., Stone & Zou, 2025), rather than examining how, or if, holiday food practices are integrated into or resolved during the post-holiday stage.

To address these gaps, this study develops an agency-structure framework that considers the entire sequence of holiday stages to answer two research questions: (1) How do sustainable healthy food practices evolve across pre-holiday, holiday, and post-holiday stages? (2) How do social structures constrain or enable these practices at each of these stages? This study argues that as tourists progress through different stages of the holiday, the configuration of agency and structural influences shifts, resulting in potential changes to their food consumption patterns.

Theoretically, this research introduces the concept of the ‘home-holiday continuum’, emphasizing the reciprocal relationship between household and holiday food practices. Unlike previous models (e.g., Quan & Wang, 2004; Salehi et al., 2025) that primarily examine how pre-holiday food habits influence holiday choices, this framework also recognizes the impact of holiday experiences on post-holiday behaviors, offering a more holistic perspective on sustainable food consumption in tourism. Furthermore, by integrating an agency-structure framework into the ‘home-holiday continuum’, this study provides a more dynamic understanding of tourists’ cross-contextual behaviors by theorizing broad structural influences - an area largely overlooked by prior research focused mainly on psychological variables such as identity effects or moral licensing (Majid et al., 2025; Xu et al., 2021; Zhao et al., 2025).

Household food consumption and self-catering holidays are the primary contexts for this study. Unlike all-inclusive holidays restricted to hotel menus, self-catering accommodations offer guests greater autonomy greater freedom over how and where to eat, enabling support for a diverse range of local businesses, including farmers’ markets, supermarkets, food souvenir vendors, and food service providers, while expanding access to sustainable healthy food options for wider populations (Salehi et al., 2025), particularly budget-conscious travelers and families (Professional Association of Self-Caterers UK, 2025). Although only recently examined from a sustainability perspective (Salehi et al., 2025), the self-catering sector holds significant potential for advancing sustainable food practices. Implementing sustainable healthy food interventions can further strengthen the sector’s resilience and employment in the face of regulatory, economic, and reputational challenges (Garcia-López et al., 2020). In the UK, self-catering holidays generate £2.6 billion in visitor spending, contribute £1.98 billion to the economy, and support 120,300 jobs (Professional Association of Self-Caterers UK, 2021, 2025), yet the sector remains vulnerable to pressures from regulation, housing, and inflation (Khodadadi & Campbell, 2025). This research

underscores the reciprocal benefits of sustainable healthy food initiatives for self-catering accommodations, local communities, businesses, individuals, and the environment.

4.2 Theoretical framework

Within the agency-structure framework, agency refers to individuals' ability to assign meaning to objects and events, interpret the situation based on those meanings, and then act (Musolf, 2003). In the consumption area, agency associates with mental and physical freedom of consumers to make decisions and act on their own free will (Yang & Kirillova, 2025). As shaped by social structures, agency can be disaggregated into three dimensions: iterational, practical-evaluative, and projective, collectively known as the Chordal Triad of Agency (Emirbayer & Mische, 1998). In the context of sustainable healthy food consumption in tourism, the iterational dimension refers to how tourists draw on past patterns of thoughts and behaviors related to sustainable healthy food consumption. The practical-evaluative dimension involves tourists' capacity to make normative and practical judgments among different possible courses of action regarding sustainable healthy food consumption. Lastly, the projective dimension focuses on tourists' imaginative engagement with sustainable healthy food consumption, encompassing their hopes, fears, and aspirations for the future.

To date, tourism scholarship has offered a fragmented view of how the Chordal Triad dimensions of agency constitute tourists' sustainable healthy food consumption. Empirical work has mostly focused on the practical-evaluative dimension, emphasizing experiential and consumption values – sensory, cultural, emotional, hedonic, and epistemic – that influence tourists' food consumption patterns (Salehi et al., 2024; Choe & Kim, 2019). Less attention has been devoted to the iterational and projective dimensions. For instance, drawing on Bourdieu's (1990) concept of habitus, Lee et al. (2014) highlight iterational agency as central to maintaining sustainable food practices across contexts (home vs. holiday). MacInnes et al. (2022) underscore habits as drivers of tourists' (un)sustainable food consumption, while Baah et al. (2020) identify iterational agency through food neophobic tendencies. The projective dimension is similarly underexplored, though Birch and Memery (2020) identify goal pursuit as a driver of sustainable choices. While evaluation, routines, and aspirations each capture aspects of agency, none alone explains the complexity of tourists' sustainable healthy food consumption. Focusing on one

dimension overlooks the dynamic interplay among all three, which shifts across contexts and is crucial for understanding agency (Emirbayer & Mische, 1998). This study addresses this gap by integrating all agency dimensions into the analysis.

As for structures, these are defined as the underlying principles that give pattern or form to social practices. According to Sewell (1992), structures have a dual character – virtual and actual – that influence each other. In their virtual form, structures relate to practice in the same way that language relates to parole – as abstract rules that make possible the production of speech or sentences. In social life, cultural norms, values, and shared knowledge function as virtual structures – they do not exist materially, yet they shape perception, intention, and behavior (Sewell, 1992). In the context of sustainable healthy food consumption in tourism, the underlying virtual factors, such as carnism ideologies, unique experiential values, and lay knowledge, are often taken for granted and rarely theorized explicitly as virtual structures (Salehi et al., 2024). Similarly, the actual dimension of structure, dealing with human resources (e.g., bodies, roles, social relations) and non-human resources (e.g., physical spaces, technologies, objects), is often overlooked in tourism scholarship, despite being essential to any enactment of tourists' agency (Lin et al., 2022). This study will explore how these structural forces can enable or impede the Chordal Triad dimensions of agency towards sustainable healthy food consumption in tourism.

This integrated perspective on agency and structure challenges the prevailing narrative in tourism literature that frames tourists as entirely autonomous agents (Yang & Kirillova, 2025). Instead, it underscores the importance of positioning tourists within broader social structures, moving beyond individual psychological factors to encompass institutional, socio-cultural, socio-material, geographical, technological, and market influences on sustainable healthy food consumption during holidays (Kurz et al., 2015; Mak et al., 2012). A more comprehensive account of agency also necessitates the appreciation of the interconnections between tourists' practices during holiday and their everyday sustainable behaviors at home. This approach is most effective when it considers the continuum of pre-holiday, holiday, and post-holiday stages, as outlined in tourism models (Jafari, 1987), thereby reinforcing Bar's (2010) concept of a holistic sustainable lifestyle. Such an approach enables a critical examination of how the configuration of agency and structure evolves across time and space (Masset & Decrop, 2021). Nevertheless, this holistic

perspective remains underexplored in sustainable food tourism scholarship, particularly regarding the transition from holiday experiences to everyday life and vice versa.

Prior tourism studies examining the differences between home and holiday food consumption from a sustainability perspective remain limited. For example, Lee et al. (2014) and Slocum and Curtis (2016) offer insights into the continuity of tourists' food practices but give less attention to potential discontinuities and the broader social structures that shape sustainable healthy food consumption. More recent work, such as Orea-Giner and Fusté-Forné (2023), attempts to address these complexities, yet their analysis is primarily grounded in psychological perspectives and does not differentiate between pre-holiday and post-holiday stages when discussing home-based food consumption practices. Additionally, their reliance on survey-based methods limits the depth of insight that can be gained into the evolving nature of food practices across time and context. Furthermore, existing studies tend to overlook the full scope of the food journey (e.g., food purchases, preparation, storage, and waste management) limiting their capacity to support holistic, lifecycle-based perspective to design more effective food-related interventions in tourism.

Figure 4.1 presents a framework depicting how agency and structure shape sustainable healthy food consumption in tourism. Particularly, this study compares self-catering holidays and household food consumption to explore how the dynamic interaction between agency and structure influences the integration or dissolution of sustainable practices across home and holiday settings. It examines how agency dimensions (i.e. iterative, evaluative-practical, and projective) shift in response to evolving structural conditions (actual and virtual), including intergenerational knowledge, food cultures, social norms, market dynamics, technologies, and material infrastructures across the home-holiday continuum. Recent applications of the agency-structure framework in tourism research (Abdullah et al. 2024; Yang and Kirillova 2025), are conceptual and yet to be extended through empirical investigation. By empirically applying this perspective to self-catering holidays, the present study addresses this important gap and provides grounded evidence for how agency-structure dynamics unfold in practice.

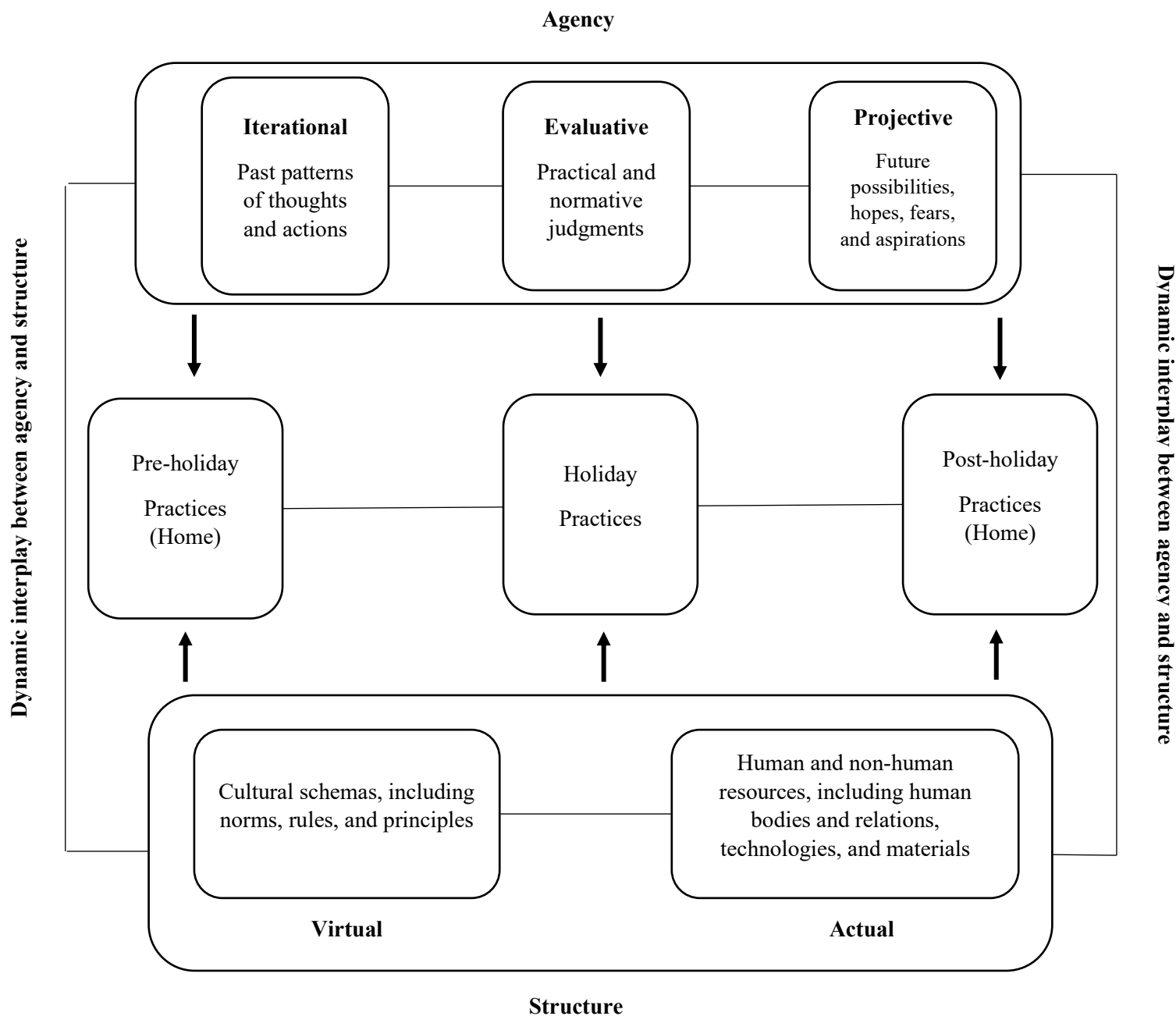


Figure 4.1 Agency-structure framework adapted from Swell (1992) and Emirbayer and Mische (1998)

4.3 Methodology

4.3.1 Study design

This study adopts a social constructivist perspective and a mini-longitudinal qualitative approach to examine the evolution of tourists' sustainable healthy food consumption. Social constructivism emphasizes the social (re)production of meaning and experiences, enabling a nuanced analysis of both individual agency and structural influences (Braun & Clarke, 2006). When combined with qualitative methods, it effectively uncovers the underlying assumptions and emotions that shape these practices (Bispo, 2016). The mini-longitudinal design provides a focused examination of a small group of participants across the home-holiday continuum, i.e., before, during, and after self-catering holidays, within a relatively short timeframe. Unlike traditional longitudinal studies, which span extended periods, this approach is more targeted and comparable to mini-ethnography (Weinstein & Ventres, 2000). Notably, this methodology addresses the limitations of retrospective recall (Kenyon, 2010) and allows for an in-depth exploration of the post-holiday stage—an often neglected yet essential component of the tourism model (Jafari, 1987) in the context of food consumption.

Visual methodology approach, particularly photo-elicitation, was employed to operationalize this mini-longitudinal qualitative research (Kelly & Kortegast, 2023). Unlike traditional research methods, such as consumer interviews and surveys, that often rely on abstract ideals or socially desirable responses and may suffer from poor recall (Boulet et al., 2021), photo-elicitation offers a unique lens to illuminate the temporally-spatially complex nature of sustainable healthy food practices through holiday stages (Dodds et al., 2017). By leveraging photographs, particularly participant-generated ones, participants were enabled to create “exciting new knowledge” about their food-related practices through combining “images and words” (Pink, 2007). This sheds light on the routinized elements of their practices at home and on holiday that might otherwise remain overlooked or invisible to researchers (Boulet et al., 2021). Furthermore, supplying these visual elements with participant-generated diary notes provided a rare methodological combination, particularly within sustainable tourism scholarship, which enhanced the credibility of this study through triangulation (Denzin, 1978). Prior tourism research applying visual methods has been limited to big data and social media use (Volo & Irimias, 2021), cultural consumption (Rakić & Chambers, 2010), and backpacking experiences (Cederholm, 2004).

4.3.2 Recruitment

A combination of purposive and snowball sampling was used to recruit study participants. This sampling approach was effective due to the need for participants who met specific eligibility criteria: individuals who were planning a self-catering holiday in the next 1-2 months, departing from the UK (either domestically or abroad), traveling for at least two consecutive nights/three days, responsible for at least half of the food shopping, preparation, and cooking in their household and travel party, and aged 18 or older. These criteria considerably narrowed the available participant pool who responded to advertisements placed in both digital and public spaces (**Appendix B1**).

Recruitment was challenging due to the study's specific focus and longitudinal design. The lower marketing visibility of self-catering holidays, compared to all-inclusive options, further limited access to eligible participants (Flognfeldt & Tjørve, 2013). Additional challenges arose from concerns about data fabrication, which led to the implementation of a data verification process. To mitigate this, participants were asked to sign a document committing to provide comprehensive diary photos, detailed diary notes, and travel evidence, such as copies of flight or train tickets (anonymized) and, where possible, receipts for food purchases made at the destination. Despite these efforts, the study still experienced a 30% dropout rate due to personal matters and varying levels of participation. To control this rate, financial incentives of £75 were offered to participants.

A total of 10 participants were recruited, representing a diverse range of nationalities and cultural backgrounds, and traveling to various self-catering destinations (see Table 4.1). Their motivations for choosing self-catering accommodations were primarily comfort, affordability, flexibility, and socialization, consistent with typical motivations for this type of holiday (Professional Association of Self-Caterers, 2025). In terms of food consumption practices along their sustainability journey, most participants follow predominantly omnivorous diets, with some incorporating halal considerations or adhering to carnist ideology. A few participants tend toward plant-based diets, with one individual specifically influenced by Hindu beliefs. Numerically, this sample size exceeds the minimum of seven participants recommended for photo-elicitation studies in food research (Keller et al., 2007). Conceptually, it is sufficient to achieve “information power”

for this conceptually driven research with its high participant specificity (Czernek-Marszałek & McCabe, 2024).

Table 4.1 Study participants' profiles

Code	Nationality	Travel length (days)	Travel companion	Accommodation type, destination	Reasons for self-catering	Food consumption patterns at home/holiday
P1	South Africa	7	With family	Apartment, Canada	Social interactions	Omnivorous diet
P2	England	3	Solo travel	Rental house, Wales	Affordable accommodation	Omnivorous diet
P3	Indonesia	5	With family	Hostel, Scotland	Comfort, Social interactions, and affordable accommodation	Omnivorous diet with halal considerations
P4	South Korea	6	Partners	Airbnb, Germany	Affordable accommodation and medical issues	Omnivorous diet
P5	India	3	Solo travel	Hostel, England	Comfort, social interactions, affordable accommodation, and medical issues	Plant-based diet with consideration for Hindu dietary practices
P6	Ecuador	14	With friends	Hostel, Vietnam	Social opportunities and affordable accommodation	Omnivorous diet
P7	China	18	With friends	Surf camp, Spain	Social opportunities	Prefers a vegetarian diet, but consumes more meat when traveling
P8	China	6	With family	Airbnb, Northern Ireland	Flexible meals, cooking with local ingredients	Omnivorous diet with adherence to carnist ideology
P9	Iran	16	Couple	Airbnb, Spain	Flexible meals, familiar foods, comfort	Omnivorous diet with adherence to carnist ideology
P10	China	8	With friends	Airbnb, Spain	Flexible meals, familiar foods, social opportunities, and affordable accommodation	Predominantly omnivorous diet

4.3.3 Data collection

As illustrated in **Figure 4.2**, after participants were briefed on the study's goals and objectives – without reference to “sustainable” or “healthy” food to minimize social desirability bias – they were invited to participate in a two-phase data collection process. In Phase 1, participants kept diaries with notes and photos of their food consumption patterns at home and on holiday. This was followed by a photo-elicitation interview in Phase 2. Prior to data collection, a comprehensive food diary guide (**Appendix B2**) was developed and pre-tested with two external experts in tourism and sustainable food consumption to ensure content and face validity (Holden, 2010). The guide was informed by prior research on food purchasing (e.g., Fuentes et al., 2021), food storage (e.g., Schanes et al., 2021), food preparation and cooking (e.g., Raber et al., 2016), and food waste (Evans, 2012) informed this guide. The diary entry protocol, consisting of seven days (two days

pre-holiday, three days during holiday, and two days post-holiday), was based on the food literature (e.g., Biltoft-Jensen et al., 2009) and aimed to minimize participant burden.

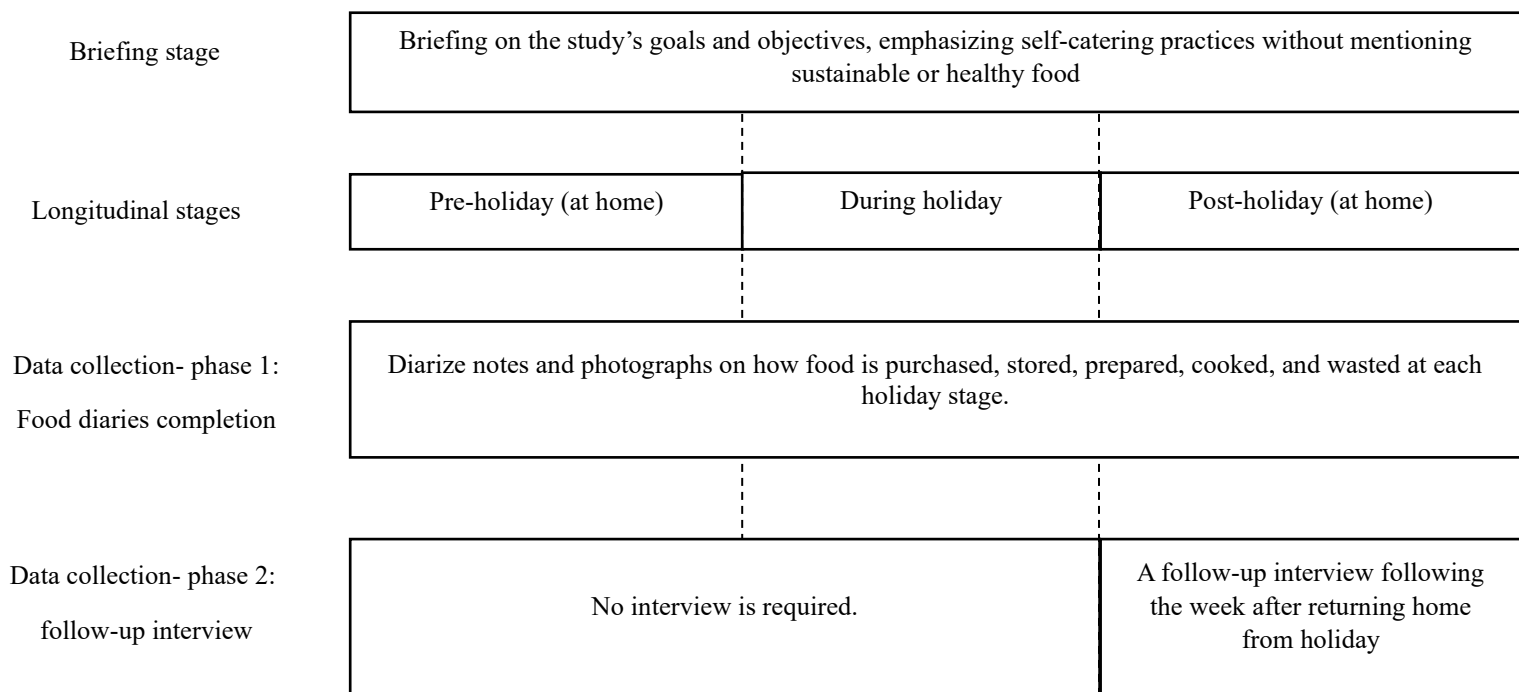


Figure 4.2 Participant involvement process

To implement Phase 1, participants provided signed consent and then followed the comprehensive food diary guide. The lead researcher provided instructions on ethical considerations (at the beginning) and practical aspects of the guide through emails, informal conversations, or meetings (in person or online). Specifically, participants were advised to avoid including identifiable individuals in their photos and were provided with guidance primarily on how to document relevant photos, what details to note, and how to record their food consumption on a day-by-day or meal-by-meal basis to avoid feeling overwhelmed.

Regarding the second phase, photo-elicitation interviews were conducted by the lead researcher online via MS Teams, as this was the method preferred by the study participants due to their location in various parts of the country, and were audio recorded. Following the approach adopted in previous studies (e.g., Patricia et al., 2017), the interviews involved collaborative discussion of photos, with participants selecting six to eight most interesting images and the researcher adding

four to five more to ensure comprehensive coverage. Building on initial insights from a pilot stage that involved open discussions of food consumption practices across different holiday stages, the main interviews were conducted in a semi-structured format, guided by the SHOWed technique (Johnson et al., 2011; Patricia et al., 2017). This interview technique is widely used in photo-elicitation research and was adapted to incorporate this study's focus on sustainable healthy food consumption. The relevant prompts were: "What do you See in this picture?", "What is Happening in this picture?", "How does this picture relate to Our sustainable healthy food consumption?", "Why does this health or sustainability problem, concern or strength exist?" and "What can be Done to make it healthier or more sustainable food consumption?". Following the participants' responses, they might also be asked: How did you decide to purchase, eat, store, and waste this food? How does this food consumption compare to what you consumed at home or during the holiday? And, how has your food consumption changed since you returned from the holiday?". Moreover, open-ended prompts such as 'Can you give me an example of...' or 'Tell me more about...' were used to encourage participants to elaborate on their photos. The interviews were conducted over four months (April to July 2025), and each lasted nearly 1 hour (between 50 to 70 minutes).

4.3.4 Data analysis

Data analysis for this study is based on constructionist thematic analysis (Braun & Clarke, 2006), which aligns with this study's focus on practices and the interplay between social structures and agency, rather than individual psychologies (Kurz et al., 2015). This analysis involves both deductive and inductive reasoning, following Fereday and Muir-Cochrane's (2006) hybrid approach. Deductive logic was employed based on our integrative theoretical framework (Figure 1), informed by the Chordal Triad dimensions of agency (Sewell, 1992) and dual characters of social structures (Emirbayer & Mische, 1998). Inductive logic allowed themes to emerge directly from the data (Fereday & Muir-Cochrane, 2006), generating novel insights on how broad social structures can enable or constrain tourists' sustainable healthy food consumption across the holiday continuum (**Table 4.2**). The data interpretation process was conducted manually, without the use of software, which helped maintaining the researchers' connection to the analytical process and the data's context (Robins and Eisen, 2017). Coding was initially performed by the first author, followed by collaborative team discussions to confirm and refine the themes until full consensus was reached.

Table 4.2 Summary of thematic analysis

Food practices	(Un)Sustainable (un) healthy food consumption		Pre-existing themes	
	Themes	Sub-themes	Primary agency, structure dimensions	Holiday stages (Pre, during, post)
Food purchasing	In-person supermarket shopping	Food connection and flavor perception	Projective and evaluative, food logistics	Enhanced during the outbound holidays
		Packaged food	Evaluative, food logistics	Mostly pronounced at home
	Online supermarket shopping	(less) impulsive purchasing	Iterational, technology	More popular at home
	Food specialty purchases	Culinary curiosity	Projective and evaluative, carnistic ideology	Prominent on holiday, decontextualized after holiday
	Farm-based market visits	Nature and farming appreciation	Projective and evaluative, human interactions	More prominent on holiday, discontinued at the post-holiday stage
	Foraging	Nature appreciation, food connection	Iterational, intergenerational knowledge, nature, and community support	Seasonal at home, disappeared on holiday
	Community-based online platforms	Food sharing and exchange	Iterational, community network and technology	Disappeared on holiday
Preparation and cooking	Traditional cooking	Resourcefulness but conservatism	Iterational, intergenerational and lay knowledge	Extended from home to holiday
	Smart cooking	Real-time adaptability and resource substitution	Evaluative, technology	Occasionally at home, but not appeared on holiday
	Local cooking methods/ingredients	Culinary curiosity	Projective and evaluative, carnistic ideology and lay knowledge	Prominent on holiday, capable of transference back to home
Food storage and waste management	Reusing leftovers Recycling Meal planning Portion size control Preservation techniques Spoilage prevention	Resourcefulness and adaptability	Iterational and evaluative, practical knowledge	Comparable at home and on holiday, with some improvement abroad.

4.4 Findings and discussions

4.4.1 Pre-holiday stage

The findings revealed that participants' perceptions of sustainable healthy food consumption were mostly aligned with the dimensions identified by the FAO and WHO (2019), including environmental (e.g., food waste reduction, plant-based food, food miles), health (e.g., balanced intake of vegetables and meat, less-processed food, low-chemical food), ethical (e.g., preservation of resources for future generations), sensory (taste, appearance), and socio-economic (e.g., support for local farmers) dimensions. Moreover, there were acknowledgments of alignment between these dimensions, such as in P6's elaboration: "*...sustainable, because you're buying natural, healthy products – fresh from the farm*". Conversely, some misalignments were found, as indicated by P7:

“I only eat meat when I feel I need the nutrition, like when I’m exercising or going on an intense hike”, or in a similar way, by P9 *“because our bodies need different types of protein, and many of them are mostly found in meat”* (P9). However, such misalignments illustrate the significant influence of lay knowledge, shaped by carnism values, on participants’ evaluative agency regarding sustainable healthy food consumption.

Lay knowledge (virtual structure) was frequently employed by participants to interpret their (un)sustainable (un)healthy food experiences in everyday life (Monaghan & Gabe, 2022). Rather than being evidence-based, this knowledge is constructed to embed cultural meanings – specifically, carnism values (Joy, 2009), as illustrated by the above quotes from P7 and P9. These quotes support the shared lay knowledge that essential proteins are predominantly sourced from animal products, overlooking the nutritional adequacy of plant-based proteins such as lentils, soy, and other legumes (Drolet-Labelle et al., 2023). Similarly, P8’s belief that *“Even though vegetables and fruits aren’t animals, they still have life. When we eat them, they die too”* further rationalizes animal-based food consumption at home, which disregards the higher capacity for suffering, greater environmental impacts, and higher resource demands associated with animal-based foods (Broom, 2014).

On the other hand, lay knowledge supported some participants’ food practices in a sustainable, healthy manner. For instance, participants routinely engaged in freezing or microwaving food at home (e.g., P1, P5, P8). When prompted on the sustainability and healthiness implications of these practices, participants appeared to be unaware that these do not compromise either sustainability or health (Bodwell & Womack, 1978). They practiced them routinely without realizing that their action contributed to sustainable healthy food consumption.

Participants’ cooking practices at home were primarily shaped by intergenerational or traditional culinary knowledge (virtual structure), which played a key role in guiding their iterational agency. This knowledge, often passed down from parents, enabled most participants (e.g., P3, P8, P9) to prepare meals typically associated with higher intakes of vegetables, fruits, and essential nutrients, and lower consumption of processed, high-calorie foods compared to those purchased or eaten out (Jones et al., 2014). For example, P8 described baking their own bread (see **Photo B3.1**): *“...and some bread I made myself. It’s not perfect, but I prefer it because bread here is too sweet for me. I don’t like how sweet desserts and bread are in England.”* (P8). However, reliance on traditional

recipes sometimes led to conservatism, particularly with meat-heavy dishes. As P8 further explained: “It’s a traditional Chinese recipe (containing meat) from my mother... Otherwise, the food is not good if you don’t follow the recipe” (P8). This conservatism could inhibit openness to incorporating more sustainable or healthier ingredients and cooking methods into traditional recipes (Biliroğlu et al., 2025). In contrast, some participants occasionally use artificial intelligence tools, which offer real-time recipe adaptations and ingredient substitutions. However, this approach was infrequent and only sometimes contributed to more sustainable meal preparation or improved nutritional quality of dishes consumed at home (Kansaksiri et al., 2023).

The procurement of cooking ingredients at home was from various sources. Chained supermarkets (e.g., Tesco, Lidl) were the primary choice, due to their dominant market presence and convenient proximity to participants’ houses (actual structure). However, the low flavor release and distant connection associated with supermarket produce negatively affected participants’ perception of fruits and vegetables (evaluative agency), as indicated by P10: *“In the UK, you can’t really touch or smell the fruit before you buy it. Sometimes the packaging even hides the fruit...it actually feels a bit distant or unnatural to me.”* Online shopping was less popular, though it was described as minimizing unexpected or impulsive purchases, in contrast to some research findings (Chan et al., 2017). Other online platforms included community-based options such as Olio (actual structure), which relied on community networks at home (e.g., P5) to support regular food sharing and recycling (iterational agency) (Gómez Ceballos & Antonopoulou, 2023). Additional sources included foraging, which was learned through intergenerational knowledge (virtual structure) and reinforced by exposure to natural resources and community support (actual structures). For participants (e.g., P10), this greatly improved their sense of food connection, appreciation of nature, and fulfillment derived from discovering something unexpected (evaluative, projective agency). However, the contribution of foraging to sustainable healthy food consumption was marginal due to its seasonal nature and was less frequently incorporated into main dishes (e.g., roasted apples with cinnamon, plum crumbles, garlic pickles, and breakfast cereals with blackberries (see **Photo B3.2**).

Regarding waste management practices at home, participants employed various resource efficiency measures, such as bulk purchasing on a weekly or monthly basis, reusing food leftovers, monitoring expiration dates during storage, demonstrating flexibility and resourcefulness in

cooking, and planning portion sizes (primarily evaluative agency). However, participants noted certain challenges, particularly regarding packaging and disposal infrastructure (actual structure). For example, P8 expressed frustration with excessive plastic packaging: “I don’t think it’s very sustainable because everything is over-packaged... Every time I buy meat from the shop, I have to repackage it into smaller bags at home. But those new bags are also plastic, so you can imagine how much waste that creates. I really don’t like it.” (P8). Similarly, P4 highlighted logistical challenges in managing food waste at home, particularly around municipal collection schedules: “In my village, food waste is collected only every other week. Before going on holiday, I realized that if I missed the collection day, I would have to wait another two weeks. To avoid this, I decided to freeze the vegetable scraps and other compostable food waste and then dispose of them after I returned.” (P4). These accounts illustrate how both retailer practices (e.g., over-packaging) and inadequate waste collection infrastructure can undermine individual efforts toward sustainability.

Overall, at the pre-holiday stage, the combination of lay knowledge and intergenerational knowledge with carnism symbols shaped the most influential virtual structures, which primarily influenced the iterational and evaluative agencies of participants. Supermarkets with their food ingredients, technological resources, and social relationships (or community support) underpinned the actual structures influencing participants’ engagement with (un)sustainable healthy food consumption during the pre-holiday stage.

4.4.2 During the holiday stage

Extended practices from home

Self-catering holidays allowed the extension of the ontological home comfort (Quan & Wang, 2004) for some participants, thereby avoiding dining chaos in tourism destinations. This was exemplified by a Muslim, Asian participant through refraining from non-halal meats: “*We did a bit of research about the food in Edinburgh... we’re not very comfortable with those kinds of meats...we chose to prepare some of our favorite Indonesian dishes*” (P3). In this case, they organized their food in advance at home and transported it to the destination to ensure a smooth arrival. Others (e.g., P9) noted that support from travel companions facilitated this extension of home comfort. In most cases, self-catering holidays primarily enabled the preparation of simple, familiar foods, leveraging their known cooking skills to save time for sightseeing and other activities (Isabelle, 2019). These findings support Carr’s (2002) argument that some tourists travel

with more “cultural baggage” than others. However, this was not necessarily translated to sustainable healthy food consumption, as many self-catered meals reported by these participants still involved significant meat consumption, such as the consumption of Indonesian Rendang beef for P3. In this way, most of the participants replicated most of the virtual knowledge embedded in their pre-holiday home cooking.

The findings also indicate the persistent influence of lay knowledge from home, particularly regarding meat consumption (e.g., P9), microwaving (P6), and freezing practices (P8). However, aspiring for some indulgence or treatment during holidays (projective agency) allowed the reinforcement of some lay knowledge. For instance, the misinterpretation of balanced diets led some participants to display compensatory behaviors (Hazley & Kearney, 2024), as indicated by P4: *“(During holiday) I ate a lot of unhealthy foods, like instant crisps and carbs, so I tried to make up for it by having some extra vegetables for my health”*. Additionally, the increased desire for indulgence gradually prompted participants to enjoy foods typically reserved for weekends or holidays at home: *“The kids only have meat burgers occasionally, like when traveling, not in their regular weekday routine at home”* (P3). This aligns with Quan and Wang’s (2004) concept of “routine variety-seeking,” where individuals rotate various ingredients across time. However, these extended practices from home were not translated into sustainable healthy food consumption mainly due to the appeal of carnism food choices.

Deviations from home practices

A stronger desire to discover novel foods (projective agency) prompted some self-catering participants to consume local food specialties (actual structure) more extensively. However, these local food specialties predominantly reflected carnism ideologies (virtual structure), which often restricted participants’ sustainable healthy food consumption. While local foods are valued for their uniqueness and authenticity (Alderighi et al., 2016), their influence on self-catering tourists’ dietary patterns often resulted in less sustainable dietary changes, as observed by P7:

“Oh, it's just, you know, I try to eat less meat in my everyday life, but when I'm traveling, I'm more of a flexitarian and like to be flexible with my choices so I can try local foods. I care about the environment, but I also think it's important to stay flexible”.

As a result, participants often used health discourse or partial environmental justifications (lay knowledge) to rationalize their consumption of unsustainable local food specialties. For example, P8 cited health benefits associated with natural flavors and reduced fat and salt content (Van Bussel et al., 2019) when describing the consumption of Scottish beef, a resource-intensive meat. Similarly, P4 justified their consumption of animal-based foods by citing their purchase from a local butcher or dining at a farm-to-table restaurant (e.g., at a deer farm restaurant), owing to factors such as reduced packaging or shorter supply chains. These examples underscore the need to critically examine both the prevailing carnism ideologies and lay knowledge surrounding local food specialties to advance sustainable healthy food consumption in tourism.

“I also tried the milk and beef, which are my favorites. The beef is especially good. When I tasted everything, I was honestly amazed. The way they cook the food is great—not too oily or spicy, just really nutritious and delicious. So, honestly, there’s no reason not to try it!” (P8)

“It was similar, but in Germany, I purchased a special cut of fresh pork from an in-house butcher at a large supermarket, which offered a dedicated fresh meat section. This contrasts with my usual practice in the UK, where I typically buy pre-packaged pork. Other than that, I don't find any difference” (P4)

On the other hand, if materialized in fruits and vegetables, local food specialties can enable more sustainable or healthier food consumption. In this context, P10 described how prior experience with Spanish watermelon in the UK shaped their selection while traveling to Spain. This phenomenon aligns with the concept of ‘tourism at home,’ as discussed by Jang and Eves (2019), which could be more sustainable and healthier if applied to plant-based foods. Alternatively, plant-based local food specialties can reach greater impacts if openly demonstrated through local food recipes or cooking methods in holiday destinations. However, participants demonstrated deficiencies in sustainable healthy food practices. For instance, P10 was inspired by Mediterranean recipes – known for being high in unprocessed plant food but low in animal-based food (Radd-Vagenas et al., 2017) – to cook more colorful meals compared to their typical meals at home (projective agency). However, while eating colorful foods is generally associated with increased vegetable consumption (König & Renner, 2018), their meals were significantly meat-based and

thus were not fully sustainable. Similarly, P6 was enthusiastic about sharing his culinary learning experience in an Asian local food market (projective agency) (see **Photo B3.3**), but this did not fully translate into sustainable healthy eating, given the inclusion of pork meat in the instructed cooking recipe (carnism ideology).

“So, different colors, you know, like the green, red, or yellowish food, it's good to have a mix. And also, with meat, like beef is red meat, fish is white meat, so it's better (healthier) to mix it up.” (P10). ”

“I try to avoid consuming pork because it contributes significantly to environmental pollution. So when I was traveling as well, I was trying to avoid pork. But it was more about learning local food. Here, you can see how I prepared pork with shrimp and vegetables.” (P6)

Enhanced practices compared to home

The findings revealed enhanced holiday practices in sustainable healthy food consumption compared to home, particularly in purchasing fruits and vegetables and waste management. Regarding purchasing practices, the enhancements were largely attributed to the superior organoleptic qualities (e.g., taste, texture, aroma) of fruits and vegetables in regions such as Spain and East Asia (Bayarri & Costell, 2010). In contrast, produce in the UK was often perceived as more genetically modified (Department for Environment, Food and Rural Affairs, 2025) and heavily packaged, often failing to meet expectations for flavor and a sense of close connection to the food. This perception contrasts with the intended benefits of genetically edited food, including extended freshness and potential to reduce food waste (Gooch, 2025). Moreover, participants (e.g., P6) noted that purchasing from farmer-based markets at these destinations enhanced cultural experience, socialization, and a greater appreciation for nature and farmers' work (evaluative, projective agency). These findings underscore the importance of sensory quality and close connection (evaluative agency) to food in promoting sustainable healthy food consumption both at home and on holiday (see **Photo B3.4**).

“I was inspired by the way locals approached food—it was simple, fresh, and full of life. I especially loved how amazing the tomatoes and blackberries from Mercadona tasted. They didn’t need anything fancy—just a quick rinse, and they were good to go. It felt like they gave me exactly the nutrition and energy I needed for those long active days.” (Diary notes, P7)

“I enjoyed trying new food, and it was nice when they took you to local markets and explain about what the local people eat. It felt natural—like you really came from there. Because in this way you are supporting the producers, farmers, and local people...and you can find fresh items with many options to choose from.” (P6)

Additionally, environmental factors at the destination (actual structure), such as heat and increased risk of dehydration, encouraged participants to reinforce healthy routines from home, particularly by consuming more fruits and salads (evaluative agency). This observation aligns with findings that dietary habits are closely linked to the climatic characteristics of a location, with ambient temperature, humidity, and seasonality all influencing food choices (Spence, 2021). Relatedly, participants also highlighted the role of increased physical activity during holidays, consistent with findings on reduced sedentary behaviors during vacations (Ferguson et al., 2023). As illustrated by the following quotes, these sustainable healthy food patterns are further supported by the availability of fresh and appealing produce at the destination.

“In Spain, I used to eat a full plate of fruit every night before bed — banana, pineapple, apple, pear, strawberry, and others. It became a habit. The fruit there was more delicious. I continued it. In fact, I ate more fruit during the trip. The weather was hot, so I also ate watermelon to stay hydrated. I had them — especially after coming back from walking. My physical activity is lower now (after return from holiday), so I don’t feel the same need.” (P9)

“The other reason I chose to make salad was because it was really hot (in Seville). So I felt it was summertime and more refreshing to have some salad, not necessary to have a heavy meal.” (P10)

Regarding waste management, self-catering holidays often facilitate effective resource management. Most participants reported that their food-related waste during self-catering holidays was comparable to their usual levels at home, both before and after their trips (e.g., P3, P10). This consistency is attributed to their ability to apply everyday food management strategies, such as meal planning (e.g., buying less food), reusing leftovers, monitoring expiration dates, preventing spoilage, maintaining flexibility in cooking, and planning portion sizes (primarily evaluative agency). Notably, participants observed that international self-catering holidays sometimes offered improved waste management opportunities due to more advanced facilities and market options (actual structure, see **Photo B3.5**). For instance, access to refill shops or bread slicer machines in supermarkets (actual structure, P7), as well as advanced separate bins near accommodation (actual structure, P4 & P9), enabled more efficient waste management on holiday:

“I often went to supermarkets instead of local shops, but I did discover some great refill... to fill up with food like nuts, dark chocolate, or organic snacks. I really liked it because it reduces plastic packaging and encourages mindful shopping.” (P7)

“In Spain, supermarkets like Mercadona have a wide variety of bread, and you can slice it yourself using a machine, unlike UK supermarkets like Lidl” (P7)

However, the quality of waste management infrastructure varied across destinations and properties, as illustrated by P10:

“Like, in San Sebastian, they just throw everything into one big bin. But in Sevilla, they have separate bins for different things—bottles, paper, cardboard... it's actually pretty similar to what I have here, except I think this outside bin is for kitchen waste. And the hosts were different too. In Sevilla, it was an older couple who lived upstairs and took care of the place. But in San Sebastian, it was a young couple who were university students and were hosting this big villa for the summer. I think they were still getting used to it and didn't quite know how to manage everything, from what I saw.” (P10)

Therefore, while self-catering holidays generally allow tourists to maintain familiar food management practices and sometimes benefit from improved waste management infrastructure, challenges persist due to variability in local systems, property management, and market practices.

Discontinued practices

Some at-home food-related practices were discontinued when participants transitioned to the holiday stage. These practices, which were already marginal in terms of sustainable healthy food consumption, included online food procurement (through supermarket chains or community-based platforms), foraging, some food-related reuses, and parental control over children's diets. The discontinuation of these practices was mainly attributed to changes in the food environment (actual structure), unfamiliarity with the new setting (virtual structure), lack of community support (actual structure), and the more hedonic nature of holidays (virtual structure).

Overall, findings from the holiday stage indicate that the prevailing carnism ideologies (virtual structure) strongly influenced self-catering practices - whether transferred from home or developed during the holiday through participants' openness to experience local food specialties (actual structure). In contrast, enhancements in actual structures, such as the quality of fruits and vegetables or waste management infrastructure, encouraged tourists' projective and evaluative agency regarding sustainable healthy food consumption.

4.4.3 Post-holiday stage

After returning from holiday, most participants resumed their pre-holiday food practices, such as grocery shopping at chain supermarkets and traditional home cooking. However, many experienced a loss of appetite, reluctance to cook, and pressure to catch up with work-related responsibilities (virtual structure). These observations align with recent findings indicating that sedentary behavior increases significantly during the first week following a holiday (Ferguson et al., 2023). Consequently, re-establishing home routines was delayed for most participants, and many of the positive changes observed during self-catering holidays, such as enhanced fruit and vegetable consumption, visits to farmers' markets, and improved waste separation, were not sustained upon returning home.

On the other hand, the findings indicate that food experiences during travel can inspire tourists to seek out or recreate those foods upon returning home. However, this projective aspect of tourists'

agency may encounter structural barriers, such as the absence of social relationships established during the trip (e.g., P5, who were unable to obtain a recipe while traveling) or due to accessibility challenges in sourcing specific plant-based ingredients after returning home (actual structure, e.g., P6). This inhibiting process can be referred to as the ‘decontextualization effect’ (Masset & Decrop, 2021), which occurs when it is logistically or socio-culturally challenging to integrate sustainable healthy food practices into everyday consumption at home, rendering them no longer relevant or meaningful.

“I would love to do it, but the problem is that I can’t find the proper ingredients. If I want to, I have to go to specialty shops, which I might not even find in this small town. Maybe in a bigger city like London, I could find them.” (P6)

The other reason why (un)sustainable healthy food practices may not enter the home after the holiday can be attributed to negative perception (virtual structure). As noted by some participants (e.g., P3, P6, P9, P10), these foods may be perceived as inauthentic or lacking in unique value, and may even be considered culturally unacceptable at home (Masset & Decrop, 2021). This reluctance for integration at home can also be related to the fact that tourism food consumption is experiential in nature (Quan & Wang, 2004), which is characterized by a unique blend of sensory experiences, including people, sounds, smells, colors, and places. Furthermore, if these food practices were to be transferred to everyday life, they may prove meat-based or unsustainable, which again raises questions about the role of food specialties in promoting sustainable healthy food consumption.

“I saw new (meat-based) food and it smelled good, I tried it, no matter if it is sustainable, because it is a one-time experience. At home, it’s different - I have to plan...” (P9)

On the opposite side, the facilitating drivers for transferring sustainable healthy food practices from holiday to home can be due to their practical value (e.g., P1, P2), personal taste (P7), and positive perception (P8). For example, P1 described learning a food preservation method while traveling, which had the potential to positively influence their food consumption habits upon returning home. In contrast, for some participants, personal taste led to the adoption of less

sustainable food practices; for instance, P7 reported that consuming unsustainable products such as dried meat during their holiday, driven by personal preference, negatively impacted the sustainability of their food choices after returning home (see **Photo B3.6**).

“Another big thing I learned (during the trip) was how to preserve food properly. I remember buying two yams and realizing that I didn’t need them immediately. I had to figure out a way to keep them from spoiling. So I peeled, washed, and diced them, then refrigerated them at a specific temperature. That helped preserve them for several days.” (P1)

“Although I’ve generally maintained a healthy diet and was mainly vegetarian before the trip as part of my lifestyle, the demands of the trip naturally shifted my eating habits. I started incorporating dried meats like salami and chorizo, mainly for the electrolytes, iron, and general energy boost they provided for the really difficult hike of Camino del Norte. That change stuck with me a bit—since coming home, I’ve occasionally been eating frozen pizzas with meat on top, which is quite different from how I used to eat.” (P7, diary notes)

Overall, the post-holiday findings indicate that bodily limitations, such as appetite loss or laziness (actual structure), delayed the re-establishment of food consumption routines at home. While iterational and evaluative agency, reinforced by lay and intergenerational knowledge (virtual structure), gradually re-emerge at home, projective agency, mostly associated with holiday experiences, fades due to the meaninglessness (virtual structure) or decontextualization of novel food experiences (actual structure).

4.5 Conclusions

This study explored determinants of the evolution of sustainable healthy food consumption in tourism through the lens of the agency-structure framework (Emirbayer & Mische, 1998; Sewell, 1992). Informed by a mini-longitudinal research design, the findings (**Figure 4.3**) indicate a dynamic interplay between and within agency and structural dimensions in shaping sustainable healthy food consumption across the three holiday stages. During the pre-holiday stage, prevailing intergenerational knowledge and lay understanding of food, as well as carnism ideologies,

combined with supermarket routine characterized by excessive packaging and a lack of farmers' markets, significantly undermined individuals' iterational and evaluative agency to consume sustainable healthy food options.

On the holiday, some of the factors discussed above were further intensified, due to the emergence of heightened culinary curiosity coupled with the strong dominance of carnism ideologies in destinations' food markets. Conversely, the holiday context also presented opportunities for enhanced sustainable healthy food practices, particularly through more efficient waste management systems, closer connections to food, and richer sensory experiences associated with farm-based markets in certain destinations. These changes were accompanied by a primary agency shift to projective and evaluative dimensions.

In the post-holiday stage, sustainable healthy food consumption was primarily influenced by the decontextualization of food and shifting food perceptions, combined with lingering holiday lethargy, which collectively constrain individual efforts toward more sustainable, healthier food consumption, while delaying the re-establishment of iterational and evaluative agency primarily embedded in home routines. These findings attribute the dynamics of tourists' sustainable healthy food consumption at each stage of the home-holiday continuum to the interplay between agentic and structural forces, thus moving beyond purely agentic analyses of tourists' sustainable behaviors (e.g., Wang & Ma, 2025).

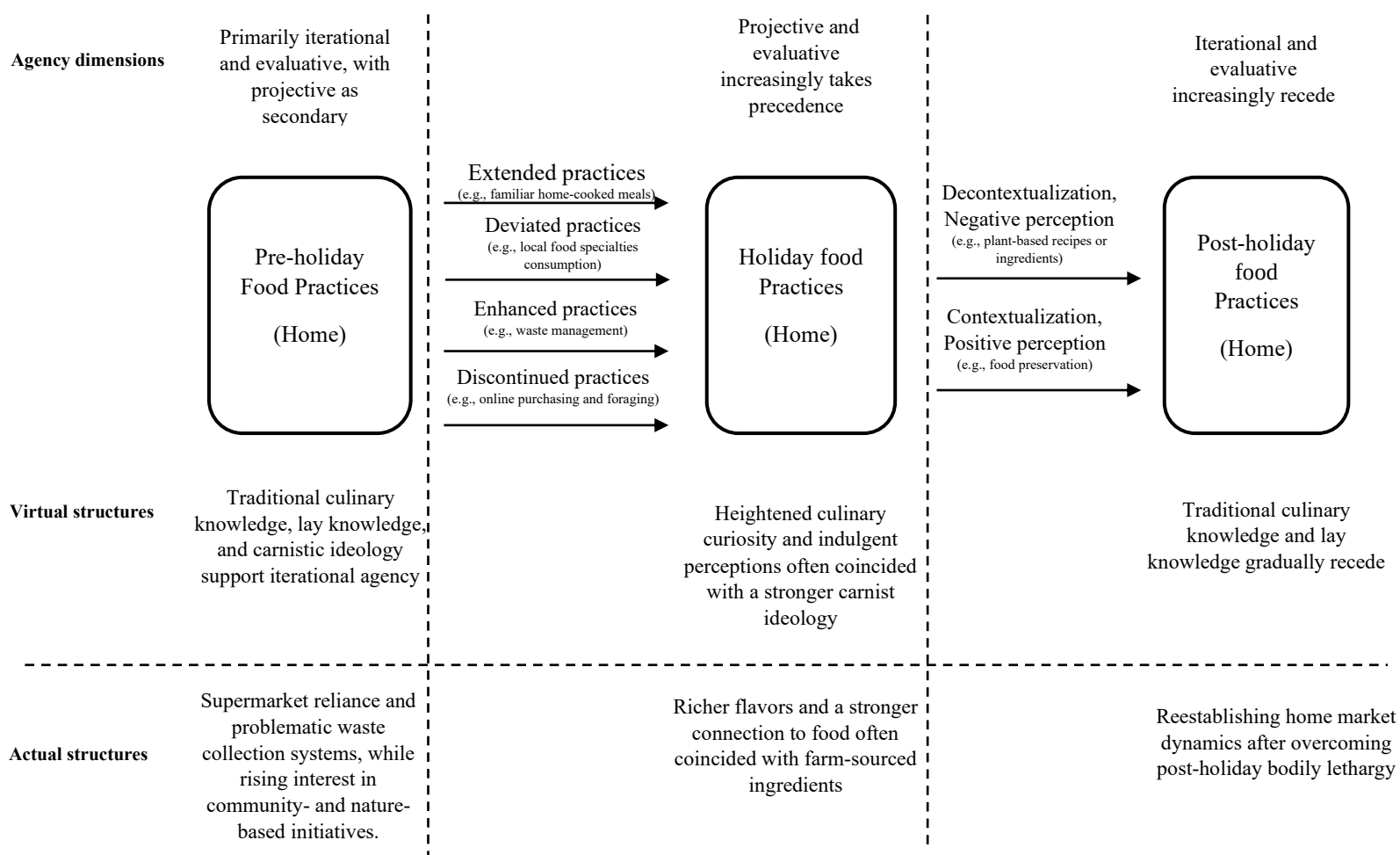


Figure 4.3 Agency-structure interplay during three self-catering holiday stages in terms of sustainable healthy food consumption

4.5.1 Theoretical implications

This study introduces the concept of the ‘home-holiday continuum’, emphasizing the reciprocal relationship between household and holiday food practices. Unlike previous food consumption models in tourism (e.g., Quan & Wang, 2004; Salehi et al., 2025), which primarily examine the influence of pre-holiday food practices on holiday food practices, this study framework recognizes that holiday experiences can also shape post-holiday food practices, thereby advancing understanding of sustainable healthy food consumption in tourism.

By proposing the home-holiday continuum, this research contributes to the literature on contextual spillover (see Manika & Gregory-Smith, 2021) in sustainable tourist behavior in two

ways. First, while prior studies have focused predominantly on psychological variables, such as identity effects, moral licensing, and goal commitment (Majid et al., 2025; Xu et al., 2021; Zhao et al., 2025), as facilitators of contextual spillover, this study highlights the critical role of broader social structures. These include virtual factors, such as lay and intergenerational knowledge, carnism ideologies, market dynamics, as well as actual factors, such as the availability of resources and facilities both at home and on holiday, both of which underpin the spillover effects between home and holiday contexts. Second, this research addresses a significant gap by incorporating the post-holiday stage into the analysis of contextual spillover, an aspect largely neglected in most cross-contextual tourism studies on food consumption.

Therefore, rather than relying on static psychological constructs such as attitudes or beliefs, or simplistic labels like ‘eco-conscious’ or ‘eco-hypocrite’ (Mkono, 2020), the proposed framework provides a more nuanced and dynamic interpretation of tourists’ sustainable healthy food practices. It captures the complex interplay between agentic and structural influences across the home-holiday continuum, offering a deeper understanding of tourists’ cross-contextual behaviors. For example, the findings suggest that the appeal or introduction of novel foods or food specialties, such as tasting dried meat or chicken embedded in local cuisines, can disrupt tourists’ goal commitment or identity effects related to sustainable healthy food consumption through projective agency. This study thus underscores the critical role of structural factors in adjusting agency, helping to explain variations in tourists’ behaviors across different contexts.

Furthermore, this study underscores the multidimensional nature of agency in shaping sustainable behaviors. It advances traditional perspectives that tend to focus on either the practical-evaluative dimension (such as experiential and consumption values), habitual factors (Lee et al., 2014; MacInnes, 2022), or the projective dimension (Birch & Memery, 2022), often overlooking the complex and dynamic interplay among all three. This interplay shifts across structural contexts and is essential for understanding how agency unfolds in practice (Emirbayer & Mische, 1998). Therefore, future research is recommended to embrace this multidimensional approach when studying tourists’ sustainable behaviors.

Methodologically, this study contributed to the existing longitudinal research on sustainable tourism behavior (Wu et al., 2021) by combining visual methodology with qualitative research methods in a mini-longitudinal setting. This new method enabled us to better feel the ‘context’ of

tourists'(un) sustainable healthy food consumption and observe the complexities and trade-offs involved in their decision-making at home and on holiday. It facilitated a more vivid and authentic interpretation of their emotions and practices, such as heightened culinary curiosity and sensory food experiences during holidays. Additionally, this method enhanced the effectiveness of memory recall and accuracy, while also allowing participants to express feelings and latent thoughts that might be difficult to articulate in traditional interviews. Given these benefits, this methodological combination can inspire broader investigations in the field of sustainable tourism research, including areas such as solid waste management, energy conservation, water consumption, and other pro-environmental behaviors.

4.5.2 Practical implications

The findings underscore the importance of empowering tourists to enhance the self-catering sector's contribution to sustainable healthy food consumption. As sustainable healthy food options can significantly motivate travel (Williamson & Hassanli, 2020), integrating tourist feedback enables more effective product adaptation and business innovation through value co-creation – collaboration between businesses and self-catering guests to develop sustainable healthy interventions (Hassanali & Williams, 2023). This study identifies key areas for value co-creation, such as enhancing food waste management systems (including infrastructure, multilingual guides, and reuse opportunities) and providing guests with opportunities to learn local recipes using local ingredients. Tailoring these initiatives to the specific preferences and needs of targeted self-catering groups is essential. For example, omnivorous guests can be inspired by free samples of fresh local produce and illustrative cooking guides for preparing affordable, nutritious local dishes, while vegetarians and vegans could benefit from well-equipped kitchens, essential cooking ingredients, and information on local plant-based dining and markets. By implementing these strategies, self-catering accommodations can gain market advantages (e.g., competitive edge and brand differentiation), social benefits (e.g., community support and social legitimacy), and enhanced public perception, particularly in the context of challenges related to gentrification.

This value co-creation approach can be further extended to residents and other businesses, both at holiday destinations and at home. Since self-catering holidays encompass the entire food consumption journey, they often intersect with everyday household food practices - unlike other holiday types, such as all-inclusive packages, which are typically limited to hotel menus.

Addressing virtual or actual barriers at destinations can facilitate the spillover of sustainable healthy food consumption from residents to tourists (Liu et al., 2024), and vice versa. Sharing the same space or facilities, such as supermarkets, restaurants, farmers' markets, urban waste management facilities, cooking classes, and foraging sites, both residents and tourists can collaboratively advance a destination's sustainability in healthy food consumption. As highlighted by this study, feedback from both residents and tourists can guide supermarkets in offering recyclable or reduced packaging, showcasing local farm products to reduce perceived food distance, and standardizing sustainability and health practices across all branches. Similarly, farm-based markets can promote sustainable healthy food consumption by increasing purchase points and improving product availability and accessibility. Restaurants can also contribute by introducing and promoting plant-based food specialties.

Further initiatives could involve engaging additional stakeholders, such as food souvenir vendors, social media influencers, and Destination Marketing Organizations. For example, souvenir vendors can differentiate themselves by offering sustainable healthy food souvenirs, including vegetarian recipes or ingredients, gluten-free and low-calorie snacks, dried local fruits, pickled vegetables, alternative protein sources, and cultivated meats. These souvenirs can enhance tourists' post-holiday experiences and contribute to their well-being (Filep et al., 2013). Social media influencers can collaborate with self-catering accommodations to showcase plant-based specialties, visits to farmers' markets and foraging sites, and local cooking experiences (Yohanes, & Ardiansyahmiraja, 2025). Destination Marketing Organizations can promote cooking classes, foraging courses, and food-themed tours, encouraging the integration of sustainable healthy ingredients and methods into traditional cuisine.

4.5.3 Limitations and future research directions

The sample of this study represents diversity in terms of cultural backgrounds and travel destinations. Future research could focus on more homogenous groups, such as UK travelers to Spain, to explore, for example, how the consumption of Spanish fruits and vegetables in the UK might influence interest in consuming these foods when visiting Spain. Also, future research can investigate how psychological factors, such as neophobic versus neophilic food characters, may differentiate tourist groups in extending, deviating, or discontinuing their food consumption practices, considering the structural influences in destinations. Additionally, future research can

investigate how to overcome the ‘decontextualization effect’ at the post-holiday stage associated with inauthentic or less favorably perceived food consumption. Furthermore, the sample of this study represents middle or high-income backgrounds who report less on the relevance of the affordability of sustainable healthy food options. Therefore, future study samples can be from tourists with low-income backgrounds (from the Global South) to address inclusivity issues.

This study also suggests promising directions for future research on the ‘home-holiday’ continuum. One limitation of the present study is the exclusion of elaborate or atypical occasions, such as hosting guests, religious (holiday) meals (e.g., Easter or Ramadan Iftar), or special weekend events at home (House, 2019) from the analysis. Therefore, future research could investigate a wider range of home eating scenarios when comparing food consumption at home with (self-catering) holidays.

This study identified that some participants intend to adopt more sustainable healthy food consumption practices in future travels, such as engaging with local chefs to learn cooking new vegetarian cuisines. However, the present research did not examine in depth how individuals prepare for transitions to upcoming pre-holiday and holiday stages, as data collection was limited to the first week of the post-holiday period. This represents a significant gap, as knowledge and experiences gained from previous holidays (Seo et al., 2013) can inspire more sustainable practices in future travel. For example, self-caterers with vegetarian diets may return to familiar destinations where they know how to access sustainable healthy food options (Salehi et al., 2025). Therefore, future longitudinal research should explore the lasting impact of holiday food consumption on home routines and subsequent travel planning. Incorporating concepts such as anticipated emotions (Mellers & MacGrow, 2021) could further enrich our understanding of upcoming pre-holiday and holiday stages by anticipating tourists’ responses to opportunities and constraints in sustainable healthy food consumption (Li et al., 2025), thereby supporting a more dynamic and comprehensive framework for understanding tourists’ sustainable healthy food consumption.

As this study primarily focuses on contextual spillovers, future research could extend this approach by examining whether and how the adoption of one type of (un)sustainable behavior may facilitate or inhibit the adoption of other types of sustainable behaviors - a phenomenon known as behavioral spillover (see Manika & Gregory-Smith, 2021). For example, in this study, most participants’ self-catering trips involved air travel, which generates significant greenhouse gas

emissions. It would be valuable to investigate whether there is a connection between such unsustainable transportation choices and subsequent (un)sustainable healthy food consumption by tourists at holiday destinations.

Methodologically, future studies can focus longitudinally on tourists participating in cooking classes, foraging courses, refill shops, or visiting ethnic restaurants at destinations, to further examine the post-holiday stage. Incorporating visual methods, such as photography or filmmaking, could provide richer insights into behavioral changes and inspirations in these contexts.

Finally, further studies could examine the role of key stakeholders, such as self-catering accommodation providers and food retailers such as supermarkets, to assess the feasibility and impact of proposed interventions from a supply-side perspective.

Chapter 5 Conclusions

This thesis, focusing on how to advance sustainable healthy food consumption in tourism, addresses a range of challenges inherent in the broader transition to sustainable food systems. The contribution of tourism can be understood in two main ways. First, tourism has the unique ability to sustain local food traditions and promote sustainable healthy food consumption by leveraging certain food consumption values such as novelty, education, prestige, social interaction, and sensory appeals (Choe & Kim, 2019). Second, from a behavioral and policy perspective, this thesis consolidates existing knowledge and identifies gaps regarding sustainable healthy interventions. The findings indicate that behavioral interventions in tourism have predominantly emphasized education, persuasion, upskilling, and environmental or social redesign, while interventions such as incentivization, coercion, restriction, and enablement remain largely underexplored. Similarly, policy interventions have primarily focused on communication, planning, and service provision, with comparatively less attention given to fiscal measures, regulation, or legislation - reflecting tourism's longstanding association with indulgence and hedonism (Koc, 2013). Nevertheless, insights gained within these focused behavioral and policy frameworks can inform sustainable healthy food interventions across other public sectors, such as cafes, restaurants, schools, and workplaces (Graça et al., 2019, 2023), enhancing their feasibility and design.

By focusing on the self-catering sector, this thesis broadens responsibility for both tourists and local businesses, engaging them directly with multiple elements (or activities) of the food system - including supply and purchasing, processing, preparation, cooking, consumption, and waste management - rather than limiting involvement to the offerings of hotel kitchens and menus in all-inclusive holidays. This expanded engagement fosters greater opportunities for collaborative action to address sustainable healthy food challenges. In particular, regarding the crucial issue of inclusivity (Ruben et al., 2021), the findings demonstrate that the self-catering sector is uniquely positioned to advance both livelihood inclusivity for a diverse array of local businesses (such as farmers' markets, souvenir vendors, supermarkets, and accommodation providers) and dietary inclusivity and affordability for a wide range of travelers, including vegans, health-conscious individuals, backpackers, families, and those with medical or religious dietary requirements. Importantly, this thesis extends the reach of sustainable healthy food initiatives to the self-catering sector, an underexplored area whose users are often budget-conscious travelers or families with children (Professional Association of Self-Caterers, 2025). This is particularly significant given

the global imperative to make healthy and nutritious diets accessible to broader populations (Hirvonen et al., 2020), even while traveling.

Furthermore, by encouraging meal preparation and culinary engagement, self-catering holidays help preserve cooking skills and traditions, support nutritious and culturally appropriate home-cooked meals, and reduce food waste. Specifically, self-catering holidays can enhance travelers' resourcefulness and awareness of food waste management by exposing them to more rigorous waste reduction and preservation practices, as well as enhanced infrastructures. These experiences can contribute to broader efforts to reduce food waste, both during travel and at home. Similarly, increased exposure and proximity to farm-based food products and local markets during self-catering holidays can facilitate a transition to more plant-based diets, especially if these habits are carried over into daily life. Such opportunities are less common in other holiday types, particularly all-inclusive holidays, which typically offer less exposure to local food systems and waste management practices, thereby potentially contributing to less sustainable and less healthy food consumption patterns.

This chapter is organized into four subsections. Section 5.1 highlights the key findings from each of the three studies. Sections 5.2 and 5.3 discuss the theoretical and practical implications of these findings, respectively. Section 5.4 addresses the limitations of the current studies and suggests directions for future research.

5.1 Summary of key findings

This thesis focuses on consumer engagement with sustainable healthy food consumption in tourism. It explores the complex determinants of this engagement by moving beyond individual-focused behavioral theories. Instead, it embraces societal and structural factors that influence tourists' sustainable healthy food consumption. To achieve this, the thesis develops an overarching home-holiday continuum, with a main focus on self-catering holidays. It explains how tourists' sustainable healthy food practices evolve as they transition from home to holiday, and vice versa. The individual chapters illustrate the progression of this thesis, as outlined in their respective findings below.

Chapter 2 highlights the interlink between behavioral diagnosis, behavioral interventions, and policy initiatives regarding sustainable healthy food consumption in tourism. To address these issues, the study introduces the Behavior Change Wheel with its COM-B model (Capability,

Opportunity, Motivation, and Behavior) to synthesis the study findings. This synthesis reveals the underdeveloped research focus on linking behavioral diagnosis to informed behavioral interventions in this research area. The COM-B model expands our understanding of tourist behavior by highlighting the importance of non-cognitive behavioral determinants, such as automaticity, emotions, social influences, and physical capabilities, which have so far been overlooked in the design of sustainable healthy food interventions. The Behavior Change Wheel further emphasizes the need to broaden the scope of interventions and policies, which have traditionally focused on education and persuasion through communication and marketing, while often overlooking strategies such as incentivization, modeling, and enablement.

Chapter 3 offers novel sociological insights into the evolution of sustainable healthy food consumption in tourism, moving beyond predominantly individual-focused analyses. The study illustrates various trajectories of sustainable healthy food practices as tourists transition from home to self-catering holiday contexts. Drawing on Shove et al.'s (2012) elemental practice approach and modes of practice model, the study suggests that practices may newly emerge, be sustained, modified, or disappear during this transition. These evolutions are influenced by the spatial-temporal dynamics of holidays, as outlined in the holiday appropriation steps (Isabelle et al., 2019). During the nesting step, when self-catering tourists seek familiarity and accommodate their food preferences, (un) sustainable healthy practices tend to evolve through the continuation of home routines, supported by convenient food preparation, known culinary skills, and the availability of suitable kitchen materials and ingredients. In the investigating step, as tourists become open to experimenting with unique culinary aspects at holiday destinations, factors such as the (un)availability and (un)accessibility of sustainable healthy food options, local market knowledge, and food logistics play a crucial role. The stamping step involves the incorporation of such meanings and values as togetherness, cultural immersion, and nostalgia into the evolution of tourists' sustainable healthy food practices.

Chapter 4 extends the sociological exploration of tourists' sustainable healthy food practices, taking an overarching view across the pre-holiday, during-holiday, and post-holiday stages. Drawing on the agency-structure approach (Emirbayer & Mische, 1998; Sewell, 1992) and a longitudinal research design (Menard, 2002), the study reveals unique interactions between agency and structure at each stage of the holiday. It not only illuminates the various evolutionary

trajectories of tourists' practices as they transition from home to holiday, but also provides new insights into how holiday practices either dissolve or become integrated into everyday life upon returning home. In the pre-holiday stage, lay and intergenerational knowledge, often shaped by carnism values, along with supermarket purchases, technological resources, and social relationships, primarily influence the iterational and evaluative dimensions of (un)sustainable healthy food consumption. During the holiday, pre-holiday practices may be extended, deviated from, enhanced, or discontinued. Tourists' agency shifts towards projective and evaluative dimensions, influenced by heightened culinary curiosity, pervasive carnism ideologies, improved quality of fruits and vegetables, and advanced waste management infrastructure. The post-holiday stage highlights the effects of (de)contextualization and shifting food perception, which challenge (or advance) the transfer of (un)sustainable healthy food practices from holiday back to home. During this stage, tourists' agencies gradually recede to iterative and evaluative orientations.

5.2 Theoretical implications

The thesis transcends from the prevailing focus on individuals' attitudes, beliefs, social norms, and motivational factors, rooted in cognitive-based theories such as the Theory of Planned Behavior (Ajzen, 1991) and Value Belief Norm (MacInnes et al., 2022), in understanding sustainable healthy food consumption in tourism. Instead, it shifts attention to frameworks that also consider non-cognitive determinants, such as automaticity, emotions, social influences, and physical capabilities. The introduction of the Behavior Change Wheel with its COM-B model (Capability, Opportunity, Motivation, and Behavior) in chapter 2 enables this broader theoretical focus. In particular, this theoretical framework highlights the significance of unconscious processes, habits, emotions, self-regulation, skills, and physical as well as psychological strengths in shaping tourists' sustainable healthy food consumption. It also incorporates the theorization of contextual variables (Liu et al., 2022; Wu et al., 2021) related to the external environment of consumption (Michie et al., 2011) into the analysis. A key advantage of this theoretical framework to sustainable tourism scholarship is its ability to link behavioral causes to both behavioral interventions and policy initiatives, a connection often missing in conventional, behavior-predicting approaches such as the Theory of Planned Behavior, frequently applied in tourism research.

In Chapters 3 and 4, the thesis progresses towards adopting sociological approaches to deepen the conceptualization of sustainable healthy food consumption in tourism. It contends that

sociological perspectives, particularly practice-based approaches, provide a more comprehensive lens than individual motivation alone. These approaches account for the socio-material arrangements and shared meanings that shape food practices (Spaargaren et al., 2016). Such broad dimensions are often overlooked by conventional approaches, which focus narrowly on individual attitudes and behavioral habits (e.g., MacInnes et al., 2022). To address these theoretical shortcomings, Chapter 3 revisits practice theories and the holiday appropriation framework to produce an integrated practice-based conceptual framework. This integrated framework reveals the underlying role of holiday-specific dynamics, conceptualized as holiday appropriation steps, in influencing tourists' (un) sustainable healthy food practices. Each holiday appropriation step, i.e., nesting, investigating, or stamping, demonstrates tourists' engagement with unique sets of practice elements based on Shove et al.'s (2012) practice approach. The integrated framework also adds value through the conceptualization of the relationship between practices across two life domains, i.e., household and holiday domains. Notably, it introduces the role of sticky practices, proto-practices, enhanced practices, and ex-practices, based on Shove et al.'s (2012) modes of practice, in uniquely constituting each holiday appropriation step.

Chapter 4 further advances the sociological approach by challenging the notion of tourists as entirely autonomous agents. Drawing on the agency-structure framework (Emirbayer & Mische, 1998; Sewell, 1992), it highlights the significance of structural determinants in the evolution of tourists' sustainable healthy food practices across the home-holiday continuum. In particular, it emphasizes the roles of lay and intergenerational knowledge, carnism ideologies, natural dynamics, market dynamics, and available resources and facilities as influential structural factors. These factors interact with the adaptive dimensions of tourists' agency, shaping sustainable healthy food consumption both at home and during holidays. This approach enables a more fluid interpretation of tourists' practices (Kurz et al., 2015), moving beyond static attitudes, intentions, or simplistic labels such as 'eco-conscious' or 'eco-hypocrite' that prevail in existing studies on tourist sustainable behavior (Mkono, 2020). The fluidity of tourists' practices is evident not only during holidays, where pre-holiday practices may be extended, deviated, enhanced, or discontinued, but also in the transition from holiday back to home, where practices are influenced by (de)contextualization effects and personal perception. To our best knowledge, such an in-depth understanding of the overarching home-holiday continuum is absent in the current scholarship on sustainable healthy food consumption in tourism.

5.3 Practical implications

This thesis highlights the dual role of individuals, as tourists and residents, in advancing sustainable healthy food consumption in self-catering settings (at home and on holiday). Tourists can drive change by providing feedback for basic ingredients, adequate kitchen facilities, clear and accessible guides on waste management, maps highlighting healthy and environmentally friendly food options, and opportunities to participate in local meal events to learn about local recipes and cuisine traditions. Such input is particularly valuable for the self-catering sector, which has remained underdeveloped in terms of sustainable and healthy initiatives. By acting on guest feedback, providers can collaborate with local chefs to create tailored recipe lists, develop food market maps that support both tourist preferences and local businesses, and enhance food waste management. For instance, backpackers may appreciate social meals and cooking classes offering novel and interactive experiences, whereas families might value colorful, child-friendly recipe books that encourage their kids to procure sustainable healthy food ingredients and cook suitable dishes during their stay. Vegetarian or health-conscious guests may appreciate well-equipped kitchens and an access guide to sustainable healthy cooking ingredients in the market. These efforts could boost both dietary and livelihood inclusivity, strengthen community resilience, and help the self-catering sector withstand the challenges of gentrification.

As residents, individuals can apply lessons learned during their holidays to their everyday lives, further reinforcing sustainable healthy food practices within their home communities. This may involve encouraging supermarkets to offer recyclable or reduced packaging, promote local farm products to minimize food miles, and standardize sustainability and health initiatives across branches, as seen in the UK. Similarly, expanding access to farm-based markets can further support sustainable healthy food choices at home. Residents' feedback can also help improve local recycling systems and waste management logistics. Additionally, restaurants can draw on their insights to introduce and promote plant-based dishes, appealing to both locals and visitors to further advance sustainable healthy food consumption. They can support sustainable healthy food consumption by offering tailored information on the benefits of sustainable healthy food choices, designing menus with default vegetable options, designing more purchase points for fruit and vegetables, and enhancing service quality.

Institutions and industry associations can also play a crucial role in advancing sustainable healthy food consumption both at home and in tourism destinations. International organizations such as UN Tourism and UNEP are well-positioned to set regulatory frameworks, codes of conduct, and certification programs to guide best sustainable healthy practices globally. Funding bodies, such as the World Bank Group, can support destinations in promoting plant-based diets, alternative proteins, and food waste reduction initiatives. At the destination level, Destination Marketing Organizations (DMOs) should establish inventories of sustainable and vegetarian-friendly food options and restaurants and lead targeted educational campaigns for diverse tourist groups. Initiatives such as food-themed tours, foraging courses, and cooking classes can further engage tourists in sustainable healthy food practices. At the food market level, policies should expand distribution channels for alternative proteins, demarket unhealthy products, and promote innovative, sustainable food options to appeal to adventurous tourists as well as residents.

5.4 Limitations and future research directions

This thesis has several methodological limitations. The systematic literature review in Chapter 2 is restricted to Q1 and Q2 peer-reviewed tourism and hospitality journals, excluding other journal categories, theses, dissertations, and conference papers. While this approach ensures a rigorous peer-review process and high-quality sources (Huang & Wang, 2023), it may limit the comprehensiveness of the current knowledge landscape regarding sustainable healthy food consumption in tourism.

The empirical studies in Chapters 3 and 4 also present limitations related to sample heterogeneity. Both studies prioritize diverse participant characteristics, such as nationality, cultural background, age, food consumption patterns, and travel destinations, over homogeneity. While this inclusivity enriches the findings, it may reduce the depth of insights that could be gained from focusing on specific populations or destination demographics. For example, family life cycle stages (young adults, families, retirees) and generational differences (e.g., Gen Z) can significantly influence sustainable healthy food choices due to varying environmental awareness, time constraints, and budgets (Kemper, 2020; Orea-Giner & Fusté-Forné, 2023).

To address these methodological limitations, future research should focus on specific self-catering groups—such as families, couples, backpackers, healthy eaters, vegans, or vegetarians—with homogeneous age or life cycle profiles, traveling to the same destination with distinct food

environments. For example, given the rise of veganism (Jones, 2020) and the popularity of Spain among British residents, future studies could explore how vegan tourists' food practices evolve in these contexts. Comparative research between certain self-catering tourist groups, such as between food neophobic versus food neophilic profiles, could also provide valuable psychological insights to complement existing sociological findings. Another promising direction is to study more homogeneous samples from lower-income backgrounds, such as those in developing countries, to examine how sustainable healthy food practices develop both at home and while traveling.

Further limitations of this thesis stem from the practice frameworks adopted in the embedded studies. For example, the analysis of home-based food consumption is restricted to everyday mundane meals, excluding special occasions such as hosting guests, holiday meals, or weekend events (House, 2019). Future research should incorporate a broader range of home eating scenarios when comparing food consumption at home and on holiday. Additionally, the empirical studies do not compare self-catering holidays with other holiday types, such as all-inclusive packages, in terms of sustainable healthy food practices. This presents an opportunity for future research to examine how practices like plant-based eating and food waste management differ across various holiday contexts. Expanding the scope of self-catering to include outdoor picnics, restaurant-based self-catering, cooking classes, foraging courses, refill shops, or visits to ethnic restaurants could also provide deeper insights into sustainable healthy food consumption practices.

Moreover, as this thesis primarily addresses contextual spillovers, future research could extend the exploration into behavioral spillover effects - how adopting one (un)sustainable practice may influence the adoption of other types of practices (Manika & Gregory-Smith, 2021). For instance, since many participants' self-catering trips involved air travel, it would be valuable to investigate whether unsustainable transportation practices can be linked to subsequent (un)sustainable healthy food consumption at destinations. Additionally, future studies could investigate whether sustainable healthy food behaviors spill over between residents and tourists within the same setting (Liu et al., 2024), as this thesis did not separately examine these groups in a unified context.

Finally, while this thesis emphasizes collaboration between consumers and suppliers in co-promoting sustainable healthy food consumption in tourism, it does not assess the design or effectiveness of supply-side interventions. Future research should adopt a supply-side perspective

by focusing on such stakeholders as self-catering accommodation providers, food service operators, and food retailers.

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Appendix A (Chapter 3)

Appendix A1- Interview guide

Preliminary questions	Think about your most recent self-catering holiday. Tell me through it briefly i.e., where you went, with who, where you stayed and why. To what extent can you call this trip ‘typical’ i.e., it shares most features of the other self-catering holidays you take? <i>First, I am interested in knowing your opinion on sustainable food. Tell me, when you hear the term ‘sustainable food’, what things jump in your mind immediately? How would you define sustainable food personally? To what extent sustainable food is important to you? How about your family? How interested are you in cooking sustainable food at home?</i> <i>Now, I would like to know about your opinion on healthy food.... OK, and now let’s change the focus slightly. My next questions are about self-catering holidays.</i>
Meal planning and food purchasing	Tell me about your self-catering activities on those holidays. What kind of food did you cook? With whom and for whom? • How do you normally do meal planning upon your arrival to the accommodation/destination? Who are involved in decision making process and what are their interests? ○ Preparing a shopping list ○ Bringing food ingredients from home ○ Check fridge and cupboards before shopping ○ Role of travel companions e.g., kids, elders • How do you usually buy food in self-catering holidays? ○ Finding good prices ○ Package size of the products ○ Accessibility and convenience ○ Dietary restrictions ○ Family considerations (kids, elders, etc) ○ Using technologies or applications (use of technology) ○ Cultural differences (halal food, communication, etc)) ○ Physical environment (types and diversity of food ingredients, information, and labels, etc) ○ Familiar food vs new food ○ Fresh food, healthy and sustainable food
Holiday vs. Home	• How are these purchasing practices different or similar from those at home? Why?

Food preparation and cooking practices	• Tell me how you cook in a self-catering apartment. ○ Which equipment do you use? Which tools? How do you know they are good? etc. ○ The influence of family ○ The length of holiday • How do you obtain food recipes for your cooking on holiday? ○ Local recipes ○ Home recipes ○ Use of technology • When do you modify or make replacements in food recipes? How about food additions and flavorings? (E.g. using fruit and vegetables and olive oil, spices, citrus, alliums, and herbs, while avoiding using cream-based sauces or margarine to flavor vegetables and reducing salt while cooking) ○ Healthier food ○ More sustainable food ○ More economically affordable ○ More tasty
Holiday vs. Home	• How are these cooking (or preparation) practices different or similar to those at home? Why?
Food storage practices	• How do you store food in self-catering accommodations? ○ Ordering and disposal, including re-examining or re-experiencing food ○ Handling refrigerated food and leftovers ○ Space constraints in the fridge ○ Setting up the right temperature
Holiday vs. Home	• How are these storage practices different or similar to those at home? Why?
Food waste (proactive)	• When you cook, how many leftovers are normally generated and why? What do you do with these? • How much food is normally wasted and why? • What preventive measures can be done to reduce food waste in self-catering environment? ○ Check fridge and cupboards before shopping. ○ Check household food use-by dates. ○ Resourcefulness (considering portion size before cooking, cook an exact quantity of food needed and use leftovers)
Holiday vs. Home	• How are these food waste practices different or similar to those at home? Why?
Concluding questions	• When thinking about healthy food on a self-catering holiday, what are the key barriers to consuming it? How about (more) sustainable food? ○ Taste of food ○ Accessibility ○ Prices ○ Norms of family ○ Knowledge and information ○ Skills • What could encourage you to consume more healthy food when you are on holiday? How about (more) sustainable food? ○ Facilities

	○ Events ○ Education ○ Incentives ○ Policies
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Appendix A2-typologies of holiday self-caterers with a list of enablers and constraints to sustainable healthy food consumption

Table 1- Regular self-caterers in holiday context- Green color=enabling sustainable healthy food consumption; Red color= inhibiting sustainable healthy food consumption.

Practice elements/modes		Sticky practices	Proto practices	Distorted practices	Enhanced practices	Disappearance of practices
Materials	Objects	Containers for food leftovers		- Bulky products - Heavily packaged products		Controlled serving sizes, unlike hotel buffets
	Infrastructures			Poor food logistics to Islands		Recycling and composting facilities
	Technology and tools		- Online access to sustainable healthy food events - Online food recipes	Inappropriate kitchen tools		Suitable Kitchen tools
	Food environment (availability)	Well-stocked organic food markets	Cooking classes	- Limited alternative protein-based markets - International food markets - Sweet and junk food markets - Low-quality local food markets	Well-stocked fresh and local food markets	
	Temperature conditions			Limited ambient storage		
Meaning	Normative beliefs	- Parenting responsibilities - Organic food attractiveness - Animal food perceptions - Waste-conscious values - Self-control			- Local food perception - Convenience and simplicity in food preparation	Limited variety interest, unlike hotel buffets
	Emotional beliefs		Sense of togetherness	Enjoyment		Limited self-indulgence, unlike hotel buffets
	Cultural beliefs				Cultural identity	Lack of food familiarity
Competences	know-how	- Expiry date control - Leftover use - Recycling know-how - Checking nutrition information - Healthy cooking	Lack of instructions on food waste			Composting
	Skills	High culinary confidence	Recipe adaptation	Time management	Resource management	- Language proficiency - Resourcefulness
	Formal and informal knowledge	- Inexperienced with plant-based dishes - Healthy cooking methods - Uncertain about food categories				

Table 2- Holiday self-caterers with dietary restrictions - Green color=enabling sustainable healthy food consumption; Red color= inhibiting sustainable healthy food consumption.

Elements/modes of practice		Sticky practices	Proto practices	Distorted practices	Enhanced practices	Ex-practices
Materials	Objects	Containers for food leftovers		- Limited basic food ingredients - Limited kitchen equipment - Single-use plates - Packages - Limited herbal spices		
	Infrastructures			Poor food logistics to Islands		
	Technology and tools					Online access to Halal food
	Food environment	Well-stocked domestic supermarket chains		- Shortage of local food - Limited organic sections		
Meaning	Normative beliefs	- Parenting responsibilities - Health awareness - Affordability - Waste-conscious values		Social influence	- Self-control - Convenience and simplicity in food preparation	Limited variety interest, unlike hotel buffets
	Emotional beliefs					Limited self-indulgence, unlike hotel buffets
	Cultural beliefs	Religious considerations				
Competences	Know-how				Resourcefulness	
	Skills	- Resource management - Lack of culinary skills		Nutritional intake planning	Resource management	
	Formal and informal knowledge	Uncertain about food categories				Absence of local food knowledge

Table 3- Backpackers - Green color=enabling sustainable healthy food consumption; Red color= inhibiting sustainable healthy food consumption.

Elements/modes of practice		Sticky practices	Proto practices	Distorted practices	Enhanced practices	Ex-practices
Materials	Objects					Controlled serving sizes against hotel buffets
	Infrastructures		Limited access to farmers' markets		Accessible farm-based markets	
	Technology and tools	Online access to sustainable healthy food events	Online food recipes			
	Food environment		- Sustainable healthy communal meals - Welcoming local food packages	- Ultra-processed food markets - Convenience stores	Well-stocked fresh and local food markets	
	Temperature conditions			Less ambient storage		
Meaning	Normative beliefs	- Animal food perceptions - Environmental awareness - Affordability		Environmental responsibility	- Health awareness - Social pressure - Convenience and quickness in food preparation	- Proactive waste reduction against hotel buffets - Health awareness
	Emotional beliefs		Sence of togetherness	Enjoyment		- Limited self-indulgence against hotel buffets - Guilt-free dining against hotel buffets
	Cultural beliefs		- Fast-food-centric culture - Cultural immersion			
Competences	know-how					Body weight control
	Skills			Resource or time management	Resource management	Lack of language proficiency
	Formal and informal knowledge				Food preservation knowledge	Absence of local food knowledge

Table 4- Responsible self-caters - Green color=enabling sustainable healthy food consumption; Red color =inhibiting sustainable healthy food consumption.

Practice elements/modes		Sticky practices	Proto practices	Distorted practices	Enhanced practices	Ex-practices
Materials	Objects	Containers for food leftovers		- Inappropriate kitchen equipment - Large package sizes - Pre-packaged products		Controlled serving sizes against hotel buffets
	Infrastructures			Poor access to farmers' markets	Advanced recycling system	Absence of composting facilities
	Technology and tools	Online access to sustainable healthy food events				
	Food environment	- Well-stocked supermarkets - Home-sourced healthy food		- Lack of fresh markets - Available ready-packaged meals	- Fresh and diverse vegetables and fruits from local markets - Well-stocked local and seasonal markets - Bountiful mono-cultural markets	
	Temperature conditions			- Less ambient storage - Short shelf life - Minimal reuse potential of food		
Meaning	Normative beliefs	- Affordability - Health awareness - Self-presentational concerns - Waste-conscious values		Social influences	- Affordability - Convenience and simplicity in food preparation	- Limited variety interest, unlike hotel buffets - Suspension of parenting tasks
	Emotional beliefs		Sense of nostalgia	Enjoyment	Sense of pride out of sustainable behaviors	Limited self-indulgence against hotel buffets
	Cultural beliefs	Food familiarity	Cultural immersion		Richer taste	
Competences	know-how	- Dietary intake control - Culinary skills			Recycling know-how	- Body weight control - Culinary confidence - Reusing and recycling - Composting
	Skills	Resource management	Recipe adaptation	Time management	Resource management	
	Formal and informal knowledge	- Food miles - Family and professional background				Lack of local market knowledge

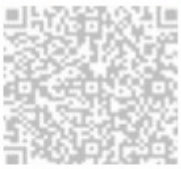
Appendix B (Chapter 4)

Appendix B1- Recruitment materials



Calling Self-catering Travelers!

Are you planning a self-catering trip for Easter or later?



Scan to sign up and claim your £75 Voucher!

What is a self-catering holiday?

- To prepare and cook your own meals in a rented accommodation, such as an Airbnb, cottage, or hostel, during your holiday stay

Eligibility Criteria for Participants

- Departing from the UK, whether traveling domestically or abroad
- 2 nights/3 days as minimum travel duration
- Responsible for at least half of self-catering tasks, including shopping, food preparation, and cooking, both at home and during holidays
- Aged 18 or older

How to participate

- **Diary Food Activities Using Photos and Notes**
 - Within a week before your departure
 - During your self-catering trip
 - Within a week following your return home

Follow-Up Interview

- Conducted via Microsoft Teams on day 8 or 9 post-holiday return
- Duration: 30 minutes to 1 hour

Incentive

- £75 Amazon Voucher

Detailed instructions and full support available via m.salehi@

This study is confidential and has been approved by the University Ethics Committee under application number 1565.

Appendix B2- Food Diary Guide

Phase 1. At HOME (within a week before your self-catering holiday)

Instruction Note: Please select two typical days within a week before your departure and record information on the following items. ‘Typical’ occasions should not include when you are hosting or being hosted over a meal. Record information on the following items, and please ensure that the photos you provide are exclusively of food. To make diary completion easier, we recommend filling out your entries daily or even meal by meal.

➤ Day 1 (prior to your self-catering departure)

❖ Food shopping

- Where did you shop for cooking ingredients? Why?

Type of places	Chain supermarkets (e.g., Tesco, Waitrose & Partners)	Farmers’ markets/farm shops	Local or non-chain shops	Online stores (e.g., Tesco, Waitrose & Partners)	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	

[Insert photos of the shopping receipts, items, and outlets here]

❖ Food storage

- How did you store food at home?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have during the day?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share the meals, and what are their food or meal preferences?

Categories	Your food preferences	Household members' food preferences	Kids' food preferences (and their ages?)
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)			

❖ Food Waste

- What types of food and packaging waste did you generate during the day?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	E.g., portions of vegetable and meat leftovers	E.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during the day?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					

[Insert photos that best represent your efforts to reduce food waste here]

➤ **Day 2 (prior to your self-catering departure)**

Instruction Note: The food activities are similar to those on day 1. Please respond to the relevant ones and skip any that may not apply to the following day.

❖ Food shopping

- Where did you shop for cooking ingredients? Why?

Type of places	Chain supermarkets (e.g., Tesco, Waitrose & Partners)	Farmers' markets/farm shops	Local or non-chain shops	Chain supermarkets (e.g., Tesco, Waitrose & Partners)	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ Food storage

- How did you store food at home?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have during the day?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share the meals, and what are their food or meal preferences?

Categories	Your food preferences	Household members' food preferences	Kids' food preferences (and their ages?)
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)			

❖ Food Waste

- What types of food and packaging waste did you produce during the day?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types

Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	
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[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during the day?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					

[Insert photos that best represent your efforts to reduce food waste here]

End of Phase 1

Any additional notes regarding Days 1 and 2:

Phase 2. During Your Self-catering Holiday (within a week)

Instruction Note: Select three days that represent your self-catering trips, preferably one from the initial days, one from the middle days, and one from the final days. Record information on the following items, and please ensure that the photos you provide are exclusively of food. You can share these photos by inserting them here or via email or messenger.

➤ Day 1 (One of the initial days of your trip)

❖ Food shopping

- Where did you shop for cooking ingredients during this self-catering holiday? Why?

Type of places	Chain supermarkets	Farmers' markets/farm shops	Local or non-chain shops	Online stores	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ Food storage

- How do you store food at your 'holiday' home?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have during this day of your self-catering trip?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals at your ‘holiday’ home?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share your holiday meals, and what are their food or meal preferences?

Categories	Your food preferences	Household members’ food preferences	Kids’ food preferences (and their ages?)	Friends or other travel companions
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)				

❖ Food Waste

- What types of food and packaging waste did you generate during this day of your self-catering trip?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during this day of your self-catering stay?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					

[Insert photos that best represent your efforts to reduce food waste here]

➤ **Day 2 (One of the middle days of your trip)**

Instruction Note: The food activities are similar to those on day 1 of your self-catering trip. Please respond to the relevant ones and skip any that may not apply to this following day.

❖ Food shopping

- Where did you shop for cooking ingredients during this self-catering holiday? Why?

Type of places	Chain supermarkets	Farmers' markets/farm shops	Local or non-chain shops	Online stores	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ Food storage

- How do you store food at your 'holiday' home?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have during this day of your self-catering trip?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals at your ‘holiday’ home?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share your holiday meals, and what are their food or meal preferences?

Categories	Your food preferences	Household members’ food preferences	Kids’ food preferences (and their ages?)	Friends or other travel companions
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)				

❖ Food Waste

- What types of food and packaging waste did you produce during this day of your self-catering trip?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during this day of your self-catering stay?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					

[Insert photos that best represent your efforts to reduce food waste here]

➤ **Day 3 (One of the final days of your trip)**

Instruction Note: The food activities are similar to those on days 1 and 2 of your self-catering trip. Please respond to the relevant ones and skip any that may not apply to the following day.

❖ **Food shopping**

- Where did you shop for cooking ingredients during this self-catering holiday? Why?

Type of places	Chain supermarkets	Farmers' markets/farm shops	Local or non-chain shops	Online stores	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ **Food storage**

- How do you store food at your 'holiday' home?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ **Food preparation and cooking**

- What meals did you have during this day of your self-catering trip?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals at your ‘holiday’ home?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

[Insert photos that best illustrate the preparation and cooking processes]

- With whom did you share your holiday meals, and what are their food or meal preferences?

Categories	Your food preferences	Household members’ food preferences	Kids’ food preferences (and their ages?)	Friends or other travel companions
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)				

❖ Food Waste

- What types of food and packaging waste did you produce during this day of your self-catering trip?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types]

- What food waste reduction strategies did you use during this day of your self-catering stay?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					

[Insert photos that best represent your efforts to reduce food waste here]

End of Phase 2

Any reflections on the days you reported from your self-catering trip:

Phase 3. Upon Return Home (within a week following your self-catering holiday)

Instruction Note: Select two typical days following your return home from the self-catering trip. ‘Typical’ occasions exclude when you host or are hosted over a meal. Record information on the following items and ensure that the photos you provide are exclusively of food.

➤ Day 1 (Upon return home)

❖ Food shopping

- Where did you shop for cooking ingredients upon your return home from the holiday? Why?

Type of places	Chain supermarkets (e.g., Tesco, Waitrose & Partners)	Farmers’ markets/farm shops	Local or non-chain shops	Online stores (e.g., Tesco, Waitrose & Partners)	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	
Any inspiration from your holiday trip?	How have you discovered any new cooking ingredients or shopping outlets inspired by your holiday choices?				

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ Food storage

- How did you store food upon your return home from the holiday? Why?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have today?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals on this day of your return?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

Additionally, how have you discovered any new ingredients, cooking techniques, or recipes inspired from your recent holiday?

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share the meals today, and what are their food or meal preferences?

Categories	Your food preferences	Household members' food preferences	Kids' food preferences (and their ages?)
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)			
Any inspiration from your holiday trip?	Whether your food preferences have been affected by holiday food choices?		

❖ Food Waste

- What types of food and packaging waste did you produce during the day?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during the day?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					
Additional note?	How have you applied any ideas for reducing food waste from your recent self-catering trip at home?				

[Insert photos that best represent your efforts to reduce food waste here]

➤ **Day 2 (Upon return home)**

Instruction Note: The food activities are similar to those on the day 1 of your return home. Please respond to the relevant ones and skip any that may not apply to this following day.

❖ Food shopping

- Where did you shop for cooking ingredients upon your return home from the holiday? Why?

Type of places	Chain supermarkets (e.g., Tesco, Waitrose & Partners)	Farmers' markets/farm shops	Local or non-chain shops	Online stores (e.g., Tesco, Waitrose & Partners)	Other markets
Describe what you bought from where	e.g., meat, poultry, fish, eggs	e.g., fruits, vegetables	e.g., rice, meat, milk, cheese, fish, eggs	e.g. dairy, fruits, vegetables	
Any inspiration from your holiday trip?	How have you discovered any new cooking ingredients or shopping outlets inspired by your holiday choices?				

[Please insert photos of the relevant shopping receipts, items, and outlets here]

❖ Food storage

- How did you store food upon your return home from the holiday? Why?

Storage types	Fridge	Freezer	Cupboard
Describe which types of food are stored where	e.g. fruits and vegetables	e.g., meat, poultry, fish	e.g., eggs, nuts, cake

[Insert photos relevant to food storage here]

❖ Food preparation and cooking

- What meals did you have today?

Types of meals	Breakfast	Lunch	Dinner	Any other occasion?
Describe what you had for each meal				

- How did you cook the meals on this day of your return?

Enter your description here. If you start from scratch, please walk us through the process of preparing one or two of your meals. Include the steps you take to plan, prepare, and cook the meal(s).

Additionally, how have you discovered any new ingredients, cooking techniques, or recipes inspired from your recent holiday?

[Insert photos that best illustrate the preparation and cooking processes, as well as the final dishes here]

- With whom did you share the meals today, and what are their food or meal preferences?

Categories	Your food preferences	Household members' food preferences	Kids' food preferences (and their ages?)
Food preferences (e.g., vegan, vegetarian, meat-based, health-related, medical, or religious restrictions)			
Any inspiration from your holiday trip?	How have your food preferences been affected by holiday food choices?		

❖ Food Waste

- What types of food and packaging waste did you produce during the day?

Food waste types	Food preparation waste (e.g., peels, skins, cores)	Food that has Expired or spoiled before use	Leftover food waste	Packaging waste	Other waste types
Describe the types and estimated amounts of food and packaging waste	Piece (s) of peels, skins, cores of cooking ingredients	Number of expired or spoiled food items (e.g., fruits, vegetables, bread)	e.g., portions of vegetable and meat leftovers	e.g., grams of plastic, glass, metal, paper packaging	

[Insert photos relevant to food wastage types here]

- What food waste reduction strategies did you use during the day?

Food waste control	Recycling (for materials like metal, paper, and plastic)	Composting (for organic waste like food scraps)	Leftover use	Portion size control	Other waste control ways
Share how you handled food waste in a few words					
Additional note?	How have you applied any ideas for reducing food waste from your recent self-catering trip at home?				

[Insert photos that best represent your efforts to reduce food waste here]

End of Phase 3

Any reflections after the holiday, particularly on how your food activities at home have been influenced by your recent trip?

Appendix B3- Photo diaries



Photo B3.1 Participants' handmade bread at home



Photo B3.2 A breakfast bowl of cereal with berries foraged at home (practice discontinued during travel)



Photo B3.3 Culinary experiences at tourism destinations encourage (un)healthy (un)sustainable food consumption

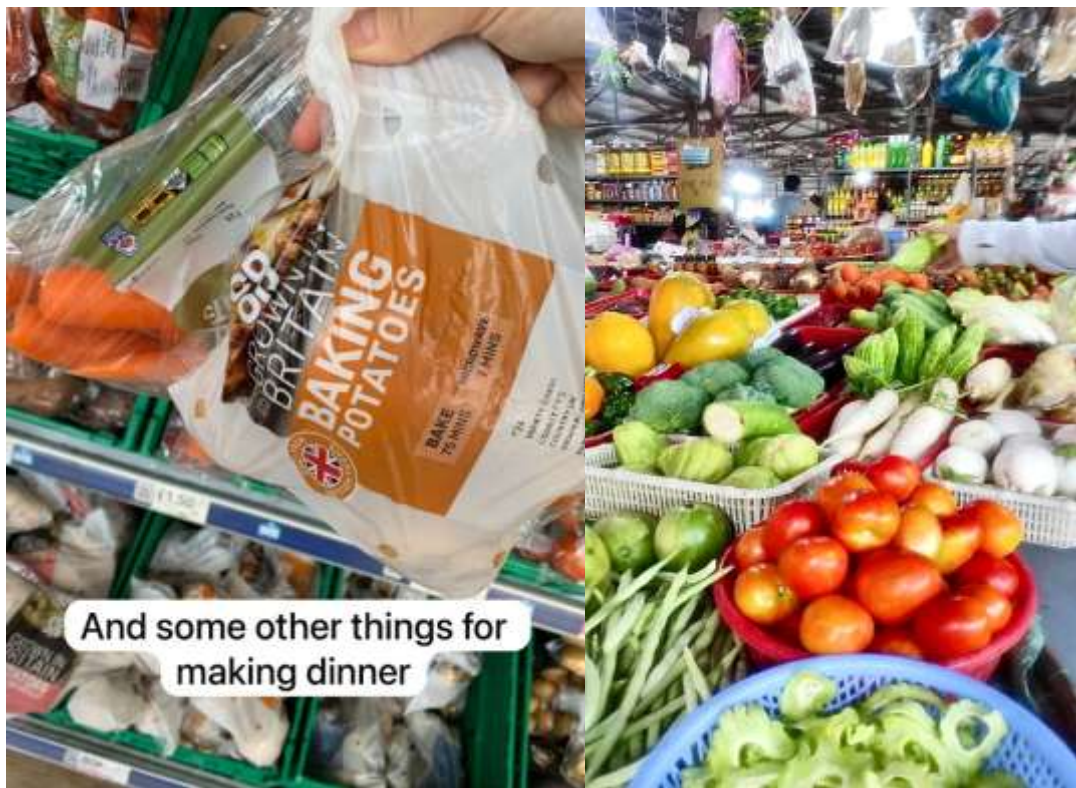


Photo B3.4 Enhanced connection with fruits and vegetables during the holiday (right photo) compared to at home



Photo B3.5 Enhanced waste management system on holiday (right photo) compared to at home (left



Photo B3.6 Dried meat adopted during the holiday and continued at home after