Gastronomy and Tourism, Vol. 8, pp. 49–64
Printed in the USA.

2169-2971/24 $60.00 + .00
DOI: https://doi.org/10.3727/216929722X16354101932456
E-ISSN 2169-298X
www.cognizantcommunication.com

FOOD FOR ACTIVE OUTDOOR RECREATION: CONVENIENCE, SUSTAINABILITY, AND GENDER PERSPECTIVES

MARCUS JOHANSSON,* THOMAS BEERY,† ANNA CALVÉN,*‡ AND KARIN WENDIN*§

*Department of Food and Meal Science, Kristianstad University, Sweden
†Department of Environmental Science, Sustainable Multifunctional Landscapes, Kristianstad University, Sweden
‡School of Hospitality, Culinary Arts & Meal Science, Örebro University, Sweden
§Department of Food Science, University of Copenhagen, Denmark

Given increases in outdoor recreation participation observed in Sweden during the COVID-19 pandemic, recent increased public recreational initiatives, and a societal focus on the 17 sustainability goals of Agenda 2030, an exploratory study was initiated to consider the role of food in the outdoor recreation experience. Specifically, the question of how food may serve as a factor in sustainable outdoor recreation was explored. The study was designed to consider patterns in outdoor recreation participation and self-reported food choices/preferences among active outdoor participants. The survey methodology used questions about outdoor recreation participation and food choice preferences to investigate this intersection of food and outdoor recreation. For example, taste, activity function, ease of use, and sustainability were considered. Unsurprisingly, taste emerged as the strongest outdoor recreation food preference factor. Results show how highly active outdoor participants perceive food's role in 1-day and multiday outdoor recreational experiences. For example, over 90% of all respondents indicated that food was a part of their enjoyment of the outdoor recreation experience. Increased interest in the nutritional value of food used in multiday outdoor recreation activities was also reported—with 99% of respondents indicating its importance. However, the most interesting results indicated a relationship between gender and food choice/preference factors. A review of the results opens the door to further inquiries into gender and persistent gender roles as a food/outdoor recreation factor. The discussion of the results also considers the breadth of potential sustainability factors, individual and collective, and the need for more definitional clarity regarding sustainability within the context of outdoor recreation food.

Key words: Food experience; Food preference; Gender; Outdoor recreation; Sustainability

Address correspondence to Marcus Johansson, Department of Food and Meal Science, Kristianstad University, SE-291 88 Kristianstad, Sweden. E-mail: marcus.jc.johansson@hkr.se

Introduction

This study considers patterns in outdoor recreation participation and self-reported food choices/preferences among active outdoor recreation participants in Sweden to provide greater insight into the importance of the food experience as part of outdoor recreation. Outdoor recreation participation increased during the COVID-19 pandemic (Hansen et al., 2023). This change, coupled with a growing interest in outdoor recreation-based food choices and behaviors (Beery, Calvén, & Wendin, 2023; Calvén et al., 2023; Olsson et al., 2016; Sundqvist, 2023; Tidball & Tidball, 2022), may be able to provide insights regarding the role food plays in outdoor recreation. Specifically, this study will investigate the role of food in active participants' consideration of sustainability within the outdoor recreation experience. Three broad and exploratory research questions were posed in this study to better understand patterns in outdoor recreation participation and self-reported food choices/preferences among active outdoor recreation participants: 1) What food preference factors are strongest in outdoor recreation food choice? 2) What role does food play in the outdoor recreation experience? 3) How might food play a role in outdoor recreation sustainability?

Literature Review

This section consists of the following three subsections: Outdoor Recreation in Sweden, Outdoor Recreation Food, and Sustainability. Each subsection will provide a brief literature review as a foundation to support a better understanding of the intersection of food and outdoor recreation within the context of sustainability.

Outdoor Recreation in Sweden

While similar to general patterns and histories of outdoor recreation in a Western cultural context, the Nordic concept of outdoor recreation, or *friluftsliv*, makes it unique (Henderson & Vikander, 2007; Hurd et al., 2021). The relationship between activity and nature experience is at the core of this uniqueness. For example, *friluftsliv* has been translated into English as "nature-based outdoor recreation" (Beery, 2013, p. 100). The history of outdoor recreation from a Swedish perspective is well documented, with origins and development highlighting various eras and phenomena, including 19th and 20th century industrialization/urbanization, a pastime for the elite, a right for all as part of the Swedish social welfare state, and public access law and tradition (Sandell & Sörlin, 2008). It is critical to note that any consideration of outdoor recreation and its history in Sweden must also include the right of public access to the landscape or *allemansrätt*. This form of access is noted as both a cherished Swedish tradition (Ahlström, 2008) and is enshrined in general terms in the Swedish constitution: "everyone must have access to nature according to public law" (2 kap. 15§; Regeringsformen, 1974).

An essential chapter of the history of outdoor recreation in Sweden is the origin, development, and growth of Friluftsfrämjandet, or the Swedish Outdoor Association (SOA). SOA was started in 1892 as the Swedish Ski Association; the organization later evolved into the Swedish Ski and Outdoor Association and finally, in 1975, to the Swedish Outdoor Association (Friluftsfrämjandet, n.d.-b). Over this 130-year history, SOA has grown into an organization of 109,000 members and 286 local chapters nationwide. The organization promotes outdoor recreation community building, skill instruction, and lifelong learning (Friluftsfrämjandet, n.d.-a).

While the background reference here is to outdoor recreation as the context for this study, the inquiry and results include considerable reference to multiday activities; in fact, much of the activity used to question participants about food habits and preferences in this study can be defined as tourism (Netto, 2009). However, given this study's general outdoor recreation activity focus and the target audience of SOA, the term "outdoor recreation" is used broadly throughout this article. Nonetheless, the results have sustainability implications for this interesting overlap between nature-based tourism and outdoor recreation.

A final essential point providing foundational support for this study is the status of outdoor recreation participation in Sweden today. Sweden has a quality outdoor recreation participation data set (Outdoor Recreation, 2018 survey) from just

before the COVID-19 pandemic that provides a good picture of outdoor recreation participation in Sweden (Fredman et al., 2019). When the data were compared to data collected during the COVID-19 pandemic, researchers noted increases in outdoor recreation participation across local, regional, and national levels in Sweden (Beery et al., 2021; Hansen et al., 2023; Nilsson, 2022). While outdoor recreation participation rates postpandemic are not yet known in Sweden, the COVID-19 pandemic was seen as charging an already growing arena (Carlsson & Mundszinger, 2022). Further support for the perception of growth can be seen in outdoor recreation participation in other Western countries, which has shown evidence of postpandemic growth (Outdoor Industry Association, 2023).

Outdoor Recreation Food

The growth of interest in outdoor recreation in Europe and North America (Cordell, 2012; Hansen et al., 2023; Mackintosh et al., 2019) provides an opportunity to consider potential changes in various aspects of an outdoor recreation experience. In the case of this study, the intersection of food and outdoor recreation experience (Pedersen & Ledin Höglund, 2021). Food is often not the principal motivating activity within an outdoor recreational experience, with other factors serving the primary motivational role—for example, adventure (Ewert et al., 2020), learning (Gaffar et al., 2019), social wellness (Zwart & Hines, 2022), and many more. Nonetheless, while food may not be a primary motivator of the experience, it is interesting to consider its role. For example, physical activity's energy and nutritional demands may contribute to the interest in the food/outdoor recreation intersection (Chumbley, 2014; Morgan et al., 2017).

Beyond the physiological aspect of nutrition, food plays a significant role in a spectrum of enjoyment of outdoor recreational activities, from the simple preparation of food from home for some groups (Kloek et al., 2017) to more elaborate food-focused glamping experiences (Brochado & Pereira, 2017). Further, food can be a primary recreation activity; for example, in the 2018 Swedish national outdoor recreation survey of 7,702 Swedish residents, 72% reported having had a picnic or grilled food out in nature during the previous year (Fredman et al., 2019). A closer look at this group revealed that 36% of respondents indicated having a picnic or grilling as a specific outdoor recreation activity that they engaged in more than six times during the previous year. This frequency of picnicking or grilling was the sixth highest on a list of 43 outdoor recreation activities (Fredman et al., 2019). Further, in the same national survey, 26% of respondents identified barriers preventing them from engaging in picnics or grilling to the extent they desired, thus further emphasizing the importance of this food-based outdoor recreation activity.

Another aspect of interest in food's potential role in outdoor recreational experiences is the coupling of food with outdoor recreation as a form of rural economic development (du Rand & Heath, 2006; Novelli et al., 2006; Thilmany et al., 2019). Relatedly, the growth of interest in sustainable rural food systems (Rytkönen et al., 2023) or rural support for urban resilience (Olsson et al., 2016) is noted in the research literature and has substantial implications for outdoor recreation destination development (Calvén et al., 2023).

A final aspect of the food and outdoor recreation intersection is the theme of convenience. This emphasis on convenience can be found in recent scholarly outdoor recreation literature (Beery, Calvén, & Wendin, 2023; Calvén et al., 2023; Varley et al., 2018). Popular nonfiction also shows a strong interest in the convenience focus. For example, various guidebooks and online resources regarding outdoor recreation food management are widely available (e.g., MHO Adventures, 2024; Skurka, 2023; Treiber, 2014). This interest in convenience is not surprising given the various sites and weather conditions in which outdoor recreation food is consumed (Fredman et al., 2019; Shih & Nicholls, 2011).

Sustainability

The United Nations' 17 Sustainable Development Goals (SDGs) of Agenda 2030 create a framework for a more sustainable future (United Nations, 2015). The goals focus on many aspects of sustainability to cover the vast spectra of sustainability challenges that must be addressed across society. Some goals are more prominent than others in the context of outdoor recreation and food, such

as SDG 12—*Responsible consumption and production*. It is interesting to note that five specific SDGs are noted in the SOA guiding document: *Sustainability and Inclusive Outdoor Recreation* (Friluftsfrämjandet, n.d.-a). Another Swedish context for sustainability consideration can be found in the combination of outdoor recreation activity coupled with responsibility for specific sites or outdoor recreation places (*allemansrätt*). The guiding *allemansrätt* principle of "do not disturb, do not destroy" (Naturvårdsverket, n.d.), coupled with a sense of responsibility for the future, provides a strong foundation for sustainable behavior.

Recent outdoor recreation research has also noted awareness of food and sustainability (Beery, Calvén, & Wendin, 2023; Calvén, et al., 2023; McCullough et al., 2018; Mossberg & Lindberg, 2021; Saaty et al., 2022; Vincent, 2023). For example, a study of Appalachian Trail hikers provides a specific example of sustainability awareness among outdoor recreation participants with knowledge of proper food packaging (Saaty et al., 2022). This study presented sustainability as hiker awareness of trash management and overall environmental protection. Another recent study, *Prepared food on the trail* (Beery, Calvén, & Wendin, 2023), looked at how one aspect of outdoor recreation food represents many questions that can be addressed in consideration of trail food and outdoor recreation food choices. The study, a review of prepared food options, highlighted various aspects of prepackaged trail food, from production to purchase and consumption; for example, one consideration was sustainability and food choice. However, the investigation needed a broad look at outdoor recreational food experience from the perspective of participant preference. Thus, as a follow-up to the 2022 study, a taste test of various prepared trail food options was conducted (Vincent, 2023). Vincent (2023) provided insight into prepared trail food choices, such as the myriad factors that weigh into trail food choice decisions. This breadth of factors is described by Sundqvist (2023), in part, as the material configuration of the trail, including geography, food, the physical body, hiking equipment, and buildings. This material configuration is attributed to motivating the hikers' activities and, thus, the gastronomic experiences.

This current study hopes to explore this interest in outdoor recreation further with consideration of sustainability's role in participant food choices. Support for this direction of inquiry can be found in the previously noted SOA document, *Sustainability and inclusive outdoor recreation* (Friluftsfrämjandet, n.d.-a):

> As an organization, we have very good conditions to be an example within ecological sustainability. We strive to maximize the organization's positive and minimize the organization's negative impact on ecosystems and the climate, and "Respect for nature" is a clear part of all our activities.

Methodology

Survey methodology was used to capture data, given its role as a standard tool in questions of parks, outdoor recreation, and human dimensions (Vaske, 2019). Survey methods provide broad access to potential participants and the ability to efficiently collect quantitative and qualitative data. Specifically, survey methodology was used to address the three research questions:

1. What food preference factors are strongest in outdoor recreation food choice?
2. What role does food play in the outdoor recreation experience?
3. How might food play a role in outdoor recreation sustainability?

The following three subsections (Participants, Survey, and Analysis) will provide an overview of the sample, the survey tool, and the analysis process. In addition, the final subsection, Limitations, will address concerns in the data collection process.

Participants

Members of SOA were invited to participate given their unique positionality concerning food and outdoor recreation; members represent a group with an assumed high level of outdoor recreation participation given their association with SOA. Publicly available email addresses were taken from the websites of local branch groups and used for survey outreach. Outreach requests were sent to the national organization for permission to distribute.

In addition, help was solicited in sending the survey out via internal channels. Local chapters and individuals were encouraged to share the survey link with other members.

Adherence to ethical guidelines was followed in managing participation. For example, all participation was voluntary, and respondents could end participation at any time. Moreover, participation was anonymous. Since the outreach went to local chapters and officials at SOA, researchers did not have SOA individual members' names, email addresses, or other personal identifiers.

Survey

The survey was created and administered using EyeQuestion® (version 5.4.6, EyeQuestion Software, the Netherlands). The survey consisted of four parts: questions about 1-day activities, questions about multiple-day activities, questions about planning the food for outdoor activities, and demographic questions (see Table 1). The same questions were given for 1-day and multiple-day activities to capture possible differences between the two activity levels. Questions about participation and food during activities were asked on a 4-point rating scale (*never, seldom, often, very often*). Limited to three alternatives, multiple choice questions were used to investigate the most common activities performed. Five-point Likert scales were used for questions about the importance of food and food planning during the activities. Open-ended questions were used to catch other important factors from the participants regarding food planning and activities. Demographics considered were age, gender, size, and location of residence (broad traditional regional categories in Sweden: Götaland, Svealand, Norrland).

Analysis

Descriptive statistics calculating means, standard deviations (*SD*), and proportions were performed to understand the participant's behavior regarding food and outdoor recreation. *t* Tests were performed to investigate differences between 1-day and multiday activities and gender differences in the survey responses. Based on preliminary findings, a binary logistic regression

Table 1
Survey Questions

One-day activities
1. Do you participate in one-day activities?
2. How often do you perform any kind of one-day activities?
   On weekdays
   On weekdays
   During vacation
3. Which activities do you primarily perform?
4. How often do you eat in connection to 1-day activities?
5. I consider it important to provide energy and nutrition by eating during one-day outdoor activities.
6. I consider the meal to be an important part of the experience of one-day outdoor activities, contributing to increased well-being and enjoyment.
7. How do you plan your meals for 1-day activities?
   Buy something during the activity
   Bring ready to eat from home
   Bringing food for preparation/cooking
   Bring prepackaged outdoor recreation food

Multiday activities
8. Do you participate in multiday activities?
9. How often do you perform any kind of multiday activities?
   On weekdays
   On weekends
   During vacation
10. Which multiday activities do you primarily perform?
11. I consider it important to provide energy and nutrition by eating during multiday outdoor activities.
12. I consider the meal to be an important part of the experience of multiday outdoor activities, contributing to increased well-being and enjoyment.
13. How do you plan your meals for multiday activities?
   Buy something during the activity
   Bring ready to eat from home
   Bringing food for preparation/cooking
   Bringing prepackaged outdoor recreation food

Planning of food
14. What is important to you when planning the food to be eaten during outdoor activities?
   Eat directly
   Simple preparation
   Price
   Packaging/easy to carry
   Weight
   Taste
   Special diet
   Customized energy/nutrient content
   Sustainability aspects
   Disposability of waste
15. Are there any other important factors when planning the food to be eaten during outdoor activities? Please describe.

Demographics
16. Gender
17. Age
18. In what part of Sweden do you live?
19. How large is your place of residence?

was performed to investigate if food planning factors can be predicted based on gender. All statistical analyses used IBM SPSS version 27. Data from one open-ended question were analyzed using a thematic analysis process (Braun & Clarke, 2022).

Limitations

A small percentage of all SOA members were contacted as part of this study. In the process of our initial outreach (publicly available email addresses for SOA chapters with requests to send out to local members), it became clear that many of the local chapter email addresses were not regularly monitored, complicating the outreach. Feedback from some chapter representatives indicated that they wanted the survey participation request to come from the national SOA office; this communication pathway was acknowledged, and outreach to the national office resulted in assistance from a national board member. This challenging outreach and snowball sampling approach means there is no exact number of members of SOA who received our invitation to participate. Thus, the response rate cannot be calculated. Given that the final participation number of 161 respondents is not a representative sample size, care must be taken in generalizing the data across the entire organization or, more broadly, to active outdoor recreation participants in Sweden.

Results

The results presented are divided into four subsections. The first three are organized according to the survey structure: Demographics, One-day and Multiday Activity, and Planning of the Food. The fourth section, Gender Differences, addresses interesting gender results observed in the data.

Demographics

One hundred sixty-one participants answered the survey, 70% women (n = 113), 29% men (n = 46), and 1% other (n = 2). The participants were aged 18–78 with a mean of 50.9 ± 11.5 years. Thirty percent of the participants live in an urban area, 36% in a small or midsized town, and 34% in a rural area. The largest percentage of participants, 56%, live in Götaland, 39% in Svealand, and 6% in Norrland.

One-Day and Multiday Activity Results

As noted, the SOA was chosen for this study given an assumption of outdoor recreation participation; this assumption was confirmed in our results, with 98% of respondents indicating outdoor recreation participation within the scope of 1-day activity and 80% of respondents indicating multiday outdoor recreation participation. The most common activities reported during 1-day and multiday activities can be seen in Table 2.

Food was reported as a part of these activities, with 88% reporting that food is often or very often a part of the outdoor recreation experience during activities within the scope of 1 day. Both were rated high when asked specifically about the importance of food for nutrition and overall activity enjoyment. However, food's contribution to activity enjoyment was rated higher, with 92% of respondents reported food as an important or very important part of activity enjoyment (see Fig. 1). Moreover, the importance of food for nutrition and overall activity enjoyment increased significantly when asked about multiday activity ($p < 0.05$).

When asked about food planning details for a single-day activity, 89% report bringing food from home often or very often, while only 12% report that they often purchase food as part of the activity. Cooking food during the activity often/

Table 2
Most Common Activities Performed Divided by One-Day and Multiday Activities

Activity	*N* (%)
One-day activities	
Roaming in the forest/countryside	79 (49%)
Hiking on a trail	74 (46%)
Canoeing/kayaking	52 (33%)
Multiday activities	
Hiking on a trail	95 (73%)
Canoeing/kayaking	68 (52%)
Skiing	47 (36%)

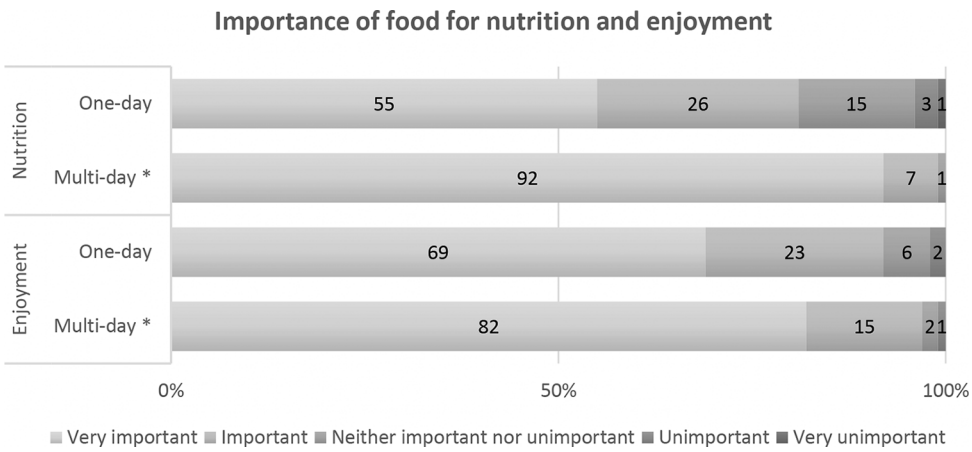

Figure 1. Reported importance of food during outdoor activities. Results marked with * show that participants have a significantly ($p < 0.05$) higher agreement to the importance of the food during the experience.

very often is reported by 69% of respondents, with 8% reporting that they often use prepackaged outdoor recreation food (see Fig. 2). When performing multiday activities, the number of participants that bring prepared food from home decreases, and the amount of cooking during the outdoor recreational activity increases to 95% of the participants (Fig. 2). The use of prepackaged outdoor recreation food also increased heavily, with four times as much use of prepackaged outdoor recreation food often or very often reported compared to 1-day activities. Prepared food from home is significantly ($p < 0.05$) more common during 1-day activities. Cooking during activities or bringing prepackaged outdoor recreation food are significantly more common ($p < 0.05$) during multiday activities. Food purchased during the activity had a low reported occurrence during both 1-day and multiday activities, with no significant differences.

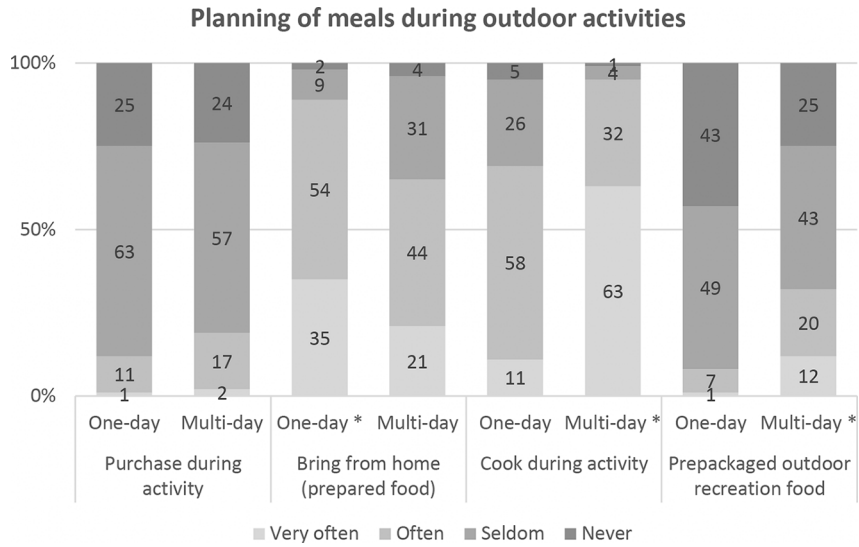

Figure 2. Food provision sources utilized during outdoor activities. Results marked with * show that they occur significantly ($p < 0.05$) more often.

Planning of the Food

When planning the food to be eaten during outdoor recreation activities, four categories stood out as more important than others. The taste of the food was the most important, with 98% of participants reporting that they agreed or strongly agreed. Taste was followed by the ability to dispose of the waste (89%), ease of carry (86%), and simplicity of preparation and cooking (84%). Other factors, such as sustainability aspects (71%) and weight (70%), were also considered necessary when planning the food for outdoor activities. Price, special diets, and the ability to eat directly (no preparation) all had less importance to the survey participants (see Fig. 3).

One open-ended question yielded a high level of response, with 67 respondents providing one or multiple responses to whether other important factors are considered when planning for food to be eaten during outdoor recreation activities. A thematic analysis of the open-ended data resulted in the identification of 15 themes. The top five themes by a count of how often they emerged are shown in Table 3. Note that while not one of the top five themes of the open-ended question analysis, sustainability was a theme with six responses concerning the purchase of ecological food or waste reduction.

Gender Differences

The respondents were highly active in 1-day activities, with women reporting 98% and men 100% participation. For multiday activities, a gender difference ($p < 0.05$) was observed, with 91% of men reporting participation while 77% of women reporting that they took part in multiday outdoor recreation activities. There is also a gender difference seen in what factors are considered necessary when planning the food for outdoor activities. Five factors—simple preparation, price, packing/easy to carry, special diets, and sustainability aspects—were all found to be rated more important by women than by men ($p < 0.05$) (see Fig. 4). One gender-related outcome from the open-ended question is that the theme *broadly suitable* (as reported in Table 3 and referring to food suitable across age groups) was only mentioned by female respondents. Both female and male respondents reported the other themes presented in Table 3.

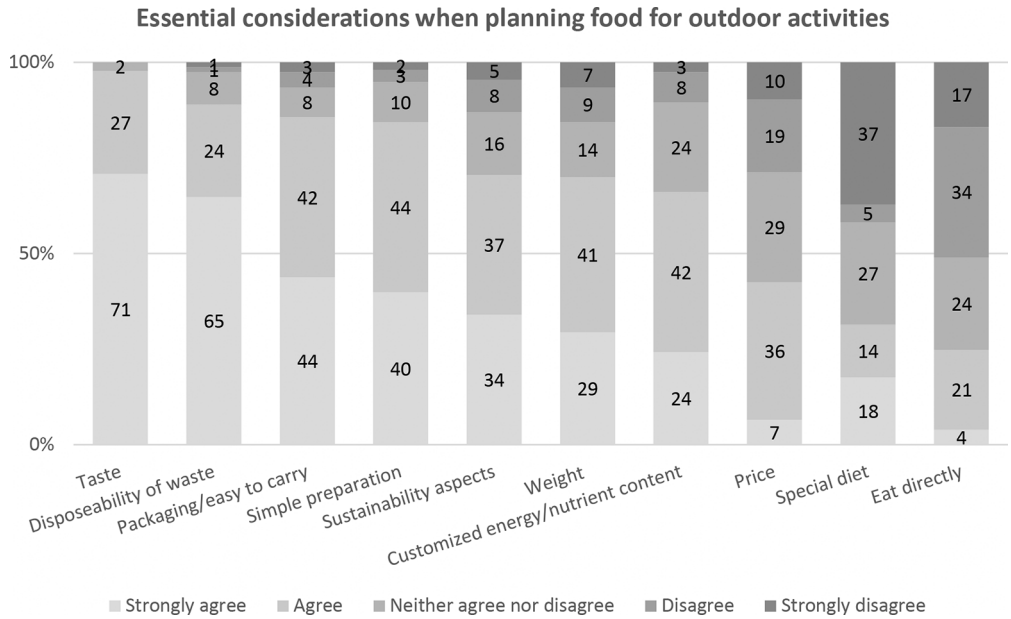

Figure 3. Reported agreement with aspects importance when deciding what food to consume during outdoor activities.

Table 3
Central Themes, Quantity of Occurrence, and Examples of Comments That Emerged in One Open Answer Question About Additional Important Factors to be Considered When Planning the Food for Outdoor Recreation Activities

Central Theme	No. of Responses	Examples
Attractive food	18	Tasty; Tastes good; Looks good; Smells nice; Inviting.
Resilient food (storage aspects)	14	Good durability (i.e., not going bad after a few days); Can be stored without refrigeration; Taste good even after storage.
Simplicity	10	Simple cooking; Fast and simple; Easy dishwashing.
Impact of external factors/conditions	10	Adapted to outdoor temperature and weather; Conditions control (e.g., fire bans); Available cocking methods; Cocking equipment controls.
Broadly suitable	9	Food suitable for all age groups; Child-friendly.

Given the differences noted initially in the gender results, a binary logistic regression was performed to investigate if food planning factors can be predicted based on gender. In logistic regression, the probability of an event occurring is considered. For example, binary logistic regression estimates the probability of an event occurring based on a given dataset of two independent variables (Vaske, 2019). The logistic regression model was statistically significant, $\chi^2(10, N = 150) = 36.98$, $p < 0.001$. The model explained 31.0% (Nagelkerke R^2) of the variance in gender and correctly classified 79.0% of cases. The food planning factors were primarily not associated with gender, but women were significantly more likely to consider special diets (OR = 0.59, 95% CI [0.44, 0.79]) and sustainability aspects (OR = 0.59, 95% CI [0.44, 0.94]) as men.

Discussion

This section is organized into five subsections. The first subsection (Participation in outdoor recreation) will briefly consider the demographic data reported. Further, the results of this study will be applied to the research questions in three additional subsections: Food Preference Factors, Food's Role

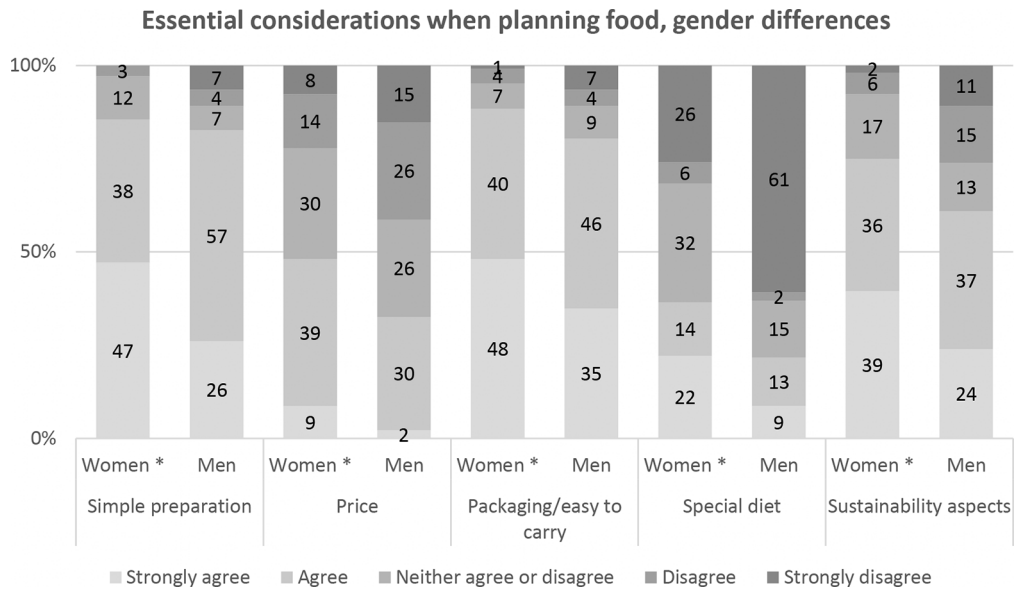

Figure 4. Differences between genders in reported agreement with aspects importance when deciding what food to consume during outdoor activities. Results marked with * showed a significantly ($p < 0.05$) higher agreement with the statement.

in the Outdoor Recreation Experience, and Outdoor Recreation, Food, and Sustainability. Finally, the subsection Questions of Gender will address the significant gender-related outcomes of the research.

Participation in Outdoor Recreation

The general activity frequency and type data confirmed the assumption that SOA participants were highly active outdoor recreation participants. For example, compared with the most recent national outdoor recreation survey in Sweden (Fredman et al., 2019), the current results showed a substantially higher rate of outdoor recreational participation. The Outdoor Recreation 2018 survey reported a range of 50%–80% outdoor recreation participation based on frequency and day of the week compared to the current results of 80%–98% (based on similar categories). The top activity noted in 1-day outdoor recreation participation (Table 2) was *Roaming in the forest/countryside*; this result was closely aligned to the top two activities in the national outdoor recreation survey, Outdoor Recreation 2018, *recreational and exercise-oriented walking*, and *time in the forest and countryside for access to a nature experience*. Further comparisons, including activity frequency reported in the Outdoor Recreation 2018 survey, show a striking difference. For example, the other top activities for participants in this current study (*Hiking on a trail*, *canoeing/kayaking*, and *skiing*) were not represented in the top 10 activity lists of Outdoor Recreation 2018.

While beneficial to gain a sense of survey participant's outdoor recreation behavior, two factors must be considered when comparing the results of this current survey with the Outdoor Recreation 2018 survey. One, the global pandemic occurred between these two surveys, and despite research showing increases in outdoor recreation in Sweden during this period (Beery et al., 2021; Hansen et al., 2023; Nilsson, 2022), whether these rates have continued postpandemic is not yet known. In addition, the similarities and differences, both in participation frequency and activity participation, between the current survey and the Outdoor Recreation 2018 survey must take into consideration that current results do not provide a representative sample of outdoor recreation participants in Sweden (as the Outdoor Recreation 2018 results do). Further differences in the two survey sample groups highlight the unique character of the current group (SOA members) as highly engaged in outdoor recreation. For example, activities with more specialized gear (e.g., *canoeing/kayaking and skiing*) are noted in the current study. These interesting comparisons may be a result of the difference between the Swedish general public, as represented in *Outdoor Recreation 2018* and the members of the SOA.

Food Preference Factors

The first research question addressed food preference factors. Food preference for outdoor recreation activities is complex, and many factors may be intertwined (Vabø & Hansen, 2014). In this study, taste emerged as the most critical element for food planning in both the statistical results and the themes from the open-ended questions. Previous studies with a heightened consideration of taste and complexity have supported taste as a top factor in food preference (Dioszegi et al., 2019).

After taste came the disposability of waste as a food preference factor. Outdoor recreation creates unique food waste situations (Aschemann-Witzel et al., 2015), contexts often outside of typical home kitchen arrangements and procedures regarding garbage disposal, composting, and recycling. While waste can be considered from multiple perspectives, from household sustainability to economic considerations (Närvänen et al., 2020), it may also be coupled with ideas of simplicity and convenience, as in the management of food waste in various contexts (Aschemann-Witzel et al., 2021), including outdoor recreation. When the disposability results are considered in concert with the themes from the open-ended responses, the closely related outcome of food resiliency/storage and the adaptation to unique external (environmental) factors is highlighted. Altogether, the critical food preference findings of context, disposability, waste, and simplicity culminate in a broad factor of convenience. Food should be as trouble-free as possible during outdoor recreational pursuits.

An interesting aspect of the food preference results was based on gender. An exploration of gender differences noted in the results will be discussed more fully in the subsection Questions of Gender.

Food's Role in the Outdoor Recreation Experience

In response to the second research question, results indicated that food is essential for nutrition during outdoor recreation participation. Nutritional needs during heightened exercise are well documented (Manore, 2005) and exist in the outdoor recreation literature (Ocobock et al., 2011); thus, results underscoring nutrition's importance are unsurprising. Also unsurprising, results showed food to be an important factor in the overall experience. Careful consideration of the results of research questions 1 and 2, coupled with the literature review, indicate that while important and sometimes the focus of the outdoor recreation experience, food is not necessarily the principal motivator of most outdoor recreation experiences. Food often plays a supporting role in outdoor recreation activities, potentially enhancing the overall experience. The noted overlap between outdoor recreation and nature-based tourism is an example of an arena where food enhances the recreational experience (Breiby, 2015; Güneş, 2019).

Outdoor Recreation, Food, and Sustainability

The third research question considered the role of food in outdoor recreation sustainability. In this study, the sustainability aspects of food choice, preparation, and consumption appear to be present in the minds of outdoor recreation participants, notable both in the preference survey questions and the open-ended responses; note that the open-ended responses were not oriented toward broad or general questions of sustainability, but rather the straightforward aspect of food preservation during activity.

While presented as a factor in this study's food decision-making results, sustainability considerations were less important than other factors, such as taste and convenience. What constitutes "sustainable food" for home and outdoors is a complex question with many possible answers given the reality of time, place, and other situational factors. Waste disposal and convenience fit within sustainability considerations, thus pointing to the need for definitional clarity. Sustainable food span questions of agricultural application (Velten et al., 2015), the specifics of packaging (Tetra Pak, 2020; Versino et al., 2023), the transport of food products (Akkerman et al., 2010) to actual food consumption (Vermeir et al., 2020) and even includes food waste management (Paritosh et al., 2017). One consideration of sustainable food consumption is policy design. The report, Policy Options for Sustainable Food Consumption—Review and Recommendations for Sweden (Röös et al., 2021), inspires sustainable food transitions in the following categories: knowledge, pricing, and regulation. Such policy applies across the food consumption spectrum with direct application to outdoor recreation food.

This breadth of "sustainable food" considerations indicates the need to go beyond individual behavior and carefully consider collective factors. Ensuring that sustainability considerations are included in outdoor recreation consumer food choices may not be so different from broader questions about collective efforts (organizational and institutional) toward alternative and sustainable food production, access, distribution, and consumption in general (Liu et al., 2022; Zoll et al., 2017). Recent scholarship exploring connection and disconnection from nature support this need for an individual to collective shift (Beery et al., 2023), and given the relationship between connection to nature and sustainability behavior, this idea of a shift may be relevant (Beery et al., 2020; Ives et al., 2018; Trudel, 2018).

A final sustainability-related result is gender. Women rated sustainability aspects of planning food for outdoor recreation activities as more important than men. This rating fits previous studies indicating that women have a more environmentally sustainable diet pattern and consumption (Bloodhart & Swim, 2020; Monterrosa et al., 2020). Further, the results are related to numerous gender-based findings in this study that are discussed in the following subsection.

Questions of Gender

While interesting to consider, a note of caution regarding significant gender differences. Women were overrepresented in the results, and while systematic gender differences in survey participation are routinely observed (Becker, 2022), this is a limitation of the data. Female respondents reported significantly lower participation in multiday activities

in the results of this study. This participation finding aligns with other recent studies showing gender differences within outdoor recreation participation (Godtman Kling et al., 2018; Rizzolo et al., 2023; Rosa et al., 2020; Thompson et al., 2008). Despite this support for the findings, the results differ from those found in the Outdoor Recreation 2018 survey of the general population in Sweden; previous research showed that it is more common for women than men to engage in outdoor recreation activities (Fredman et al., 2019). A possible reason for this difference between the SOA members and the general public may be related to the unique aspect of the SOA participants, who are more highly engaged in outdoor recreation grouping. Further support for this finding can be seen in previous studies showing men have more available time for leisure activities than women (Rubiano-Matulevich & Viollaz, 2019).

Other significant gender differences noted in this study regarding both time for outdoor recreation participation and outdoor recreation food planning may be related to the domestic reality for many people. Women generally perform more household work than men and may have less time for leisure activities (Rubiano-Matulevich & Viollaz, 2019). Moreover, despite research findings that indicate Swedish households show the world's lowest disparities in gender differences in general (Greenstein, 2009) and one of the lowest in cooking frequency (Wolfson et al., 2021), other household chores/responsibilities may come into play—for example, family caretaking and planning food provision are traditionally female-coded chores (Holm et al., 2016). These responsibilities may limit women's spare time for outdoor recreation activities. In line with female-coded chores, women in this study reported higher importance of simplicity in preparation, attention to special diets, and awareness of costs, indicating planning and caretaking of family needs. Perhaps household behaviors translate to the trail, with women taking a more prominent role in food management, from organization and purchase to preparation and clean-up.

Conclusion

Three critical outcomes emerge from carefully considering the study results that can be taken forward into further research and practice. A clear definition of what is meant by sustainable outdoor recreation food and practice is needed. For example, one fundamental way to elevate sustainability considerations in outdoor recreation food choice is through careful coupling with the convenience factor. Furthermore, actions regarding sustainability might be better focused on ensuring convenience has sustainability considerations wrapped into product creation and distribution. Such an approach would mean that focus is not placed on the individual outdoor recreation participant/food consumer but instead on the organization and institution of outdoor recreation food (i.e., shifting focus from the individual to the collective outdoor food industry).

The second critical outcome is gender based. Results indicate significant gender differences in food and outdoor recreation in one of the most gender-equitable nations (Greenstein, 2009; Wolfson et al., 2021). Do the results of this study reveal the existence of long-term female-coded roles? Or are there other factors at play? Couple these questions with the limitations of this sample and focus on one nation, and the possibility of considering food, gender, and outdoor recreation more broadly is evident. Future research should keep gender in mind as a potential key factor in further questions about outdoor recreation and food.

A final critical outcome is primarily based on the literature review providing a foundation for this study. The general arena for coupling food and outdoor recreation is growing. There appears to be significant interest in this intersection of food and outdoor recreation, not least with potentially exciting implications for tourism and rural development (Calvén et al., 2023; Olsson et al., 2016; Rytkönen et al., 2023). Hopefully, this study will contribute to an awareness of the need for further research in this growing arena.

Acknowledgment

We wish to acknowledge the support of Familjen Kamprads stiftelse for supporting this research.

References

Ahlström, I. (2008). *Allt om allemansrätten: Ett svenskt kulturarv [Everything about universalaccess: A Swedish cultural legacy]*. Hilma Förlag.

Akkerman, R., Farahani, P., & Grunow, M. (2010). Quality, safety and sustainability in food distribution: A review of quantitative operations management approaches and challenges. *OR Spectrum*, *32*(4), 863–904. https://doi.org/10.1007/s00291-010-0223-2

Aschemann-Witzel, J., de Hooge, I., Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: Causes and potential for action. *Sustainability*, *7*(6), 6457–6477. https://doi.org/10.3390/su7066457

Aschemann-Witzel, J., de Hooge, I. E., & Almli, V. L. (2021). My style, my food, my waste! Consumer food waste-related lifestyle segments. *Journal of Retailing and Consumer Services*, *59*. https://doi.org/10.1016/j.jretconser.2020.102353

Becker, R. (2022). Gender and survey participation. An event history analysis of the gender effects of survey participation in a probability-based multi-wave panel study with a sequential mixed-mode design. *Methods, Data, Analyses*, *16*(1), 3–2. https://doi.org/10.12758/mda.2021.08

Beery, T. H. (2013). Nordic in nature: Friluftsliv and environmental connectedness. *Environmental Education Research*, *19*(1), 94–117. https://doi.org/10.1080/13504622.2012.688799

Beery, T., Calvén, A., & Wendin, K. (2023). Prepared food on the trail: Exploring sustainability in outdoor recreation food choices. *Journal of Outdoor Recreation and Tourism*, *41,* 100582. https://doi.org/10.1016/j.jort.2022.100582

Beery, T., Chawla, L., & Levin, P. (2020). Being and becoming in nature: Defining and measuring connection to nature in young children. *International Journal of Early Childhood Environmental Education*, *7*(3), 3–22. https://naturalstart.org/sites/default/files/journal/4._beery_et_al_submit_march_27_2020_accepted_july_2_2020.pdf

Beery, T., Olsson, M. R., & Vitestam, M. (2021). Covid-19 and outdoor recreation management: Increased participation, connection to nature, and a look to climate adaptation. *Journal of Outdoor Recreation and Tourism*, *36,* 100457. https://doi.org/10.1016/j.jort.2021.100457

Beery, T., Stahl Olafsson, A., Gentin, S., Maurer, M., Ståhammar, S., Albert, C., Bieling, C., Buijs, A., Fagerholm, N., Garcia-Martin, M., Plieninger, T., & M. Raymond, C. (2023). Disconnection from nature: Expanding our understanding of human–nature relations. *People and Nature*, *5*(2), 470–488. https://doi.org/10.1002/pan3.10451

Bloodhart, B., & Swim, J. K. (2020). Sustainability and consumption: What's gender got to do with it? *Journal of Social Issues*, *76*(1), 101–113. https://doi.org/10.1111/josi.12370

Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, *9*(1), 3–26. https://doi.org/10.1037/qup0000196

Breiby, M. A. (2015). Exploring aesthetic dimensions in nature-based tourist experiences. *Tourism Analysis*, *20*(4), 369–380. https://doi.org/10.3727/108354215X14400815080361

Brochado, A., & Pereira, C. (2017). Comfortable experiences in nature accommodation: Perceived service quality in Glamping. *Journal of Outdoor Recreation and Tourism*, *17*, 77–83. https://doi.org/10.1016/j.jort.2017.01.005

Calvén, A., Beery, T., Wendin, K., Johansson, M., & Carlbäck, M. (2023). Outdoor recreation, nature-based tourism, and food: From Covid-19 to sustainable futures for hospitality and rural development-a review. In A. Peters, A. Hübner, N. Godis, P. Setoodegan, S. Weliweriyage, & T. Chekalina (Eds.), *31st Nordic Symposium on Tourism and Hospitality Research—Book of Abstracts* (pp. 479–483). Mid Sweden University. https://www.miun.se/globalassets/forskning/center-och-institut/etour/konferens/nordic-symposium-2023/nordic-symposium---book-of-abstracts--final-web.pdf

Carlsson, I., & Mundszinger, J. (2022). *The COVID-19 outdoor recreation boom A comparative case study of motivational based national park visitation in Germany and Sweden* (Publication Number 2022:026) [Master Thesis, Lund University]. LUP Student Papers. https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=9084251&fileOId=9084264

Chumbley, S. P. (2014). *Energy expenditure analysis of wilderness backpacking participants* [Master Thesis, Montana State University]. Montana State University Library. https://scholarworks.montana.edu/xmlui/handle/1/3346

Cordell, H. K. (2012). *Outdoor recreation trends and futures: a technical document supporting the Forest Service 2010 RPA Assessment* (General Technical Report-Southern Research Station Issue SRS-150). USDA Forest Service.

Dioszegi, J., Llanaj, E., & Adany, R. (2019). Genetic background of taste perception, taste preferences, and its nutritional implications: A systematic review. *Frontiers in Genetics*, *10*, 1272. https://doi.org/10.3389/fgene.2019.01272

du Rand, G. E., & Heath, E. (2006). Towards a framework for food tourism as an element of destination marketing. *Current Issues in Tourism*, *9*(3), 206–234. https://doi.org/10.2164/cit/226.0

Ewert, A., Zwart, R., & Davidson, C. (2020). Underlying motives for selected adventure recreation activities: The case for eudaimonics and hedonics. *Behavioral Sciences (Basel)*, *10*(12), 185. https://doi.org/10.3390/bs10120185

Fredman, P., Ankre, R., & Chekalina, T. (2019). *Friluftsliv 2018 Nationell undersökning av svenska folkets friluftsvanor* (Report, Issue 6887). Naturvårdsverket. https://www.naturvardsverket.se/publikationer/6800/friluftsliv-2018/

Friluftsfrämjandet. (n.d.-a). *Hållbart och inkluderande friluftsliv*. Retrieved January 16, 2024 from https://www.friluftsframjandet.se/globalassets/1.-organisationen/malardalen/enkoping/policy_hallbart-och-inkluderande-friluftsliv.pdf

Friluftsfrämjandet. (n.d.-b). *Om oss*. Retrieved January 16, 2024 from https://www.friluftsframjandet.se/om-oss/

Gaffar, V., Yuniawati, Y., & Ridwanudin, O. (2019). A study of outdoor recreation motivation and activity preferences. *Journal of Southwest Jiaotong University*, *54*(3). https://doi.org/10.35741/issn.0258-2724.54.3.23

Godtman Kling, K., Margaryan, L., & Fuchs, M. (2018). (In)equality in the outdoors: Gender perspective on recreation and tourism media in the Swedish mountains. *Current Issues in Tourism*, *23*(2), 233–247. https://doi.org/10.1080/13683500.2018.1495698

Greenstein, T. N. (2009). National context, family satisfaction, and fairness in the division of household labor. *Journal of Marriage and Family*, *71*(4), 1039–1051. https://doi.org/10.1111/j.1741-3737.2009.00651.x

Güneş, S. G. (2019). Food-related recreational experiences around the world. In M. Nakashidze (Ed.), *IACSS 2019 International Academic Conference on Social Sciences—Conference Proceedings* (pp. 55–65). The International Institute for Academic Development. https://socscience-conf.com/wp-content/uploads/IACSS-2019-Proceedings.pdf

Hansen, A. S., Beery, T., Fredman, P., & Wolf-Watz, D. (2023). Outdoor recreation in Sweden during and after the COVID-19 pandemic—Management and policy implications. *Journal of Environmental Planning and Management*, *66*(7), 1472–1493. https://doi.org/10.1080/09640568.2022.2029736

Henderson, B., & Vikander, N. (Eds.). (2007). *Nature first: Outdoor life the friluftsliv way.* Natural Heritage Books.

Holm, L., Ekström, M. P., Hach, S., & Lund, T. B. (2016). Who is cooking dinner? *Food, Culture & Society*, *18*(4), 589–610. https://doi.org/10.1080/15528014.2015.1088191

Hurd, A., Anderson, D. M., & Mainieri, T. (2021). *Kraus' recreation and leisure in modern society* (12th ed.). Jones and Bartlett Puplishers, Inc.

Ives, C. D., Abson, D. J., von Wehrden, H., Dorninger, C., Klaniecki, K., & Fischer, J. (2018). Reconnecting with nature for sustainability. *Sustainability Science*, *13*(5), 1389–1397. https://doi.org/10.1007/s11625-018-0542-9

Kloek, M. E., Buijs, A. E., Boersema, J. J., & Schouten, M. G. C. (2017). Beyond ethnic stereotypes—Identities and outdoor recreation among immigrants and nonimmigrants in the Netherlands. *Leisure Sciences*, *39*(1), 59–78. https://doi.org/10.1080/01490400.2016.1151843

Liu, X., Le Bourvellec, C., Yu, J., Zhao, L., Wang, K., Tao, Y., Renard, C. M. G. C., & Hu, Z. (2022). Trends and challenges on fruit and vegetable processing: Insights into sustainable, traceable, precise, healthy, intelligent, personalized and local innovative food products. *Trends in Food Science & Technology*, *125*, 12–25. https://doi.org/10.1016/j.tifs.2022.04.016

Mackintosh, C., Griggs, G., & Tate, R. (2019). Understanding the growth in outdoor recreation participation: An opportunity for sport development in the United Kingdom. *Managing Sport and Leisure*, *23*(4–6), 315–335. https://doi.org/10.1080/23750472.2019.1595093

Manore, M. M. (2005). Exercise and the Institute of Medicine recommendations for nutrition. *Current Sports Medicine Reports*, *4*(4), 193–198. https://doi.org/10.1097/01.CSMR.0000306206.72186.00

McCullough, B. P., Asle Bergsgard, N., Collins, A., Muhar, A., & Tyrväinen, L. (2018). The impact of sport and outdoor recreation (Friluftsliv) on the natural environment. *MISTRA The Swedish Foundation for Strategic Environmental Research*. https://mistra.org/wp-content/uploads/2022/09/sport-and-outdoor-recreation-background-paper-2018-1.pdf

MHO Adventures. (2024). *The ultimate guide to feeding during your outdoor adventure*. https://mhoadventures.com/the-ultimate-guide-to-feeding-during-your-outdoor-adventure/

Monterrosa, E. C., Frongillo, E. A., Drewnowski, A., de Pee, S., & Vandevijvere, S. (2020). Sociocultural influences on food choices and implications for sustainable healthy diets. *Food and Nutrition Bulletin*, *41*(2_suppl), 59S–73S. https://doi.org/10.1177/0379572120975874

Morgan, C. A., Masters, M. A., Rochelle, S., Ruden, T., & Gookin, J. (2017). Energy balance: Assessing dietary intake and changes in body composition during the national outdoor leadership school courses. *Journal of Outdoor Recreation, Education, and Leadership*, *9*(4), 363–376. https://doi.org/10.18666/jorel-2017-v9-i4-7900

Mossberg, L., & Lindberg, F. (2021). Sustainable expedition and tasty meals: A design contradiction? *Journal of Gastronomy and Tourism*, *6*(1–2), 1–11. https://doi.org/10.3727/216929721X16105303036607

Naturvårdsverket. (n.d.). *Allemansrätten och friluftsliv*. Retrieved January 16, 2024 from https://www.naturvardsverket.se/amnesomraden/allemansratten/allemansratten-och-friluftsliv/

Netto, A. P. (2009). Chapter 3. What is tourism? Definitions, theoretical phases and principles. In *Philosophical issues in tourism* (pp. 43–61). Channel View Publications. https://doi.org/10.21832/9781845410988-004

Nilsson, L. (July 26, 2022). *Trenden från pandemiåren fortsätter: Fler barnfamiljer vandrar i fjällen*. Sveriges Television. https://www.svt.se/nyheter/lokalt/norrbotten/trenden-fortsatter-fler-barnfamiljer-i-fjallen

Novelli, M., Schmitz, B., & Spencer, T. (2006). Networks, clusters and innovation in tourism: A UK experience. *Tourism Management*, *27*(6), 1141–1152. https://doi.org/10.1016/j.tourman.2005.11.011

Närvänen, E., Mesiranta, N., Mattila, M., & Heikkinen, A. (Eds.). (2020). *Food waste management solving the wicked problem*. Springer International Publishing. https://doi.org/10.1007/978-3-030-20561-4

Ocobock, C., Gookin, J., & Baynes, S. (2011). Energy balance assessment of students on a national outdoor leadership school course. *Journal of Outdoor Recreation, Education, and Leadership*, *3*(2), 105–107. https://doi.org/10.7768/1948-5123.1108

Olsson, E., Kerselaers, E., Søderkvist Kristensen, L., Primdahl, J., Rogge, E., & Wästfelt, A. (2016). Peri-urban food production and its relation to urban resilience. *Sustainability*, *8*(12). https://doi.org/10.3390/su8121340

Outdoor Industry Association. (2023). *Outdoor participation trends report: Our annual report analyzing the who, how, and where in outdoor participation*. https://oia.outdoorindustry.org/resource/2023-outdoor-participation-trends-report

Paritosh, K., Kushwaha, S. K., Yadav, M., Pareek, N., Chawade, A., & Vivekanand, V. (2017). Food waste to energy: An overview of sustainable approaches for food waste management and nutrient recycling. *BioMed Research International*, *2017*, 2370927. https://doi.org/10.1155/2017/2370927

Pedersen, H., & Ledin Höglund, K. (November 9, 2021). *Naturen är den största trenden*. Besöksliv. https://www.besoksliv.se/nyheter/naturen-ar-den-storsta-trenden/

Regeringsformen. (1974). https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/kungorelse-1974152-om-beslutad-ny-regeringsform_sfs-1974-152/

Rizzolo, J. B., Delie, J., Carlson, S. C., & Dietsch, A. M. (2023). Gender differences in wildlife-dependent recreation on public lands. *Frontiers in Conservation Science*, *4*. https://doi.org/10.3389/fcosc.2023.1006150

Röös, E., Larsson, J., Resare Sahlin, K., Jonell, M., Lindahl, T., André, E., Säll, S., Harring, N., & Persson, M. (2021). *Policy options for sustainable food consumption—Review and recommendations for Sweden* (Mistra Sustainable Consumption report, Issue 1:10). https://www.sustainableconsumption.se/wp-content/uploads/sites/34/2021/03/Policy-Options-for-Sustainable-Food-Consumption-2021-Mistra-Sustainable-Consumption-report-1.pdf

Rosa, C. D., Larson, L. R., Silvia, C., Cloutier, S., & Profice, C. C. (2020). Gender differences in connection to nature, outdoor preferences, and nature-based recreation among college students in Brazil and the United States. *Leisure Sciences*, *45*(2), 135–155. https://doi.org/10.1080/01490400.2020.1800538

Rubiano-Matulevich, E. C., & Viollaz, M. (2019). *Gender differences in time use allocating time between the market and the household* (World Bank Policy Research Working Paper No. 8981). https://ssrn.com/abstract=3437824

Rytkönen, P., Skoglund, W., Oghazi, P., & Laven, D. (2023). Exploring the dynamics of innovation: Patterns of Growth and contraction in the local food industry. *British Food Journal*.

Saaty, M., Patel, J. V., Abdelgawad, N., Marion, J., McCrickard, D. S., Misra, S., & Wernstedt, K. (2022). *Note: Studying Sustainable Practices of Appalachian Trail Community based on Reddit Topic Modelling Analysis* ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS). https://dl.acm.org/doi/fullHtml/10.1145/3530190.3534848

Sandell, K., & Sörlin, S. (2008). *Friluftshistoria: Från" härdande friluftslif" till ekoturism och miljöpedagogik: Teman i det svenska friluftslivets historia* (Vol. 2). Carlssons bokförlag.

Shih, C., & Nicholls, S. (2011). Modeling the influence of weather variability on leisure traffic. *Tourism Analysis*, *16*(3), 315–328. https://doi.org/10.3727/108354211X13110944387202

Skurka, A. (2024). *Backpacking food recipes, rations, stoves & storage*. https://andrewskurka.com/backpacking-food-book-two-days-14k-words/

Sundqvist, J. (2023). Gastronomic experiences: Motives, activities, and teleology. *International Journal of Gastronomy and Food Science*, *31*. https://doi.org/10.1016/j.ijgfs.2022.100645

Tetra Pak. (April 3, 2020). *3 ways to achieve sustainable food production—While staying flexible*. https://www.tetrapak.com/insights/cases-articles/achieve-sustainable-food-production#cf-step-thankyou-textimage_copy_copy

Thilmany, D., Hill, R., Haefele, M., Sandt, A. V., Thomas, C. C., Sullins, M., & Low, S. A. (2019). Agri-tourism and rural outdoor recreation in the US: A framework for understanding economic and employment dynamics. In *Rural Policies and Employment* (pp. 351–372). https://doi.org/10.1142/9781786347091_0022

Thompson, C. W., Aspinall, P., & Montarzino, A. (2008). The childhood factor: Adult visits to green places and the significance of childhood experience. *Environment and Behavior*, *40*(1), 111–143. https://doi.org/10.1177/0013916507300119

Tidball, K. G., & Tidball, M. M. (2022). Linking food motivations with therapeutic outdoor recreation outings for veterans. *Journal of Veterans Studies*, *8*(3), 59–69. https://doi.org/10.21061/jvs.v8i3.339

Treiber, L. (May 21, 2014). *Adventures in keeping food safe while outdoors*. Michigan State University Extension. https://www.canr.msu.edu/news/adventures_in_keeping_food_safe_while_outdoors

Trudel, R. (2018). Sustainable consumer behavior. *Consumer Psychology Review*, *2*(1), 85–96. https://doi.org/10.1002/arcp.1045

United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. https://sdgs.un.org/2030agenda

Vabø, M., & Hansen, H. (2014). The Relationship between food preferences and food choice: A theoretical discussion. *International Journal of Business and Social Science*, *5*(7), 145–157. https://ijbssnet.com/journals/Vol_5_No_7_June_2014/16.pdf

Varley, P., Farkic, J., & Carnicelli, S. (2018). Hospitality in wild places. *Hospitality & Society*, *8*(2), 137–157. https://doi.org/10.1386/hosp.8.2.137_1

Vaske, J. J. (2019). *Survey research and analysis* (2nd ed.). Sagamore-Venture.

Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability*, *7*(6), 7833–7865. https://doi.org/10.3390/su7067833

Vermeir, I., Weijters, B., De Houwer, J., Geuens, M., Slabbinck, H., Spruyt, A., Van Kerckhove, A., Van Lippevelde, W., De Steur, H., & Verbeke, W. (2020). Environmentally sustainable food consumption: A review and research agenda from a goal-directed perspective. *Frontiers in Psychology*, *11*, 1603. https://doi.org/10.3389/fpsyg.2020.01603

Versino, F., Ortega, F., Monroy, Y., Rivero, S., Lopez, O. V., & Garcia, M. A. (2023). Sustainable and bio-based food packaging: A review on past and current design

innovations. *Foods*, *12*(5), 1057. https://doi.org/10.3390/foods12051057

Vincent, S. (2023). *Food for outdoor recreation: How consumers choose their meals?* Kristianstad University Press. https://researchportal.hkr.se/ws/portalfiles/portal/57968703/Vincent_Outdoor_recreation_FINAL_REPORT_2023.pdf

Wolfson, J. A., Ishikawa, Y., Hosokawa, C., Janisch, K., Massa, J., & Eisenberg, D. M. (2021). Gender differences in global estimates of cooking frequency prior to COVID-19. *Appetite*, *161*, 105117. https://doi.org/10.1016/j.appet.2021.105117

Zoll, F., Specht, K., Opitz, I., Siebert, R., Piorr, A., & Zasada, I. (2017). Individual choice or collective action? Exploring consumer motives for participating in alternative food networks. *International Journal of Consumer Studies*, *42*(1), 101–110. https://doi.org/10.1111/ijcs.12405

Zwart, R., & Hines, R. (2022). Community wellness and social support as motivation for participation in outdoor adventure recreation. *Journal of Outdoor Recreation, Education, and Leadership*, *14*(1). https://doi.org/10.18666/jorel-2022-v14-i1-11139