CONSUMER PERCEPTIONS OF THE CONVENIENCE OF SUSTAINABLE FOOD

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Abstract

Purpose: To examine consumer perceptions of the convenience of sustainable food.

Design/methodology/approach: A quantitative approach utilising an online questionnaire collected data from Irish consumers (n=304). Data analysis was conducted by utilising SPSS v28 to calculate the mean of respondents' answers to a 5-point Likert scale. Next, Independent T-tests and ANOVA tests were carried out to test for statistical differences between demographic subgroups. Lastly, the influence of convenience on attitudes to sustainable food was assessed by using exploratory factor analysis, confirmatory factor analysis, and structural equation modeling.

Findings: Consumers perceive the preparation aspect of the convenience of sustainable food positively (M = 3.63, M = 3.14). Consumers have a negative perception of the availability aspect of sustainable food (M = 2.75, M= 2.18). There is no statistically significant difference between consumers' perceptions of the convenience of sustainable food based on the demographic characteristics of gender, age, education, employment, locality, or purchasing responsibility. Lastly, it was found there is no supporting evidence to show that consumers' perceptions have an impact on consumer attitudes toward sustainable food (p = .813).

Research implications: This study contributes to the current body of literature focusing on the convenience of sustainable food. In addition, it provides valuable insights for food stakeholders within sustainable food systems to improve the convenience of sustainable food.

Originality/value: This study presents an investigation into consumers' perceptions of the convenience of sustainable food and its impact on consumer attitudes toward sustainable food. There is a lack of research on the aspects of the convenience of sustainable food, thus this study can serve as a roadmap of literature for both academics and practitioners and help stimulate further interest.

Keywords: Sustainable food, convenience, perceptions

1. Introduction

Consumers are becoming more interested in sustainable food (Forbes et al., 2009) due to growing concerns including environmental matters (Verma and Duggal, 2015). Indeed, sustainable food consumption is required to avoid causing significant damage to ecological systems, which is occurring with current food models (Kamenidou et al., 2019) including the 21% to 37% contribution of food production to global greenhouse gases and the loss of biodiversity (IPCC, 2019). Sustainable food is food that considers all three pillars of sustainability namely, the social, economic, and environmental aspects (Tedeschi et al., 2015). However, whilst consumers are becoming more aware of sustainability issues, convenience plays a more important role in consumer purchasing decisions (Popovic et al., 2019).

Foods that are convenient are those that allow consumers to save time and lessen efforts regarding food shopping, meal preparation, cooking, and consumption (Brunner et al., 2010). Whilst sustainable food is that which is produced in an environmentally friendly manner, to a high welfare standard, and ensures safe and nutritious food is available now and in future generations (FAO, 2012).

It has been noted that much of the research which focuses on pro-environmental behaviour, including that of sustainable consumption, excludes the influence of people's want for convenience (Popovic et al., 2019). Therefore, exposing a gap in the research on how consumers' need for convenience may impact their attitudes and purchasing intentions regarding sustainable food consumption. In addition, whilst many articles briefly suggest that consumers perceive sustainable food to be inconvenient (Deloitte, 2021) and act as a barrier to purchasing these foods (Vermeir et al., 2020), there is very little detail on if consumers perceive sustainable food to be inconvenient.

Therefore, convenience must be investigated for consumer perceptions of sustainable food to be altered as this could improve consumers' attitudes and purchase intentions towards these foods. Thus, this study proposes to answer the research question "Do consumers perceive sustainable food to be convenient?"

The paper is structured as follows, firstly a background to the research is presented, followed by an outline of the methodology. Next, the findings of the research are presented. The paper concludes by highlighting the implications and limitations of this paper. Subsequently, the paper concludes with recommendations for future research.

2. Background to the research

Adopting sustainable food systems in terms of food production and consumption practices is critical for a variety of reasons. To begin with, the current food system contributes significantly to greenhouse gas (GHG) emissions, making it one of the primary contributors to climate change (Macdiarmid et al., 2012). In addition, current food consumption contributes to excess waste, as well as soil and water pollution, negatively impacting natural ecosystem conservation (Hoek et al., 2004; Tobler et al., 2011; FAO, 2015; Wang et al., 2017). Thus, a transition to a sustainable food system is required to avoid contributing to biodiversity loss and climate change (European Commission, 2020). Sustainable food consumption and production are required to ensure food security and improve food quality in the global system (García Oliveira et al., 2021).

Consumers are increasingly concerned about the environmental and social sustainability of food production (Banterle et al., 2010; Dobson, 2007). As a result, academic research into consumer attitudes toward sustainable food has surged. It is argued that in order to achieve a sustainable food system, consumers must adopt sustainable food purchasing habits (Grunert, 2011; Gao et al., 2020), they impact the types and methods by which food is produced (FAO, 2015). As a result, the importance of implementing sustainable food consumption by consumers is undeniable.

The market for convenience foods has grown dramatically and is expected to grow at a 3.3 percent annual rate for the next four years (Statista, 2021). Furthermore, it has been reported that these foods now dominate the diets of developed-world populations (Johns et al, 2017; Chenhall 2010; Brunner et al., 2010; Carrigan et al., 2006).

Several studies have been conducted to explain why consumers choose convenience foods (Johns et al., 2017; Schubert et al., 2013), and time appears to be the main driver (Piscopo, 2015; Brunner et al. 2010). Consumers' actual or perceived lack of time contributes to their purchase of out-of-home prepared foods and meals. Changes in technology and changing food values are two factors that have contributed to the popularity of convenience foods (Chenhall 2010; Buckley et al. 2007). Technological advancements have enabled food to be created in such a way that consumers do not need to spend a lot of time preparing and cooking food (Vileisis 2009).

However, when it comes to sustainable food, consumers face a significant barrier in purchasing more sustainably. The availability of these foods refers to how easily consumers

can obtain them in places such as grocery stores. Consumers do not believe that they have practical access to places selling sustainable food, whether due to a lack of knowledge of local suppliers or because accessing these locations is inconvenient (Ng, 2015). While consumers are aware that farmers' markets are an ideal place to buy sustainable food, they express a desire not to visit multiple retail channels to buy their groceries because it wastes time and creates uncertainty about opening times and stock availability at local markets (Ng, 2015). Due to the reasons above, consumers prefer supermarkets for their convenience. It is thus proposed to include a "sustainable" section in supermarkets, as consumers in the United Kingdom have indicated that having access to such a feature in supermarkets would be beneficial (IGD, 2005; Trewern et al., 2021).

There are numerous, frequently mentioned barriers to consumers adopting sustainable purchase behaviour. Convenience is one of the most significant barriers (Stanley et al., 2022). Many articles suggest, briefly, that consumers perceive sustainable food to be inconvenient, which acts as a barrier to purchasing these foods; however, there is very little detail on why consumers perceive sustainable food to be inconvenient (Deloitte, 2022; Chen et al., 2021). Furthermore, much research on pro-environmental behaviour excludes the influence of people's desire for convenience in their theoretical models (Popovic et al., 2019), exposing a gap in the research on how people's desire for convenience may impact their pro-environmental behaviour, particularly in their purchasing decisions.

It is clear from the lack of investigation into consumers perceptions of the convenience of sustainable food that there is a research gap. Studies have looked at the availability of sustainable food with many concluding that sustainable food is more difficult to access when compared to its conventionally produced counterparts. While availability as regards food shopping, (Brunner et al., 2010; Buckley et al., 2007) is the most researched aspect of convenience regarding sustainable food there is much less investigation into the meal preparation, cooking, and consumption facets that define convenient food. Thus, the researcher suggests it is crucial that the product attribute of convenience is investigated further examining how its impact on consumers' attitudes toward sustainable food.

3. Methodology

A modified version of the theoretical framework the Theory of Planned Behaviour (Ajzen, 1991) was utilised in this study. In this, the product attribute 'convenience' was included to

show its effect on consumers' attitudes. This modified framework was implemented as product attributes have been shown to influence attitudes (Zhang and Dong, 2020). This study formed part of a larger research project investigating various product attributes, including quality and value for money, on consumers' attitudes to sustainable food.

This paper aims to provide an examination of consumer perceptions of the convenience of sustainable food. This was conducted by an analysis of mean responses to the scale items developed, utilising independent T-tests and ANOVA in conjunction with the Welch test, to investigate consumer perceptions of the convenience of sustainable food. Next, the demographic backgrounds of respondents were used to analyse perceptions of convenience and to identify any differences between subgroups means within the demographic factors of gender, age, education, employment, location, and purchasing responsibility. In addition, this study aims to determine if these perceptions influence consumer attitudes toward sustainable food. Consumer attitudes were investigated with the resulting data used to test the hypothesis "Consumers' perceptions of the convenience of sustainable food positively influence their attitudes to sustainable food". For this paper, self-administered questionnaires were distributed to 304 participants. This method was chosen to achieve a large sample size (Bryman, 2008) to gain an understanding of the general Irish population's perceptions and attitudes (Veal, 2011).

Following that, the convenience scale was subsequently assessed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to determine if the scale measured the convenience construct (Knekta et al., 2019). IBM's SPSS 28 was used to conduct EFA using Principal Axis Factoring with a Promax rotation to determine the factor structure of the data. While CFA and structural equation modelling (SEM) was performed using IBM's SPSS AMOS 28.

3.2 Questionnaire and Scale Development

A quantitative approach was applied in this research using a questionnaire distributed online. The population of interest was identified as food shoppers within Ireland.

A scale was developed to measure the convenience construct through an examination of the literature pertaining to consumer perceptions toward sustainable food and the adaptation of similar tested constructs (Petrescu et al., 2019; Mallinson et al., 2016).

The questionnaire using a five-point Likert scale (1= strongly disagree, 5 = strongly agree) was designed to capture data for the construct of the research framework. The questionnaire was pre-tested using an "expert panel approach" (Czaja, 1998, p. 59), followed by a pilot study provided to a representative sample of the final survey's respondents. Following the pilot test, some questions were rephrased to clarify their meaning.

3.3 Sample and Data Collection

This research concerns food shoppers, and as such certain criteria needed to be met by each respondent to be eligible for inclusion in the study. Therefore, a non-probability sampling strategy was employed. This led the researcher to adopt a purposive criterion sampling technique (Patton, 2001). Consequently, the following inclusion criteria were used to identify eligible respondents:

- All respondents reside in the Republic of Ireland
- All respondents are aged 18 or over

A sample size >300 was required to conduct SEM, (Tabachnick and Fidell, 2013). The questionnaire used an online survey format, using the Microsoft Forms software platform. Potential respondents were found through an online search of food interest groups, sustainable interest groups, and social media channels. The online survey was active from the 18th of June 2021 to the 11th of August 2021, attaining 304 responses.

3.4 Data Analysis

SPSS and SPSS Amos (v28) software were used to analyse the data. In this study, mean scores and standard deviations were produced by the SPSS v28 explore function to indicate consumers' perceptions of the attribute convenience of sustainable food, in addition to assessing consumer attitudes. Finally, SEM was utilised to measure both the convenience and attitudes variable to test the hypothesis "Consumers' perceptions of the convenience of sustainable food positively influence attitudes towards sustainable food."

SEM was used to measure the multi-dimensional latent variables in the questionnaire. Prior to testing the hypothesis, data screening procedures were carried out to ensure usability, validity, and reliability. As a result, checks were performed for missing data as well as

multivariate and univariate outliers. Furthermore, the data were tested to ensure that it had appropriate levels of Skewness and Kurtosis. Finally, the data were checked for multicollinearity, homoscedasticity, and linearity.

To detect discriminant validity issues, EFA was used, and the framework's constructs were refined into a usable set of 'coherent subscales' (Pallant, 2011, p. 179). A successful EFA necessitates the achievement of several thresholds. First, the KMO (0.891 = Good) is used to assess the appropriateness of the data. Second, Bartlett's Sphericity Test (Sig. 0.000 = Good) ensures that the variables in the analysis are sufficiently related to one another to confirm a meaningful EFA. The pattern matrix generated by the EFA is then tested for convergent and discriminant validity. Convergent validity measures how closely variables within a single factor are related (Hair et al., 2013). Hair et al. (2013) claim that a factor loading of 0.4 is significant with a sample size greater than 250. Because the sample size in this study was 304, all variables with factor loadings greater than 0.4 were considered significant. Discriminant validity measures how distinct and uncorrelated factors are. Correlations between factors should not exceed 0.7 to satisfy discriminant validity, and cross-loadings should differ by more than 0.2. The analysis achieved both convergent and discriminant validity. Following that, the reliability of the framework measures was evaluated using Cronbach's alpha, which investigated the internal consistency of the scales. Because all values were greater than 0.7, reliability was ensured (Hair et al., 2013).

CFA was the next step in scale development. The primary function of CFA is to confirm the factor structure of the framework from the EFA, as well as to determine the goodness of fit of the measurement model (Gaskin, 2010). To begin, the extracted factor loadings, composite reliability, and average variance were used to assess convergence validity (Hair et al., 2013). Each of these tests was carried out using Gaskin's Stats Tools Package for Microsoft Excel (2012).

From the results, the measurement model has composite reliability (CR) as evidenced by all values > 0.6. Furthermore, it has convergent validity as evidenced by the average variance extracted (AVE) results > 0.5 which is in line with Barclay et al. (1995) who recommend achieving a score of greater than 0.50. Additionally, the measurement model has discriminant validity as the maximum shared squared variance (MSV) value is less than the AVE. Moreover, the square root of the AVE, of all factors is greater than any of the inter-factor correlations.

The next stage of the analysis involved generating a full structural equation model (SEM) using Maximum Likelihood estimation for the sample, as shown in Figure 3.1. The model fit indicators were RMSEA = 0.045 (Excellent), SRMR = 0.032 (Excellent), CFI = .977 (Excellent) and CMIN/DF= 1.624 (Excellent). These results support a good model fit (Lowry and Gaskin 2014).

4. Findings

To investigate the research aim this study presents responses to a Likert scale examining the product attribute of convenience as well as examining these responses by demographic backgrounds of respondents including gender, age, education, employment, location, and purchasing responsibility. Consumers' attitudes to sustainable food are then presented before finally testing the hypothesis "Consumers' perceptions of the convenience of sustainable food positively influence attitudes towards sustainable food".

4.1 Demographics of the respondents

This section provides an overview of the participant demographic profiles in addition to their purchasing responsibility. Respondents provided five instances of demographic information: namely, their gender, age, education level, employment status, and locality.

Female respondents made up 69.7% of the sample. Over half of the respondents were aged between 30 and 49, and just under 80% had attained a Higher Education qualification. Most of the respondents were either employed (66%) or self-employed (11%, Table 4.1). Lastly, 77.6% noted that they lived in a rural setting within a town, village, or the countryside.

The vast majority of respondents indicated that they had responsibility for purchasing food in the household (89%, Table 4.1).

Table 4.1: Respondents' demographics	
Gender	**%** of Respondents
Male	28.3
Female	69.7
Prefer not to say & Other	1.6
Age	**%** of Respondents
18-29	16.4
30-39	24.7
40-49	28.3
50-59	19.4
60-69	8.9
>70	1.6
Education – Highest level attained	**%** of Respondents
Secondary school	2.6
Leaving Certificate or equivalent	5.9
Further Education (e.g. Apprenticeships, Post-Leaving Certificate, SOLAS)	10.5
Higher Education (e.g. College, University)	79.9
Employment	**%** of Respondents
Employed	66.1
Self-employed	11.2
Not in paid employment	3.9
Student	7.6
Retired	5.9
Other	4.9
Locality	**%** of Respondents
Town, village, countryside	77.6
Provincial city, city or its suburbs	22
Purchasing Responsibility	% of Respondents
Most responsibility within household	60.2
Equal responsibility between me and someone else	29.6
Someone else has more responsibility	9.5

4.2 Perceptions of the convenience of sustainable food

Perceptions of the convenience of sustainable food were investigated via four statements. Respondents' mean response to "Sustainable food is easy to prepare" was 3.63. Additionally, mean scores indicate agreement with the statement "Sustainable food takes too much time to shop for" at 3.14.

Contrastingly, respondents indicated disagreement with the statement "Sustainable food is readily available" with a mean score of 2.75, thus indicating a perception of a lack of availability. Furthermore, consumers showed agreement that sustainable food does not take too much time to prepare at 2.18. Respondents' perceptions of the convenience of sustainable food are in visual form in Figure 4.1.

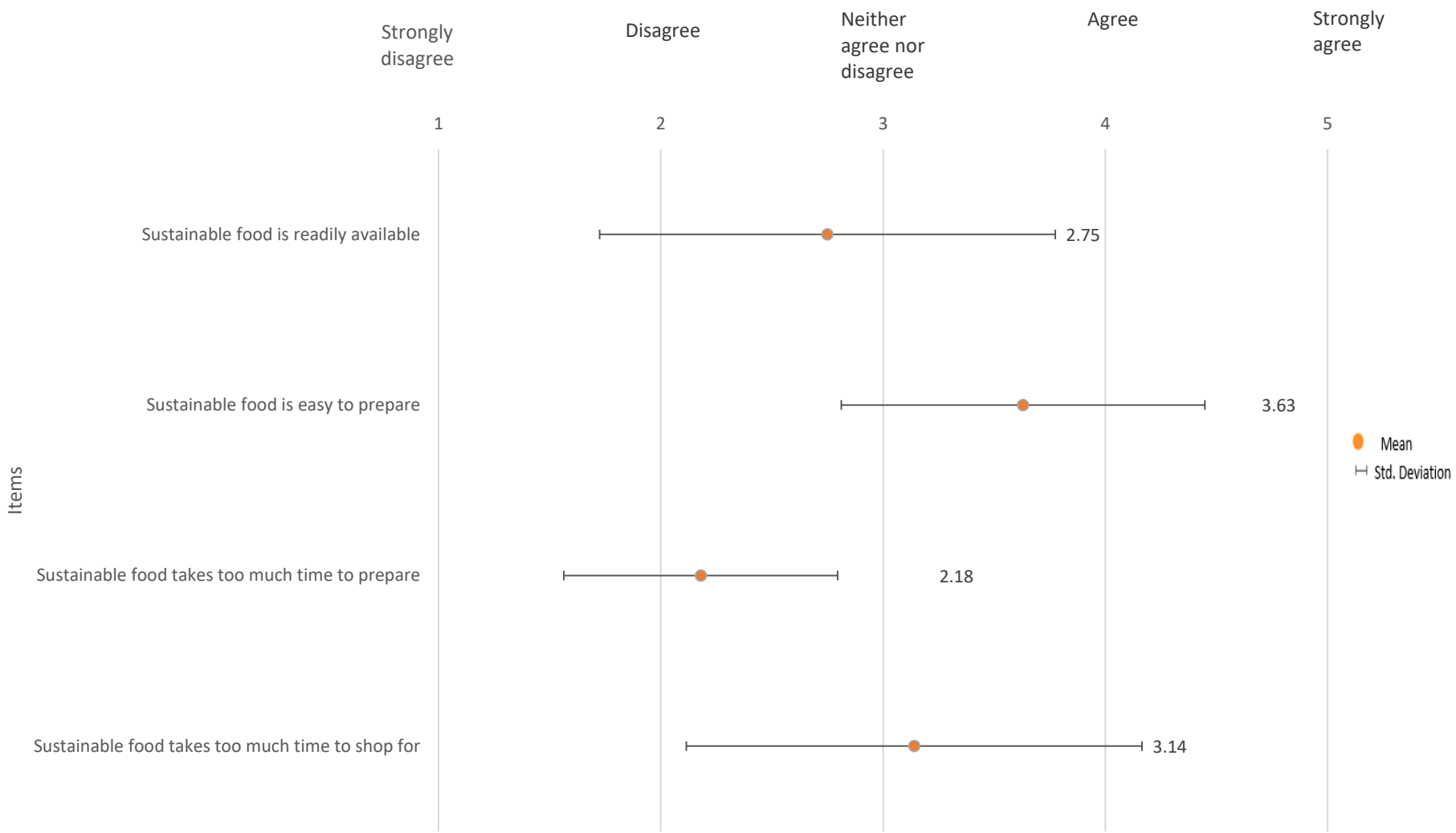

Figure 4.1 Consumer Perceptions of Convenience

4.3 Demographic analysis of convenience perceptions

Perceptions of the convenience of sustainable food were also examined in terms of gender, age, education, employment, location, and purchasing responsibility.

The mean response to the statement "Sustainable food is readily available" was not statistically significant (p =.103). Furthermore, female and male respondents did not have statistically different means to the statement "It takes too long to shop for sustainable food" (p=.164). Similarly, no statistically significant difference in means was found between male and female respondents for the statements "Sustainable is easy to prepare" (p =.111) and "Sustainable food takes too much time to prepare" (p =.265).

In terms of age demographics, there were no statistically significant differences across all age groups for the statement "Sustainable food is readily available" (p =.162). Similarly, there was no statistically significant difference in the statement "It takes too long to shop for sustainable food" (p =.901). There was, however, a statistically significant difference between age groups when it came to the statement "Sustainable food is easy to prepare" (p=.039). Figure 4.2 shows that the >70 age group has the highest level of disagreement with the statement, with a mean of 2.8. Although there is evidence that respondents over 70 disagreed with the statement "Sustainable food takes too much time to prepare" to a lesser extent than other age groups. The Welch test reveals that this difference has no statistical significance (p =.823).

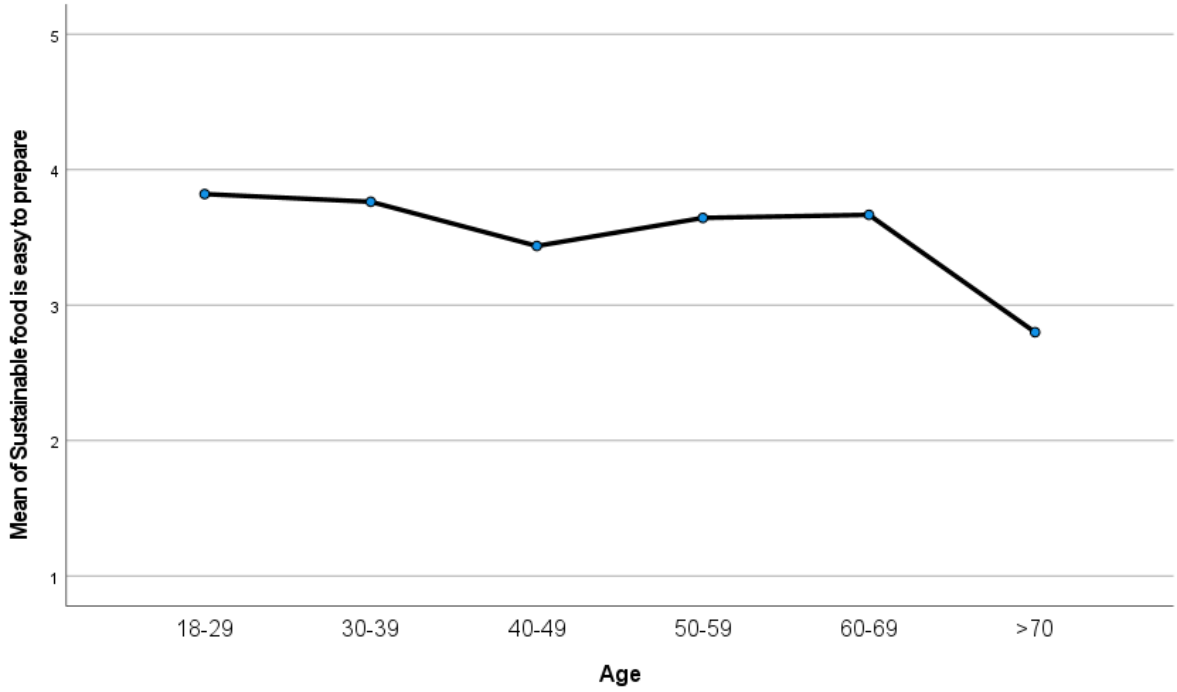

Figure 4.2 Age demographic analysis of Sustainable food is easy to prepare

There was no statistically significant difference between the statements "Sustainable food is readily available" (p =.754) between respondents with different employment statuses. Then, for the statement "Sustainable food takes too much time to shop for," it was discovered that there was no statistical significance between the groups' response means (p =.567). Similarly, no statistically significant difference between groups was found for the statements "Sustainable food is easy to prepare" (p =.604) and "Sustainable food takes too much time to prepare" (p =.898).

Respondents indicated their location, which was classified as "town, village, countryside" or "provincial city, city, or its suburbs." The mean responses to the statement "Sustainable food is readily available" were similar for both subgroups, making the mean differences statistically insignificant (p=.332). Similarly, mean responses to the statement "Sustainable food takes too much time to shop for" were nearly identical for both subgroups, making the differences statistically insignificant (p=.947). Following that, it was discovered that the means were statistically insignificant and thus did not differ statistically for the statements "Sustainable food is easy to prepare" (p =.525) and "Sustainable food takes too much time to prepare" (p=.971).

Finally, respondents' purchasing responsibility for their households was investigated, as well as their perceptions of the convenience of sustainable food. The differences in means were found to be insignificant for the statement "Sustainable food is readily available" (p=.190). Furthermore, the differences in means were found to be insignificant for the statement "Sustainable food takes too much time to shop for" (p=.728). Following that, it was discovered that the means for the statements "Sustainable food is easy to prepare" (p=.952) and "Sustainable food takes too much time to prepare" (p=.745) were not statistically different between the subgroups.

4.3 Attitudes towards sustainable food

Respondents were asked to indicate their level of agreement with Likert statements relating to their attitudes toward sustainable food.

Mean scores indicated respondents' agreement with the statements "I think it is important to purchase sustainable food" at 4.22 and "I believe it is our responsibility to purchase sustainable food" at 4.02.

Respondents' mean responses indicated positive feelings with regard to sustainable food with the statements "I like to consume sustainable food" having a mean of 4.09 and "I feel happy purchasing sustainable food" at 3.94.

In addition, respondents indicated that they would increase their spending on sustainable food at 3.52, in addition to they will "definitely purchase sustainable food" at 3.99. Therefore, showing intentions to purchase sustainable food.

Furthermore, the mean score indicated disagreement with the statement "I would not recommend sustainable food to others" at 1.84. Thus, indicating that respondents would recommend sustainable food. Responses to all the Likert statements indicate positive attitudes towards sustainable food. Respondent's attitudes toward sustainable food are presented in Figure 4.3 below:

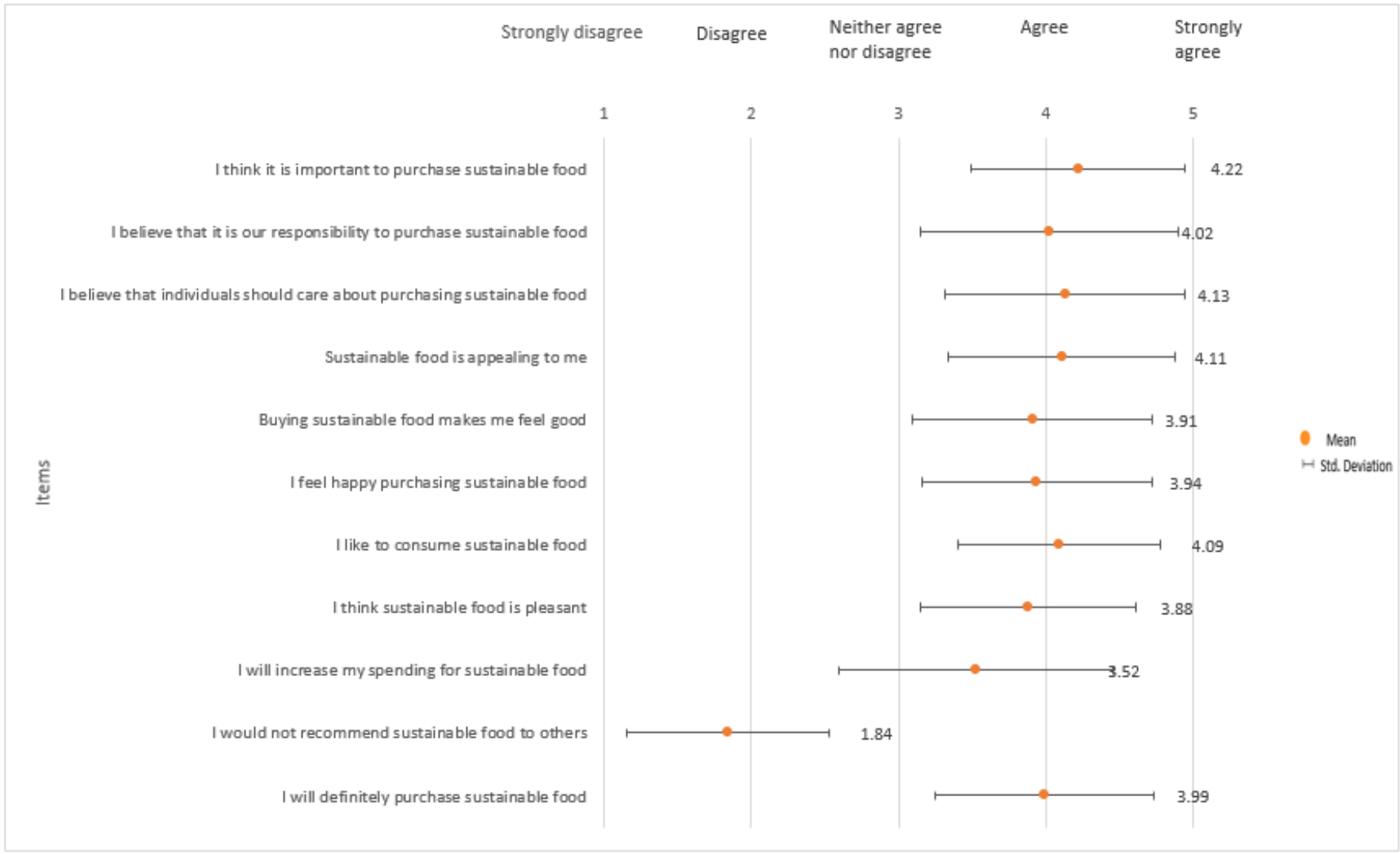

Figure 4.3 Consumer Attitudes towards Sustainable Food

4.3 Hypotheses testing

A positive relationship between convenience and respondents' attitudes to sustainable food was proposed. Therefore, the following hypothesis was developed "Consumers' perceptions of the convenience of sustainable food positively influence attitudes towards sustainable food". As evident from Table 4.2, this relationship was not statistically significant. Thus, the hypothesis was rejected as the data did not support this relationship.

Table 4.2: Framework results

Hypothesis	P-Value	Decision on hypotheses
H: Consumers' perceptions of the convenience of sustainable food positively influence attitudes towards sustainable food.	0.813	Reject

5. Discussion

In summary, the findings indicate that the preparation of sustainable food is both "easy" as well as not taking up "too much time". However, respondents had negative perceptions of the convenience of sustainable food due to its lack of "availability" and the time it takes "to shop for". The hypothesis "Consumer perceptions of convenience positively influence attitudes towards sustainable food" was not supported. These findings are discussed in depth below.

Respondents indicated that "sustainable food is easy to prepare" (M= 3.63) and disagreed that "sustainable food takes too long to prepare (M = 2.18). This indicates that consumers have a positive perception of the preparation aspect of the convenience of sustainable food. This was an unexpected finding as previous studies have found that consumers believe the preparation of sustainable food is more time-consuming compared to conventionally produced food (Haghighian Roudsari et al., 2021). Therefore, it can be suggested that respondents have

positive perceptions of the convenience of sustainable food regarding the preparation element.

Consumer means indicated a degree of disagreement with sustainable food being readily available (M = 2.75). Additionally, respondents agreed that sustainable food takes too much time to shop for (M = 3.14). These findings link in with each other as the limited availability leads to the increased time spent shopping around for sustainable food. This was an anticipated result as availability is often a major barrier for consumers when purchasing more sustainably (Brunner et al., 2010; Buckley et al., 2007). Relatedly, consumers also believe that they do not have practical access to places selling sustainable food (Vermeir et al., 2020).

There was no significant difference between males and females with regards to the statement "Sustainable food is readily available" and "Sustainable food takes too long to shop for". This is an unexpected result because the majority of female respondents had the most responsibility for shopping in their household, whereas the majority of male respondents had answered equal responsibility and had a higher degree that someone else had the most responsibility. Therefore, it was unexpected that both groups would have equal responses to the statement as it is thought that consumers who have the most responsibility for purchasing food for their household may have a greater understanding of the availability or lack thereof of sustainable food (Szabo, 2011).

There was a statistically significant difference between age groups to the statement “Sustainable food is easy to prepare” (M = 2.8). Particularly the >70 age group showed disagreement with this statement. This could be attributed to the suggestion that people’s ability to prepare food decreases as they age (Helldán & Helakorpi, 2014). However, it was surprising that this age group did not have a statistical difference between means compared to other age groups to the statement "Sustainable food takes too long to shop for” as it is suggested that it is more difficult for older consumers to do their own shopping (Peura-Kapanen et al., 2017). A suggestion for this is that other age groups also agreed that sustainable food takes too much time to shop for, therefore not indicating a difference in mean responses.

Surprisingly, there was no statistical difference between respondents with different employment statuses responses to the availability or how long it took to shop for sustainable food. It was expected that those in employment would have less time to prepare sustainable food and thus have a difference in their responses compared to those with other employment

statuses. It has been suggested that many households use convenient food options to manage food planning in the context of busy working lives (Bava et al. 2008; Blake et al. 2009; Devine et al. 2003; Jabs et al. 2007). Thus, it was surprising that those in employment agreed that sustainable food is both easy to prepare and doesn't take too long to prepare as it is suggested that those in full-time employment have a feeling of a lack of time or energy to prepare meals because of employment demands (Devine et al. 2003).

The mean responses to the statement "Sustainable food is readily available" were similar across both subgroups, with respondents from "Town, village, countryside" scoring 2.78 and respondents from "Provincial city, city or its suburbs" scoring 2.64. Similarly, mean responses to the statement "Sustainable food takes too much time to shop for" were almost exact at 3.14 for respondents from "Town, village, countryside" and 3.15 for respondents from "Provincial city, city or its suburbs." This was an unexpected result given that consumers in cities have greater access to food outlets. However, one explanation for the similar means could be that consumers who live in cities face time constraints (Stranieri et al., 2017). As a result, the time taken to purchase sustainable foods is more of an issue than access to sustainable food.

Regarding consumer attitudes to sustainable food, the cognitive aspect of consumer attitudes was investigated, which refers to a person's thoughts or perceptions toward the object of the attitude. Respondents' means indicated that they had a responsibility to purchase sustainable food and it was important to do so at (M = 4.02 and M= 4.22). This aligns with previous studies, which found sustainability is a key driver of purchases for consumers (Deloitte 2021). Thus, it is suggested that not only is purchasing sustainable food important, but respondents feel a sense of responsibility.

Secondly, the affective element of attitudes was explored, this refers to a person's feelings or emotions with regards to shaping their attitudes. Respondent means highlighted that purchasing sustainable food makes them feel happy (M = 3.94) and makes them feel good (M = 3.91). These findings can be linked to existing studies which suggest that consumers look for products that can help them live a more sustainable, socially responsible life (Fromm, 2020). In fact, a report conducted by Forbes found that consumers want to make a difference and contribute to sustainable lifestyles (Townsend, 2018). It can be suggested that respondents are happy to purchase food that aligns with their concerns for sustainability.

Thus, it is suggested that respondents hold positive attitudes toward sustainable food regarding the affective element of attitudes.

Thirdly, respondents showcased their positive behavioural attitudes to sustainable food, which considers their attitudes that are formed as a result of their behaviour. This included their positive mean responses to increasing their spending (M = 3.52). In addition, consumer mean responses highlighted they would definitely purchase sustainable food at (M = 3.99). Furthermore, the means indicate that respondents noted that they would recommend sustainable food to others.

The hypothesis "Consumer perceptions of convenience positively influence attitudes towards sustainable food" was non-significant. Thus, perceptions of the convenience of sustainable food have no impact on consumer attitudes toward sustainable food. This finding contradicts a study conducted by Zhu et al., (2012) which also implemented the Theory of Planned Behaviour to investigate convenience on purchasing intentions. The study by Zhu et al., (2012) found convenience positively moderates the relationship between green food consumption intention and behaviors. However, as the focus was on green food (which only incorporates the environmental aspect) rather than sustainable food, it is not quite a direct comparison. Therefore, this study suggests that consumer perceptions of the convenience of sustainable food do not impact consumer attitudes toward sustainable food.

In summary, it can be argued based on the research evidence that respondents have shown positive perceptions of the preparation aspect of sustainable food. However, respondents perceive sustainable food as not readily available and taking too much time to shop for. Lastly, there is no support for the hypothesis that perceptions of convenience impact attitudes towards sustainable food.

6. Conclusion

The primary objective of this research was to investigate consumers' perceptions of the convenience of sustainable food. The research questions that guided this study were:

- "Do consumers perceive sustainable food to be convenient?"

Using the SPSS v28 to explore the function and the application of EFA, CFA, and SEM multiple findings were derived from the data. According to the findings of this study, consumers hold positive perceptions of the convenience of sustainable food. However,

consumers hold negative perceptions of the availability aspect of sustainable food. Therefore, answering the research objective set out by this study.

6.1 Implications

Regarding the practical implications, it was found that respondents aged 70 and over disagreed that sustainable food is easy to prepare. It is suggested that improving the convenience of sustainable food through ready-made or ready-prepared options to allow older generations access to these food options will improve their perceptions of sustainable food and increase sustainable food consumption within this demographic.

Additionally, it is suggested that food stakeholders take steps to increase the availability of sustainable food so that consumers can purchase it more easily. This can help improve consumer perceptions of sustainable food convenience in terms of availability, as well as the influence of this attribute on consumer attitudes toward sustainable food.

This study investigated the influence of convenience on consumer attitudes toward sustainable food. Much of the research has investigated the impact of product attributes on consumer attitudes and purchase intentions toward proxies for sustainable food (e.g. Schuitema and de Groot, 2015; Feil et al., 2020). However, very few researchers have used similar methods, as adopted in this study, to investigate attitudes and purchasing intentions toward sustainable food, which includes all three pillars of sustainability. As a result, by specifically investigating these product attributes to sustainable food, this research piece contributes significantly to the existing literature.

In addition to the previous theoretical contribution, this study investigated the concept of the convenience of sustainable food. While convenience has been cited as a barrier, the literature does not provide much detail on the aspects of convenience which prevent consumers from purchasing sustainable food. Moreover, there is a scarcity of research on Irish consumer perceptions of convenience and attitudes toward sustainable food. As a result, this study adds to the existing literature by providing an examination of consumers' perceptions of the convenience of sustainable food. This can support future researchers who want to investigate consumer behaviour toward sustainable food.

6.2 Limitations and recommendations for future research

Specific boundaries were placed around the overall scope of this piece of research, thus limiting its generalisability accordingly. Resultantly, the research findings are currently restricted to the Irish context in which this study was undertaken. it may be the case that some, if not all, of the research findings, are transferable. To verify this claim, it is recommended that future research of a similar nature should be undertaken in various geographical settings.

Further, the purely quantitative approach in this research is likely to be considered a limitation. The use of a purely quantitative approach is strongly justified. Nevertheless, adopting a qualitative approach to further investigate the research problem could be beneficial.

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