



Food Literacy as a Resilience Factor in response to health-related uncertainty

Journal:	<i>British Food Journal</i>
Manuscript ID	BFJ-10-2021-1145.R1
Manuscript Type:	Research Paper
Keywords:	health uncertainty, COVID-19, food literacy, resilience, stress, Nutrition

SCHOLARONE™
Manuscripts

1. Introduction

During the COVID-19 pandemic, people were deprived of their freedom, not able to engage in physical and social activities, and worried about their health. Uncertainty, insecurity, and confinement are all factors that may induce stress, uneasiness, fear, and depression. In general, an emotional disorder caused by climate change, natural disasters or other environmental factors is called 'solastalgia' (Albrecht, 2005). Solastalgia is translated into disgust, fear of health issues, frustration, feelings of hopelessness, isolation, psychosomatic illness, and depression (Galway *et al.*, 2019; Moratis, 2021). Such environmentally-induced psychological and mental symptoms can influence well-being by affecting sleep quality (Bazzani *et al.*, 2021) or even nutrition preferences (Brooks *et al.*, 2020; Coppin, 2020; Dedeoğlu *et al.*, 2022). Since the pandemic hit, a discussion initiated over the impact of the COVID-19 health and well-being risks on food choices (Ben Hassen *et al.*, 2020; Kirk and Rifkin, 2020). Several medical studies have addressed the health and nutrition disorders associated with the sudden and huge impact of Covid-19 on people's lives (Bazzani *et al.*, 2021; McAtamney *et al.*, 2021; Trieste *et al.*, 2021). According to the transactional model of stress and coping, people's capacity to tackle and adjust to challenges depends on the transactions or rather interactions between people and their environment (Lazarus and Folkman, 1985). Quality of life, stress and health appear to be interrelated in psychosomatic research measured by well-being and perceived stress scales (Kocalevent *et al.*, 2007).

In their attempt to tackle the emerging challenges, researchers and practitioners have delved into risk management, resilience and response to unexpected, overwhelming events (Amankwah-Amoah *et al.*, 2020; McAtamney *et al.*, 2021; Orengo Serra and Sanchez-Jauregui, 2022). In the case of coronavirus, given that those who are more physically fit usually display less severe disease symptoms (Darren *et al.*, 2006), it might be expected that people move towards more healthy, home cooked meals (Snuggs and McGregor, 2021).

An adoptive approach is taken in this study complying with the three stages of behavioural sequence of prior scholars (Hamilton *et al.*, 2019; Kirk and Rifkin, 2020). Following this approach, consumers firstly act upon their negative feelings when experiencing environmental constraints. They immediately *react* arguing, denying, and fighting the imposed measures. Then, consumers try to *cope* by implementing short-term solutions to reduce the impact of the constraints. Finally, they *adapt* to the new reality by formulating long-term strategies. It is further assumed that, during a prolonged confinement period, people reconcile with the fact that they cannot continue living, shopping, working, travelling, socialising (Parady *et al.*,

2021) and eating as before, yet miss their usual activities and worry about their health and the health of their loved ones. Then, in an effort to adapt to this new real-life context of uncertainty, people ‘wilfully’ stay longer at home realising that, since the access to healthcare is limited, they need to take care of themselves, taking as many prevention measures as possible (González *et al.*, 2021). In other words, whether obliged or simply urged to stay at home, when the constraints eased, people continued to avoid engaging in outdoor activities. Research evidenced that families spend more time at home cooking and dining during the pandemic (Kirk and Rifkin, 2020). Eating with regard to weight control and health risks is related to worry rather than with pleasure (de Ridder *et al.*, 2014). In this context, this study aims to identify possible relationships between emotions caused by health risks and restrictions to outdoor activities, and well-informed decisions about food consumption.

2. Literature review

2.1 The role of emotions in shopping behaviour

Purchasing decisions are hardly ever the rational outcome of careful and exhaustive analysis of information. Often consumers are influenced by their emotions, sometimes unconsciously (Shaw and Bagozzi, 2018). Shoppers usually look for something more than simply a use for a purpose, they want to engage in an emotional experience, including fun and entertainment (Arnold and Reynolds, 2009). In more words, people shop and socialize at the same time, aiming to spend their free time meeting with family and friends, learning about new products or just enjoying the atmosphere (Fischer and Arnold, 1990).

Furthermore, primary instincts and emotions, such as fear and anxiety, can also affect purchasing decisions. People behave differently when faced with threats. For instance, food scandals may raise consumer concerns and lead them to make safer food choices (Brimer, 2004). The emotions associated with evaluating the risks and probabilities of a given phenomenon can be the reason behind a change in behaviour (Gigerenzer, 2006; Szymkowiak *et al.*, 2020).

Health and life-threatening events increase the probability of changing our habits (Güney and Sangün, 2021), thus leading to instinctive and intuitive emotional reactions (Slovic and Peters, 2006). More specifically, during the Covid-19 outbreak people have to live under constant pressure, fearing for their lives (Mertens *et al.*, 2020), feeling anxiety, depression or distress (Choi *et al.*, 2020; Gómez-Salgado *et al.*, 2020; Lakhan *et al.*, 2020), anger, insecurity, confusion or even emotional isolation (Dania and Novziransyah, 2021; Gundersen

1
2
3 *et al.*, 2021; Pereira and Oliveira, 2020; Smith *et al.*, 2021). Everyday activities, such as
4 shopping, carry more risk than before (Szymkowiak *et al.*, 2020). People are looking for ways
5 to protect themselves and reduce risk, fearing being infected (Szymkowiak *et al.*, 2020).
6
7 Interestingly, First and Brozina (2009), in their study on cultural influences of motivation for
8 organic food consumption, found that “Croatian consumers displayed homogeneous collective
9 awareness, in that they almost unanimously considered health as prime consumption motive.”
10 This interpretation explains why households have changed their way of spending rather
11 uniformly as news about Covid-19 ramifications spread (Kirk and Rifkin, 2020).
12 Nevertheless, there is hardly any evidence of variation in behaviour between different income
13 levels. Instead, demographic characteristics, such as age and family structure, showed higher
14 levels of heterogeneity in spending during the pandemic (Baker *et al.*, 2020). More
15 specifically, young people started mass buying and stockpiling food at a later point in time
16 than older people (Eger *et al.*, 2021). Further to the above, Quevedo-Silva *et al.* (2016)
17 recognised three dimensions of the food buying decision-making process: *situation, food and*
18 *consumer characteristics, such as income, age, sex, education, personality, mood, status,*
19 *culture, family stage and habits.* Di Renzo *et al.* (2020) have underscored the stress caused by
20 the media’s continuous coverage of Covid-19 jointly with the increase of indoor activities,
21 such as digital education, smart working, and stockpiling of food.
22
23
24
25
26
27
28
29
30
31
32
33
34
35

36 2.2 Nutrition during the pandemic

37 Several researchers have highlighted the psychological impact of the pandemic (Brooks *et al.*,
38 2020; Papandreou *et al.*, 2020; Varatharaj *et al.* 2020; Pierce *et al.*, 2020) manifested in
39 different ways: anger, annoyance, fear, frustration, guilt, helplessness, isolation, loneliness,
40 nervousness, sadness, worry, and even, depression. Psychological distress was higher in
41 countries with stricter constraints (Brooks *et al.*, 2020). The immediate consequence of this
42 was panic buying (Omar *et al.*, 2021; Herjanto *et al.* 2021) and hoarding of food, especially of
43 long-life foods, like milk, pasta, rice and canned vegetables and of raw and semi-processed
44 materials for food preparation (Nicola *et al.*, 2020). During the pandemic, consumers have
45 shown contradictory nutritional behaviours either to improve their physical health (weight
46 control/body figure) or to improve their mental health by raising their mood (Laguna *et al.*,
47 2020). In many countries, negative emotions have led to increased food consumption,
48 especially with so-called ‘emotional food’ (Coppin, 2020) and ‘comfort food’ (Salazar-
49 Fernández *et al.*, 2021), which tends to be rich in salt, fat and sugar, like sweets, chocolate,
50 ice cream, and salty snacks (Scarmozzino and Visioli, 2020; Stocchi *et al.*, 2021).
51
52
53
54
55
56
57
58
59
60

1
2
3 Food shopping incorporates both educational and cultural elements (Kittler *et al.*, 2017). The
4 decision of purchasing a food product is based on knowledge and competences, relevant to
5 medical, health or dietary factors, including yet not limited to organoleptic characteristics,
6 caloric intake, specific ingredients and preservatives. Food and nutrition literacy complement
7 health literacy to meet the complex health demands of today (Truman *et al.*, 2020).

8
9
10
11 Further to the above, shopping for food has also cultural implications. Very often, the
12 packaging of numerous products (chocolates, wine, and biscuits) is covered by photos of
13 famous paintings and monuments or logos representing specific trends or artistic movements
14 (Tellström *et al.*, 2006). Undisputedly, food shopping holds great social relevance; buying and
15 consuming food of any kind (from starred restaurants in the most luxurious streets to stalls
16 located in the poorest alleys of the suburbs) allows and enhances **social, emotional, and work**
17 **relationships** (Schmalz *et al.*, 2019). Moreover, food purchasing behaviour in terms of store
18 selection has been studied in relation to workplace and residence proximity (Bodor *et al.*,
19 2008; Palau-Saumell *et al.* 2021).

20
21
22
23
24
25
26
27 In addition to food shopping, meal preparation and eating with family and friends are
28 significant cultural elements in several countries (Ben Hassen *et al.*, 2020; Lo Monaco and
29 Bonetto, 2018; Park, 2004). Fresh food raw materials of high quality and elaborate cooking
30 are decisive factors of consumer satisfaction and well-being (Sheikhesmaeili and Hazbavi,
31 2019). During the pandemic, access to restaurants was limited if not prohibited. Being forced
32 to stay at home and unable to carry out their usual activities **(e.g. to reach their physical**
33 **workplace and socialise, to meet with family and friends, to practice sports and recreational**
34 **activities, to visit restaurants, cafes, cinemas and theatres, to attend parties, anniversaries and**
35 **celebrations, to travel, and go shopping)**, many people saw cooking as a way to deal with the
36 pandemic restrictions **and as a means of protection (Di Renzo *et al.*, 2020; Armstrong *et al.*,**
37 **2021).**

38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Further to the above, careful, knowledgeable meal preparation and slow food preferences are
considered positive signs of food literacy (Armstrong *et al.*, 2021; Trieste *et al.*, 2021). Food
literacy refers to knowledge of nutritional requirements and culinary skills based on cultural,
health and environmental awareness (Trieste *et al.*, 2021).

3. **Conceptual framework – Research hypotheses**

The high health-risk environment caused by Covid-19 and the restrictions imposed on human
activities created an atmosphere of fear, anxiety and insecurity. Solastalgia, being a complex

1
2
3 term related to the human-ecosystem health nexus, can better explain the mechanisms behind
4 behaviours under uncertain, unusual conditions and the accompanying emotions people feel
5 when facing unexpected, risk-laden situations that may affect people's sense of well-being
6 (Moratis, 2020). This research adopts a risk-resilience approach to link external risk factors
7 (like Covid-19) with changes in mood (caused by missing and worry feelings). Risk factors
8 are seen as stimuli that induce stress and mood disorders that generate - in turn - food
9 consumption patterns. In other words, in their effort to cope and adapt to risk-laden stimuli,
10 stressful human organisms respond with their health-safe food choices (Liu and Zheng, 2019).
11 Hence, this study's conceptual framework is based on the generic stimulus-organism-response
12 (S-O-R) model (Chen and Lee, 2018; Latiff *et al.*, 2020; Lee *et al.*, 2020) and is visualised in
13 Figure 1.
14
15
16
17
18
19
20
21
22
23

24 – Please insert Figure 1 about here –
25
26

27 According to the S-O-R paradigm - introduced by Mehrabian and Russell in 1974 - stimuli
28 are antecedents of emotional status (organism) yielding evaluation measures (response) (Chen
29 *et al.*, 2018). Within the proposed research framework, the following research hypotheses
30 (RH_i) are generated:
31
32

33 RH 1. *Missing usual activities has a positive impact on fresh food preferences.*

34 RH 2. *Missing usual activities has a positive impact on the propensity towards diverse food.*

35 RH 3. *Missing usual activities has a positive impact on the propensity towards quality food.*

36 RH 4. *Worrying about health has a positive impact on fresh food preferences.*

37 RH 5. *Worrying about health has a positive impact on the propensity towards quality food.*

38 RH 6. *Worrying about health has a positive impact on the propensity towards diverse food.*
39
40
41
42
43
44
45

46 **4. Materials and methods**

47
48
49

50 To test the aforementioned research hypotheses, an online survey was designed using a 5-
51 point Likert-scaled questionnaire. Participants were asked which specific activities they
52 missed the most during lockdown and to what extent. Questions also addressed health
53 worries, the changes in food preferences, and the changes in the criteria of food selection. The
54 questions are all listed in the Appendix.
55
56
57
58
59
60

4.1 Data collection

Data collection lasted from April 2020 until June 2020, in three European countries: Italy, Greece and the United Kingdom. The questionnaires were disseminated through emails and social media. Snowball sampling was used. Snowball is a type of convenience sampling that is based on networking and referrals (Lee *et al.*, 2016; Parker *et al.*, 2019). Friends and colleagues acted as referrers that forwarded the questionnaire to their friends and colleagues. Following similar survey designs (Peštek *et al.*, 2018), certain precautions were taken to tackle common method bias (Podsakoff *et al.*, 2003; Podsakoff and Organ, 1986); respondents were assured of their anonymity and non-clustered questions (items) were used to prevent any visible pattern (Bais *et al.*, 2020). In total, 1298 responses have been collected, out of which 1265 were usable.

4.2 Sample characteristics

The respondents were Italian, Greek and British residents. The sample breakdown by country, gender, age, income, occupation, and education level is shown in Tables 1.1 to 1.6.

– Please insert Table 1.1 about here –

– Please insert Table 1.2 about here –

– Please insert Table 1.3 about here –

– Please insert Table 1.4 about here –

– Please insert Table 1.5 about here –

– Please insert Table 1.6 about here –

4.3 Data analysis

The hypothesised relationships were tested with exploratory factor analysis, followed by confirmatory factor analysis and structural equation modelling. There is an ongoing debate on whether exploratory and confirmatory analyses should be used in a complementary or mutually exclusive mode (Hair *et al.*, 2014; Hurley *et al.*, 1997). Gerbing and Hamilton (1996) stated that “most uses of confirmatory factor analyses are, in actuality, partly exploratory and partly confirmatory in that the resultant model is derived in part from theory and in part from a respecification based on the analysis of model fit”. According to Hair *et al.* (2013), “CFA cannot be conducted properly without a measurement theory”, whereas “in EFA, theory is not needed to derive factors, nor is the ability to define constructs ahead of time”. Nevertheless, several scholars use both methods on the same data sets, particularly when a conceptual model with novel constructs is proposed and tested, due to lack of measurement models (Chen *et al.*, 2012; Marsh *et al.*, 2009).

In addition, independent samples Kruskal-Wallis (non-parametric) tests were performed across residents of the three countries, across age groups, by gender, income, occupation and by education level. Furthermore, moderation analysis was performed to test possible moderating effects of the demographic variables on the hypothesized relationships.

5. Results

The suitability of data for structure detection has been first tested using Bartlett’s and Kaiser-Meyer-Olkin tests. Bartlett’s test of sphericity was found statistically significant (approx. Chi-square: 6640.895, $df=210$, $p<0.001$) and Kaiser-Meyer-Olkin (KMO) value has been found equal to 0.800, which is considered ‘meritorious’ (Hutcheson and Sofroniou, 1999). Following this, varimax rotation is performed (see Table 2.1).

– Please insert Table 2.1 about here –

1
2
3 The rotated component matrix indicates the existence of five factors. The total variance
4 explained is found equal to 53,668 %. In natural sciences total variance extracted is expected
5 to reach 95%, whereas in social sciences values between 50 and 60% are quite common (Hair
6 *et al.*, 2014: p. 107). Harman's test was used for common method bias. Total variance
7 extracted by one factor equals 18.137 %, well under the threshold value of 50% (Podsakoff
8 and Organ, 1986). Reliability analysis was then performed to test the internal consistency of
9 the proposed scales. Cronbach's alpha reliability coefficients are higher than the acceptable
10 threshold value of 0.6 (Hair *et al.*, 2014: p. 123) for all constructs except for quality food
11 propensity (see Table 2.2). A primary reason for the moderate reliability value of quality food
12 propensity is that the scale has only two items. Scale reliability is sensitive to the number of
13 items (Hair *et al.*, 2014: p.123). Future research should add more items to increase the scale
14 reliability of the construct that represents the preference of consumers toward branded,
15 certified food products.
16
17
18
19
20
21
22
23
24
25

26
27 – Please insert Table 2.2 about here –
28
29

30
31 Next, confirmatory factor analysis (CFA) has been used to test “how well measured variables
32 represent a smaller number of constructs” (Hair *et al.*, 2014: p. 602), see Fig. 2. Composite
33 reliability (CR) values were all found acceptable ranging between 0.6 and 0.8 and average
34 variance extracted (AVE) values within the range of 0.36 and 0.56.
35
36
37
38
39
40

41 – Please insert Table 3 about here –
42
43
44
45

46 Discriminant validity reflects the extent to which a construct is truly distinct from other
47 constructs both in terms of how much it correlates with other constructs and how distinctly
48 measured variables represent only this single construct. In other words, high discriminant
49 validity provides evidence that a construct is unique and captures some phenomena that other
50 measures do not (Hair *et al.*, 2014: pp. 624-625). In Table 3 the diagonal values are the square
51 roots of AVE values. The under diagonal values reflect the correlations between the
52 constructs. To confirm discriminant validity, the diagonal values have to be higher than the
53 off diagonal values. All max squared correlations are found lower than the respective AVE
54 values. AVE values for Miss, Food preference-Fresh and Food preference-Diff are found less
55
56
57
58
59
60

1
2
3 than 0.50. AVE values should generally be higher than 0.5, yet lower values are accepted,
4 when composite (or construct) reliability is higher than 0.6, since the convergent validity of
5 the construct is considered adequate (Fornell and Larcker, 1981; Rasool *et al.*, 2021). It is also
6 noted that AVE is a far more conservative measure and, therefore, reliability can be
7 established through CR alone (Malhotra and Dash, 2016). Furthermore, in recent literature, a
8 new criterion is used for testing discriminant validity that is called Heterotrait-Monotrait
9 (HTMT) ratio (Henseler *et al.*, 2015). HTMT analysis offers an alternative control when
10 facing lack of discriminant validity with the conventional analyses, particularly in the attempt
11 to operationalise novel variables and introduce new measurement scales (Chakraborty, 2021;
12 Lefrid, 2021; Lyu *et al.*, 2022). To confirm the discriminant validity and, thus, exclude
13 multicollinearity issues, the value of the HTMT ratio for all constructs in the model should be
14 under 0.85 (Henseler *et al.*, 2015). HTMT analysis of the survey data is displayed in Table 4.
15 All HTMT ratio values are well below the threshold value. For the CFA analysis master
16 validity AMOS plug-in was used (Gaskin *et al.*, 2019).
17
18
19
20
21
22
23
24
25
26
27
28
29
30

31 – Please insert Table 4 about here –
32
33
34
35

36 Next, structural equation modelling has been used to test the research hypotheses. Structural
37 equation modelling is “a multivariate technique combining aspects of factor analysis and
38 multiple regressions that enables the researcher to simultaneously examine a series of
39 interrelated dependence relationships among the measured variables and the latent constructs,
40 as well as between several latent constructs” (Hair *et al.*, 2014: p. 546).
41
42
43
44
45
46
47
48
49
50
51
52

53 – Please insert Figure 2 about here –
54
55
56
57
58
59
60

53 In structural equation modelling certain improvements (removal of certain items and error
54 covariances) lead to a best fit solution (see Fig. 3) monitoring the goodness of fit indices
55 (GOF). Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values are pursued to
56 reach and even exceed the generally accepted threshold value of 0.92, Standardised Root
57 Mean squared Residual (SRMR) values should be lower than 0.08 and Root Mean Square
58
59
60

1
2
3 Error of Approximation (RMSEA) values are preferably lower than 0.07 (see e.g. Hair *et al.*,
4 2014: p. 584).

5
6 GOF indices for the identified structural model (best-fit solution) are quite satisfactory: CFI =
7 0.924, TLI = 0.905, RMSEA = 0.051 and SRMR = 0.0480, while the chi-square to degrees of
8 freedom ratio equals 4.274. ($X^2=521.416$ $df=122$ $p<0.001$). For the chi-square to degrees of
9 freedom ratio there is a debate among researchers (Kline, 2016). However, values between 2
10 and 5 are usually acceptable (Tabachnick and Fidell, 2007; Wheaton *et al.*, 1977).

11
12 Convergent validity can also be evaluated from the measurement model by determining
13 whether each manifest variable estimate is significant (Anderson and Gerbing, 1982;
14 Malhotra and Dash, 2016). All factor loadings were statistically significant ($p < 0.01$), while
15 the majority of their values lie between 0.6 and 0.7, thus establishing convergent validity.
16
17
18
19
20
21
22
23
24
25

26 – Please insert Figure 3 about here –
27
28
29
30

31 As shown in Figure 3, all research hypotheses are supported. Two stress factors have
32 emerged. The first factor reflects stressful emotions related to deprivation of daily routines,
33 while the second factor reflects stressful emotions related to health worries. Evidence proves
34 that people, when missing their everyday routines and feeling their health is at risk, shift to
35 fresh, diverse, and quality foods. Diverse food propensity represents dedicating more time to
36 shopping and cooking food of higher quality and cost. A second variable named “quality food
37 propensity” reflects the preference of consumers toward branded and certified food products.
38 The hypotheses were tested by covariance-based structural equation modelling (CB-SEM)
39 using the AMOS 24 module of SPSS (IBM) for graphical representation indicating
40 satisfactory fit (high values of goodness-of-fit indices). However, there were certain
41 deviations from the threshold values of reliability and validity tests. Therefore, sample data
42 was further used to perform some additional analyses that might enrich the findings of this
43 study.
44
45
46
47
48
49
50
51
52

53 Independent samples Kruskal-Wallis (non-parametric) tests were performed across residents
54 of the three countries, across age groups, by gender, income, occupation and by education
55 level. The statistically significant comparisons are shown in the following figures (Fig. 4.1,
56 4.2, 4.3, 4.4, 4.5 and 4.6).
57
58
59
60

1
2
3
4
5 – Please insert Figure 4.1 about here –
6
7
8
9

10 Significant differences were found between Italy and Greece with regard to fresh food
11 preference. More particularly, Greek residents have shown higher propensity toward fresh
12 food during the lockdown than Italian and British residents. Significant differences were also
13 found between British and Italian residents and between British and Greek residents with
14 regard to quality food preference. Italian and Greek participants have prioritised quality
15 certified or branded food more than British participants.
16
17
18
19

20
21 Comparisons of emotions by age showed that older participants worried about their health and
22 the health of their relatives and missed their regular activities more than younger ones. Older
23 respondents preferred less diverse and more quality foods (Fig. 4.2).
24
25
26
27
28

29 – Please insert Figure 4.2 about here –
30
31

32
33 – Please insert Figure 4.3 about here –
34
35

36 Comparisons of emotions by income showed non-significant differences among groups.
37 Lower-income participants showed less preference for fresh and quality foods (Fig. 4.3).
38 Comparisons of emotions by gender using Mann-Whitney testing showed higher emotions on
39 the side of females (Fig. 4.4). Differences in preferences by gender were statistically non-
40 significant.
41
42
43
44

45
46 – Please insert Figure 4.4 about here –
47
48
49

50
51 – Please insert Figure 4.5 about here –
52
53
54
55
56
57
58
59
60

1
2
3 Comparisons of data by occupation showed that retired and self-employed participants
4 worried more about their health. Retirees and homemakers missed their routines more than
5 the other occupation groups. Housekeepers and retired people do not seem to resort to diverse
6 food choices, whereas students and homemakers show less interest in quality certified food
7 products (Fig. 4.5).
8
9
10
11
12

13 – Please insert Figure 4.6 about here –
14
15
16
17
18
19

20 Comparisons of data by education level showed that high-school graduates missed their
21 routine activities less than lyceum and university graduates. Lower education participants
22 preferred fresh and quality food less than higher education ones. In pair-wise comparisons the
23 gap was wider between high-school and lyceum graduates (Fig. 4.5).
24
25
26
27

28 Next, moderation analysis was performed in SPSS using Hayes' PROCESS_v4.0 macro
29 (Hayes, 2022; Igartua and Hayes, 2021). What was tested, in particular, was the moderating
30 effect of the demographic variables on the hypothesized relationships (see Fig. 5.1 and Fig.
31 5.2).
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

– Please insert Figure 5.1 about here –
41
42
43
44
45
46
47
48
49
50

– Please insert Figure 5.2 about here –
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Income is found to moderate the relationship between worrying and quality food preferences
($R = 0.2429$, $p < 0.001$). Moderation effect is visualised in figure 6.1 below.

Country is found to moderate the relationship between missing and diverse food preferences
($R = 0.2306$, $p < 0.001$). Moderation effect is visualised in figure 6.2 below.

1
2
3 – Please insert Figure 6.1 about here –
4
5
6
7

8 – Please insert Figure 6.2 about here –
9
10
11
12

13 – Please insert Figure 6.3 about here –
14
15
16
17

18 Interestingly, the combined moderating effect of income and occupation is different between
19 the retired participants and the groups of the unemployed, homemakers, and self-employed,
20 whereas students and payroll workers are rather indifferent (see Fig. 6.3).
21
22
23
24
25

26 6. Discussion

27 The present study investigated the propensity towards food choices of people who, due to
28 extraordinary events such as the Covid-19 pandemic, are deprived of their daily routines, i.e.
29 moving freely, meeting other people, taking a holiday, receiving personal care services,
30 participating in recreational activities and eating at restaurants, and simultaneously feel that
31 their health is threatened.
32
33
34
35

36 The empirical results of this research supported the hypotheses *RH 1, RH 2, RH 3, RH 4, RH*
37 *5, RH 6*, confirming that when people miss their usual activities and worry about their
38 personal health and that of their relatives, their food preferences change. Recent studies have
39 shown that concerns about hunger, the environment, the economy, landfills and water scarcity
40 are significant dimensions of marketing consumers' social awareness of socially responsible
41 food consumption (Rasool *et al.*, 2021). This study evidenced a change in consumption in
42 terms of quality rather than quantity, in contrast to the usual anticipation that, in times of high
43 stress and psychological pressure people find refuge in comfort foods, rich in sugar and
44 calories (Di Renzo *et al.*, 2020).
45
46
47
48
49
50
51

52 The analysis was conducted in the lockdown period, when out-of-home consumption shifted
53 indoors, giving way to the preparation of home-cooked meals and comfort food. The research
54 hypotheses were demonstrated through an analysis conducted on a sample from different
55 geographical origins: Italy, England and Greece. The investigation of this population of
56 consumers allowed us to understand certain relationships between the feelings of anxiety, fear
57
58
59
60

1
2
3 and stress that health emergency triggered to most individuals, and their food consumption
4 behaviour.

5
6 These findings accord well with those of other scholars who argue that consumers
7 experiencing a risk to health and living under constraints, choose fresh and elaborate food,
8 prioritising safety and quality specifications (Güney and Sangün, 2021; Marinković and
9 Lazarević, 2021; Mirosa *et al.*, 2021; Troudi and Bouyoucef, 2020). The validated structural
10 paths in the model indicate that people miss, among other things, their regular shopping
11 activities, which serve both utilitarian and leisure purposes. Under lockdown constraints,
12 consumers tend to become more “environmentally sensitive” and buy fresh food in small
13 quantities, probably from local producers (Rasool *et al.*, 2021; Resciniti *et al.*, 2020), which
14 are more likely to be available in nearby stores under safer shopping conditions that are easy
15 to access on foot and require a brief in-store stay. These findings corroborate prior research
16 findings that address sustainable development issues in that neighbourhood food venues are
17 environmentally friendly and socially responsible (Ang *et al.*, 2021; Rasool *et al.*, 2021; Saha
18 *et al.*, 2020). Furthermore, mobility restrictions during epidemics, such as Coronavirus, can
19 boost online purchasing (Grashuis *et al.*, 2020; Hillen, 2021; Kumar and Shah, 2021;
20 Szolnoki *et al.*, 2021). Future research could compare e-shopping with brick-and-mortar
21 purchasing of foods.
22
23
24
25
26
27
28
29
30
31
32
33
34
35

36 7. Conclusion

37
38
39 This study has provided a quantitative analysis of the relationships between food consumption
40 and the emotions caused by health risks and constraints. It has been tested and confirmed that
41 when people are deprived of their everyday routines and feel their health being threatened by
42 an unknown, unprecedented factor, they modify their food choices aiming to adapt and
43 survive or, in other words, they become resilient.
44
45
46
47
48

49 7.1 Research implications

50
51 The identified relationships could be used as a first step toward assessing the impact of
52 emotions attributed to worries and missed habits on the food choices of people living under
53 stressful conditions. For healthcare experts and nutritionists, the findings of this study could
54 be useful to improve predictions, diagnoses, and decision-making. Food brands are
55 acknowledged as particular elements of food quality in the model. Marketing practitioners can
56
57
58
59
60

1
2
3 use this research as an opportunity to include risk-based thinking and revise their marketing
4 and brand development strategies accordingly.

5
6 Several preliminary studies were recently published aiming to conceptualise the effects of
7 epidemics on human behaviour. The sudden and overwhelming impacts of unexpected,
8 widely spread phenomena, like epidemics and natural disasters, raised the need for consumer
9 behavioural studies. As such, this study identified certain relationships and compared
10 behaviours among demographic groups. Academics and practitioners may rely on these
11 findings and further identify similar behavioural patterns in other sectors. Managers and
12 marketers need to collaborate toward incorporating or rather “embracing” the element of
13 surprise in their business and marketing plans.

14
15 Furthermore, the results of this research can also be used for academic purposes, as the
16 theoretical contributions are many. First, the results of the present research, confirm that stress
17 and negative emotional states influence eating behaviour, in line with prior pertinent research
18 (Caso *et al.*, 2020; Hill *et al.*, 2018; Reichenberger *et al.*, 2018; Torres and Nowson, 2007).
19 Interestingly, the findings contrast with the majority of relevant literature that negative
20 emotions, particularly anxiety and fear, lead to overconsumption of junk food, i.e. foods with
21 high sugar or fat content (Boylan *et al.*, 2017). During the same period, other studies have
22 confirmed that, during the first lockdown period, consumption of homemade pizza, bread, and
23 homemade desserts increased, whilst the consumption of junk foods, such as salty snacks and
24 sugary drinks decreased (Di Renzo *et al.*, 2020). Thus, the question of whether the types of
25 food consumed worsened or improved, and what social psychological factors influenced this,
26 remains open.

27
28 Moreover, the research supports studies undertaken on purchasing behaviours. Based on the
29 findings, it raises the question of whether the change in food consumption was dictated by
30 more time at home and being able to devote time to cooking, due to isolation and restrictions,
31 or simply the fact that working from home and spending less time away from home has
32 moved us away from the temptations of junk food in cafes and supermarkets, vending
33 machines at work, or the smell and temptations of fried food coming out of takeaways while
34 walking down the street.

35
36 In addition, research has shown that under constraints and isolation, consumers tend to buy
37 fresh food, which is more likely to be available in local stores, where shopping is safer (with
38 shorter visits and no need to use public transportation). The referenced literature also suggests
39 that mobility restrictions during outbreaks, such as Covid-19, can incentivise online shopping
40 (Grashuis *et al.*, 2020). Indeed, the question of online and in-store food purchasing is a topic

1
2
3 offered up for investigation. Future research could take advantage of any additional periods of
4 isolation to test whether our results apply in other contexts, characterised by the severity of
5 the emergency.
6
7
8
9

10 **7.2 Limitations and future research directions**

11 The findings of this study apply to behaviours related to food. Future studies would explore
12 similar behaviours in other sectors. Food consumption aside, other aspects of daily life may
13 be affected under stressful conditions of high risk. Additionally, the impact of pandemics or
14 of other types of crises and disasters on product prices and consumers' income has to be taken
15 into account when exploring patterns of buying behaviour. Hence, another line of research
16 may examine the combined effect of financial and physical/emotional challenges on food
17 literacy and nutrition patterns. Among the variables of the model, the brand has been included
18 as a preferred food quality attribute. This finding, along with prior studies on food brand as a
19 quality indicator in farming (Tselempis *et al.*, 2020), opens avenues of integrated research
20 along the food value chain.
21
22
23
24
25
26
27
28
29
30

31 **References**

- 32 Albrecht, G. (2005), 'Solastalgia': A new concept in health and identity. PAN: Philosophy
33 AcTivism, *Nature*, Vol. 3, pp. 44–59. doi: 10.4225/03/584f410704696
34 Amankwah-Amoah, J., Khan, Z. and Wood, G. (2020), "COVID-19 and business failures:
35 The paradoxes of experience, scale, and scope for theory and practice", *European*
36 *Management Journal*, Vol. 39 No. 2, pp. 179-184. doi: 10.1016/j.emj.2020.09.002
37 Anderson, J. and Gerbing, D.W. (1982), "Some methods for respecifying measurement
38 models to obtain unidimensional construct measurement", *Journal of Marketing Research*,
39 Vol. 19, pp. 453-460. doi: 10.2307/3151719
40
41 Ang, W.-Z., Narayanan, S. and Hong, M. (2021), "Responsible consumption: addressing
42 individual food waste behaviour", *British Food Journal*, Vol. 123 No. 9, pp. 3245-3263. doi:
43 10.1108/BFJ-03-2021-0328
44
45 Armstrong, B., Reynolds, C., Martins, C.A., Frankowska, A., Levy, R.B., Rauber, F., Osei-
46 Kwasi, H.A., Vega, M., Cediell, G., Schmidt, X., Kluczkowski, A., Akparibo, R., Auma, C.L.,
47 Defeyter, M.A.A., Tereza da Silva, J. and Bridge, G. (2021), "Food insecurity, food waste,
48 food behaviours and cooking confidence of UK citizens at the start of the COVID-19
49 lockdown", *British Food Journal*, Vol. 123 No. 9, pp. 2959-2978. doi: 10.1108/BFJ-10-2020-
50 0917
51
52
53
54
55
56
57
58
59
60

1
2
3 Arnold, M.J. and Reynolds, K.E. (2009), "Affect and retail shopping behavior: Understanding
4 the role of mood regulation and regulatory focus", *Journal of Retailing*, Vol. 85 No. 3, pp.
5 308-320. doi: 10.1016/j.jretai.2009.05.004
6
7

8 Bais, F., Schouten, B. and Toepoel, V. (2020), "Investigating Response Patterns Across
9 Surveys: Do Respondents Show Consistency in Undesirable Answer Behaviour over Multiple
10 Surveys?", *Bulletin of Sociological Methodology*, Vol. 147-148 No. 1-2, pp. 150-168. doi:
11 10.1177/0759106320939891
12
13
14

15 Baker, S.R., Farrokhnia, R.A., Meyer, S., Pagel, M. and Yannelis, C. (2020), "How Does
16 Household Spending Respond to an Epidemic? Consumption during the 2020 COVID-19
17 Pandemic", *The Review of Asset Pricing Studies*, Vol 10 No. 4, pp. 834-862. doi:
18 10.3386/w26949
19
20
21

22 Bazzani, A., Bruno, S., Frumento, P., Cruz-Sanabria, F., Turchetti, G. and Faraguna, U.
23 (2021), "Sleep quality mediates the effect of chronotype on resilience in the time of COVID-
24 19", *Chronobiology International*, Vol. 38 No. 6, pp. 883-892. doi:
25 10.1080/07420528.2021.1895199
26
27
28

29 Ben Hassen, T., El Bilali, H. and Allahyari, M.S. (2020), "Impact of COVID-19 on Food
30 Behavior and Consumption in Qatar", *Sustainability*, Vol. 12 No. 17, 6973. doi:
31 10.3390/su12176973
32
33

34 Bodor, J., Rose, D., Farley, T., Swalm, C. and Scott, S. (2008), "Neighbourhood fruit and
35 vegetable availability and consumption: The role of small food stores in an urban
36 environment", *Public Health Nutrition*, Vol. 11 No. 4, pp. 413-420. doi:
37 10.1017/S1368980007000493
38
39
40

41 Boylan, S., Hardy, L.L., Drayton, B.A., Grunseit, A. and Mirshahi, S. (2017), "Assessing
42 junk food consumption among Australian children: trends and associated characteristics from
43 a cross-sectional study", *BMC Public Health*, Vol. 17, pp. 299-299. doi: 10.1186/s12889-017-
44 4207-x
45
46
47

48 Brimer, L. (2004), "Chemical food safety, public awareness and risk communication", *British
49 Food Journal*, Vol. 106 No. 1, pp. 23-37. doi: 10.1108/00070700410515181
50

51 Brooks, S.B., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N. and
52 Rubin, G.J. (2020), "The psychological impact of quarantine and how to reduce it: rapid
53 review of the evidence", *The Lancet*, Vol. 395, No.10227, pp. 912-920. doi: 10.1016/S0140-
54 6736(20)30460-8
55
56
57
58
59
60

1
2
3 Caso, D., Capasso, M., Fabbriatore, R. and Conner M. (2020), “Unhealthy eating and
4 academic stress: The moderating effect of eating style and BMI”, *Health psychology open*,
5 Vol. 7 No. 2, pp. 1-15. doi: 10.1177/2055102920975274
6

7
8 Chakraborty, D. (2021), “Exploring the meteoric rise of online food ordering apps (OFOAs):
9 the moderating role of visibility”, *British Food Journal*, Vol. ahead-of-print No. ahead-of-
10 print. doi: 10.1108/BFJ-08-2021-0906
11

12
13 Chen, S.-F., Wang, S. and Chen, C.-Y. (2012), “A simulation study using EFA and CFA
14 programs based the impact of missing data on test dimensionality”, *Expert Systems with*
15 *Applications*, Vol. 39 No. 4, pp. 4026-4031. doi: 10.1016/j.eswa.2011.09.085
16

17
18 Chen, Y.-C.D. and Lee, C.-S. (2018), “Is it the staff or is it the food? How the attire of
19 restaurant employees affects customer judgments of food quality”, *British Food Journal*, Vol.
20 120 No. 6, pp. 1223-1235. doi: 10.1108/BFJ-08-2017-0447
21

22
23 Choi, E.P.H., Hui, B.P.H. and Wan, E.Y.F. (2020), “Depression and Anxiety in Hong Kong
24 during COVID-19”, *International Journal of Environmental Research and Public Health*,
25 Vol. 17 No. 3740. doi: 10.3390/ijerph17103740
26

27
28 Coppin, G. (2020), “The COVID-19 may help enlightening how emotional food is”, *npj*
29 *Science of Food*, Vol. 4 No. 10. doi: 10.1038/s41538-020-00071-2
30

31
32 Dania I.A. and Novziransyah N. (2021), “The role of mental health to overcoming the
33 coronavirus disease-19 pandemic”, *Universa Medicina*, Vol. 40, pp. 69-76. doi:
34 10.18051/UnivMed.2021.v40.69-76
35

36
37 Darren E.R., Warburton, D.E.R., Nicol, C.W., Bredin, SSD. (2006), “Health benefits of
38 physical activity: the evidence”, *Canadian Medical Association Journal*, Vol. 174 No. 6, pp.
39 801-809. doi: 10.1503/cmaj.051351
40

41
42 Dedeoğlu, B.B., Mariani, M., Shi, F. and Okumus, B. (2022), “The impact of COVID-19 on
43 destination visit intention and local food consumption”, *British Food Journal*, Vol. 124 No. 2,
44 pp. 634-653. doi: 10.1108/BFJ-04-2021-0421
45

46
47 Di Renzo, L., Gualtieri, P., Pivari, F., Soldati, L., Attinà, A., Cinelli, G., Leggeri, C.,
48 Caparello, G., Barrea, L., Scerbo, F., Esposito, E. and De Lorenzo, A. (2020), “Eating habits
49 and lifestyle changes during COVID-19 lockdown: an Italian survey”, *Journal of*
50 *Translational Medicine*, Vol. 18 No. 229. doi: 10.1186/s12967-020-02399-5
51

52
53 Eger, L., Komárková, L., Egerová, D. and Mičík, M. (2021), “The effect of COVID-19 on
54 consumer shopping behaviour: Generational cohort perspective”, *Journal of Retailing and*
55 *Consumer Services*, Vol. 61, 102542. doi: [10.1016/j.jretconser.2021.102542](https://doi.org/10.1016/j.jretconser.2021.102542)
56
57
58
59
60

1
2
3 First, I. and Brozina, S. (2009), "Cultural influences on motives for organic food
4 consumption", *EuroMed Journal of Business*, Vol. 4 No. 2, pp. 185-199. doi:
5 10.1108/14502190910976538
6

7
8 Fischer, E. and Arnold, S. J. (1990), "More than a Labor of Love: Gender Roles and
9 Christmas Gift Shopping", *Journal of Consumer Research*, Vol. 17, pp. 333-345.

10
11 Fornell, C. and Larcker, D. (1981), "Evaluating Structural Equation Models with
12 Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18
13 No. 1, pp. 39-50. doi: 10.1177/002224378101800104
14

15
16 Galway, L.P., Beery, T., Jones-Casey, K. and Tasala, K. (2019), "Mapping the Solastalgia
17 Literature: A Scoping Review Study", *International Journal of Environmental Research and
18 Public Health*, Vol. 16 No. 15, 2662. doi: 10.3390/ijerph16152662.
19

20
21 Gaskin, J., James, M. and Lim, J. (2019), "Master Validity Tool", AMOS Plugin.
22

23
24 Gerbing, D.W. and Hamilton, J.G. (1996), "Viability of exploratory factor analysis as a
25 precursor to confirmatory factor analysis", *Structural Equation Modeling: A Multidisciplinary
26 Journal*, Vol. 3 No. 1, pp. 62-72. doi: 10.1080/10705519609540030
27

28
29 Gigerenzer, G. (2006), "Out of the frying pan into the fire: Behavioral reactions to terrorist
30 attacks", *Risk Analysis: An International Journal*, Vol. 26 No. 2, pp. 347–351.
31

32
33 Gómez-Salgado, J., Andrés-Villas, M., Domínguez-Salas, S., Díaz-Milanés, D., and Ruiz-
34 Frutos, C. (2020), "A Related Health Factors of Psychological Distress During the COVID-19
35 Pandemic in Spain", *International Journal of Environmental Research and Public Health*,
36 Vol. 17 No. 11, p. 3947. doi: 10.3390/ijerph17113947
37

38
39 González, J.M.R., Barker, M., and Shah, D. (2021), "COVID-19 and self-initiated expatriate
40 health workers: Spanish nurses in Germany", *Journal of Global Mobility*, Vol. ahead-of-print
41 No. ahead-of-print. doi: 10.1108/JGM-03-2021-0028
42

43
44 Grashuis, J., Skevas, T. and Segovia, M. S. (2020), "Grocery Shopping Preferences during the
45 COVID-19 Pandemic", *Sustainability*, Vol. 12 No. 13, p. 5369. doi: 10.3390/su12135369
46

47
48 Gundersen, C., Hake, M., Dewey, A., and Engelhard, E. (2021), "Food Insecurity during
49 COVID-19", *Applied Economic Perspectives and Policy*, Vol. 43 No. 1, pp. 153–161.
50 doi:10.1002/aep.13100153
51

52
53 Güney, O.I. and Sangün, L. (2021), "How COVID-19 affects individuals' food consumption
54 behaviour: a consumer survey on attitudes and habits in Turkey", *British Food Journal*, Vol.
55 123 No. 7, pp. 2307-2320. doi: 10.1108/BFJ-10-2020-0949
56
57
58
59
60

1
2
3 Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2014), *Multivariate Data Analysis*.
4 7th Ed. - Pearson New International Edition, Pearson Education Limited, Harlow, Essex,
5 England.
6

7
8 Hamilton, R.W., Mittal, C., Shah, A., Thompson, D.V. and Griskevicius, V. (2019), “How
9 Financial Constraints Influence Consumer Behavior: An Integrative Framework”, *Journal of*
10 *Consumer Psychology*, Vol. 29, pp. 285-305. doi: 10.1002/jcpy.1074
11

12
13 Hayes, A.F. (2022), *Introduction to Mediation, Moderation, and Conditional Process*
14 *Analysis: A Regression-Based Approach*, 3rd Ed., The Guilford Press, New York London.
15

16
17 Henseler, J., Ringle, C.M. & Sarstedt, M. (2015), “A new criterion for assessing discriminant
18 validity in variance-based structural equation modeling”, *Journal of the Academy of*
19 *Marketing Science*, Vol. 43, pp. 115-135. doi: 10.1007/s11747-014-0403-8
20

21
22 Herjanto, H., Amin, M. and Purington, E. (2021), “Panic buying: The effect of thinking style
23 and situational ambiguity”, *Journal of Retailing and Consumer Services*, Vol. 60, May,
24 102455, doi: [10.1016/j.jretconser.2021.102455](https://doi.org/10.1016/j.jretconser.2021.102455)
25

26
27 Hill, D.C., Moss, R.H., Sykes-Muskett, B., Conner, M. and O'Connor, D.B. (2018), “Stress
28 and eating behaviors in children and adolescents: Systematic review and meta-analysis”,
29 *Appetite*, Vol. 123, pp. 14–22. doi: 10.1016/j.appet.2017.11.109
30

31
32 Hillen, J. (2021), “Psychological pricing in online food retail”, *British Food Journal*, Vol. 123
33 No. 11, pp. 3522-3535. doi: 10.1108/BFJ-09-2020-0847
34

35
36 Hurley, A.E., Scandura, T.A., Schriesheim, C.A., Brannick, M.T., Seers, A., Vandenberg, R.
37 J. and Williams, L.J. (1997), “Exploratory and confirmatory factor analysis: Guidelines,
38 issues, and alternatives”, *Journal of Organizational Behavior*, Vol. 18 No. 6, pp. 667–683.
39

40
41 Hutcheson, G. and Sofroniou, N. (1999), *The multivariate social scientist*. London: Sage.
42

43 Iazzi, A., Vrontis, D., Trio, O. and Melanthiou, Y. (2016), “Consumer preference,
44 satisfaction, and intentional behavior: investigating consumer attitudes for branded or
45 unbranded products”, *Journal of Transnational Management*, Vol. 21 No. 2, pp. 84-98. doi:
46 [10.1080/15475778.2016.1167000](https://doi.org/10.1080/15475778.2016.1167000)
47

48
49 Igartua, J.-J. and Hayes, A.F. (2021), “Mediation, Moderation, and Conditional Process
50 Analysis: Concepts, Computations, and Some Common Confusions”, *The Spanish Journal of*
51 *Psychology*, Vol. 24, e49. doi:10.1017/SJP.2021.46.
52

53
54 Johansson, L., Thelle, D., Solvoll, K., Bjørneboe, G. and Drevon, C. (1999), “Healthy dietary
55 habits in relation to social determinants and lifestyle factors”, *British Journal of Nutrition*,
56 Vol. 81 No. 3, pp. 211-220. doi: 10.1017/s0007114599000409
57
58
59
60

1
2
3 Kähäri, A. (2021), "The role of sugar products and non-alcoholic beverages in the food
4 budget: change across birth cohorts and between socio-economic groups", *British Food*
5 *Journal*, Vol. 123 No. 13, pp. 142-161. doi: 10.1108/BFJ-12-2020-1109
6

7
8 Kirk, C.P. and Rifkin, L.S. (2020), "I'll trade you diamonds for toilet paper: Consumer
9 reacting, coping and adapting behaviors in the COVID-19 pandemic", *Journal of Business*
10 *Research*, Vol. 117, pp. 124-131. doi: 10.1016/j.jbusres.2020.05.028
11

12
13 Kittler, P.G., Sucher, K.P. and Nelms M. (2017), *Food and Culture*, Cengage Learning,
14 Boston.
15

16
17 Kline, R.B. (2016), *Principles and practice of structural equation modeling*. 4th ed., New
18 York, Guilford Press.
19

20
21 Kocalevent, R.-D., Levenstein, S., Fliege, H., Schmid, G., Hinz, A., Brähler, E., and Klapp,
22 B.F. (2007), "Contribution to the construct validity of the Perceived Stress Questionnaire
23 from a population-based survey", *Journal of Psychosomatic Research*, Vol. 63 No. 1, pp. 71-
24 81. doi: 10.1016/j.jpsychores.2007.02.010
25

26
27 Kumar, S., and Shah, A. (2021), "Revisiting food delivery apps during COVID-19 pandemic?
28 Investigating the role of emotions", *Journal of Retailing and Consumer Services*, Vol. 62,
29 102595. doi: 10.1016/j.jretconser.2021.102595
30

31
32 Laguna, L., Fiszman, S., Puerta, P., Chaya, C. and Tárrega, A. (2020), "The impact of
33 COVID-19 lockdown on food priorities. Results from a preliminary study using social media
34 and an online survey with Spanish consumers", *Food Quality and Preference*, Vol 86. doi:
35 10.1016/j.foodqual.2020.104028
36

37
38 Lakhan R., Agrawa A., and Sharma M. (2020), "Prevalence of Depression, Anxiety, and
39 Stress during COVID-19 Pandemic", *Journal of Neurosciences in Rural Practice*, Vol. 11 No.
40 4, pp. 519–525. doi: 10.1055/s-0040-1716442
41

42
43 Latiff, K., Ng, S.I., Aziz, Y.A. and Kamal Basha, N. (2020), "Food authenticity as one of the
44 stimuli to world heritage sites", *British Food Journal*, Vol. 122 No. 6, pp. 1755-1776. doi:
45 10.1108/BFJ-01-2019-0042
46

47
48 Lazarus, R.S. and Folkman, S. (1984), *Stress, appraisal and coping*, Springer, New York.
49

50
51 Lee, T.H., Fu, C.-J. and Chen, Y.Y. (2020), "Trust factors for organic foods: consumer
52 buying behavior", *British Food Journal*, Vol. 122 No. 2, pp. 414-431. doi: 10.1108/BFJ-03-
53 2019-0195
54

55
56 Lee, K., Madanoglu, M. and Ko, J.-Y. (2016), "Exploring key service quality dimensions at a
57 winery from an emerging market's perspective", *British Food Journal*, Vol. 118 No. 12, pp.
58 2981-2996. doi: 10.1108/BFJ-04-2016-0157
59
60

1
2
3 Lefrid, M. (2021), "Dining at gas stations: an analysis of nonconventional fast-food outlets
4 from a consumer behavior perspective", *British Food Journal*, Vol. 123 No. 12, pp. 4347-
5 4366. doi: 10.1108/BFJ-01-2021-0070
6
7

8 Liu, C. and Zheng, Y. (2019), "The predictors of consumer behavior in relation to organic
9 food in the context of food safety Incidents: Advancing hyper attention theory within an
10 Stimulus-Organism-Response model", *Frontiers in psychology*, Vol. 10 2512. 6 Nov. 2019,
11 doi:10.3389/fpsyg.2019.02512
12
13

14
15 Lo Monaco, F. and Bonetto E. (2019), "Social Representations and Culture in Food Studies",
16 *Food Research International*, Vol. 115, pp. 474-479. doi: 10.1016/j.foodres.2018.10.029
17

18 Lyu, V.C., Roldán, J.L., Chin, W., Liu, V. and Li, C. (2022), "Value or image? The effects of
19 restaurant-supplier co-creation on consumers' behavioral intentions", *British Food Journal*,
20 Vol. 124 No. 3, pp. 795-810. doi: 10.1108/BFJ-03-2021-0220
21
22

23
24 Malhotra, N.K. and Dash, S. (2016), *Marketing Research an Applied Orientation*, London:
25 Pearson Publishing.
26

27 Marinković, V. and Lazarević, J. (2021), "Eating habits and consumer food shopping
28 behaviour during COVID-19 virus pandemic: insights from Serbia", *British Food Journal*,
29 Vol. 123 No. 12, pp. 3970-3987. doi: 10.1108/BFJ-11-2020-1072
30
31

32 Marsh, H.W., Muthén, B., Asparouhov, T., Lüdtke, O., Robitzsch, A., Morin. A.J.S. and
33 Trautwein, U. (2009). "Exploratory Structural Equation Modeling, Integrating CFA and EFA:
34 Application to Students' Evaluations of University Teaching", *Structural Equation Modeling:
35 A Multidisciplinary Journal*, Vol. 16 No. 3, pp. 439-476. doi: 10.1080/10705510903008220
36
37

38 McAtamney, K., Mantzios, M., Egan, H. and Wallis, D. J. (2021), "Emotional eating during
39 COVID-19 in the United Kingdom: Exploring the roles of alexithymia and emotion
40 dysregulation", *Appetite*, Vol. 161, 105120. <https://doi.org/10.1016/j.appet.2021.105120>
41
42

43 Mertens, G., Gerritsen, L., Duijndam, S., Salemink, E. and Engelhard, I. M. (2020), "Fear of
44 the coronavirus (COVID-19): Predictors in an online study conducted in March 2020",
45 *Journal of Anxiety Disorders*, Vol. 74, 102258. doi: 10.1016/j.janxdis.2020.102258
46
47

48 Miroso, M., Liu, Y. and Bremer, P. (2021), "Chinese consumers' perceptions of food safety
49 cues and maximising the effectiveness of food safety communications", *British Food Journal*,
50 Vol. 123 No. 1, pp. 261-278. doi: 10.1108/BFJ-09-2019-0694
51
52

53 Moratis, L. (2021), "Proposing Anticipated Solastalgia as a New Concept on the Human-
54 Ecosystem Health Nexus", *EcoHealth*, Vol. 18, pp. 411-413. doi: 10.1007/s10393-021-
55 01537-9
56
57
58
59
60

1
2
3 Nicola, M., Alsafi, Z., Sohrabi C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M. and Agha,
4 R. (2020), “The socio-economic implications of the coronavirus pandemic (COVID-19): A
5 review”, *International Journal of Surgery*, Vol. 78, pp. 185-193. doi:
6 10.1016/j.ijssu.2020.04.018
7
8

9
10 Omar, N.A., Nazri, M.A., Ali, M.H. and Alam, S.S. (2021), “The panic buying behavior of
11 consumers during the COVID-19 pandemic: Examining the influences of uncertainty,
12 perceptions of severity, perceptions of scarcity, and anxiety”, *Journal of Retailing and*
13 *Consumer Services*, Vol. 62, September, doi: [10.1016/j.jretconser.2021.102600](https://doi.org/10.1016/j.jretconser.2021.102600) .
14
15

16
17 Orengo Serra, K.L. and Sanchez-Jauregui, M. (2022), “Food supply chain resilience model
18 for critical infrastructure collapses due to natural disasters”, *British Food Journal*, Vol. 124
19 No.13, pp. 14-34. doi: [10.1108/BFJ-11-2020-1066](https://doi.org/10.1108/BFJ-11-2020-1066)
20
21

22 Palau-Saumell, R., Matute, J., Derqui, B. and Meyer, J.H. (2021), “The impact of the
23 perceived risk of COVID-19 on consumers’ attitude and behavior toward locally produced
24 food”, *British Food Journal*, Vol. 123 No. 13, pp. 281-301. doi: [10.1108/BFJ-04-2021-0380](https://doi.org/10.1108/BFJ-04-2021-0380)
25
26

27 Papandreou, C., Arija, V., Aretouli, E., Tsilidis, K.K. and Bulló, M. (2020), “Comparing
28 eating behaviours and symptoms of depression and anxiety between Spain and Greece during
29 the COVID-19 outbreak: Cross-sectional analysis of two different confinement strategies”,
30 *European Eating Disorders Review*, Vol. 28 No. 6, pp. 836-846. doi: [10.1002/erv.2772](https://doi.org/10.1002/erv.2772)
31
32

33 Parady, G., Frei, A., Kowald, M., Guidon, S., Wickie, M., van den Berg, P., Carrasco, J.-A.,
34 Arentz, T., Timmermans, H., Wellman, B., Takami, K., Harata, N. and Axhausend, K. (2021),
35 “A comparative study of social interaction frequencies among social network members in five
36 countries”, *Journal of Transport Geography*, Vol. 90, 102934, doi:
37 10.1016/j.jtrangeo.2020.102934
38
39

40 Park, C. (2004), “Efficient or enjoyable? Consumer values of eating-out and fast food
41 restaurant consumption in Korea”, *International Journal of Hospitality Management*, Vol. 23
42 No. 1, pp. 87-94. doi: [10.1016/j.ijhm.2003.08.001](https://doi.org/10.1016/j.ijhm.2003.08.001)
43
44

45 Parker, C., Scott, S. and Geddes, A. (2019), “Snowball Sampling”, In P. Atkinson, S.
46 Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *SAGE Research Methods*
47 *Foundations*.
48
49

50
51 Pereira, M. and Oliveira, A.M. (2020), “Poverty and food insecurity may increase as the
52 threat of COVID-19 spreads”, *Public Health Nutrition*, Vol. 23 No. 17, doi:
53 [10.1017/S1368980020003493](https://doi.org/10.1017/S1368980020003493)
54
55
56
57
58
59
60

1
2
3 Peštek, A., Agic, E. and Cinjarevic, M. (2018), "Segmentation of organic food buyers: an
4 emergent market perspective", *British Food Journal*, Vol. 120 No. 2, pp. 269-289. doi:
5 10.1108/BFJ-04-2017-0215
6

7
8 Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., Kontopantelis, E., Robinson,
9 J.P., Shaver, P.R. and Wrightsman, L.S. (1991), "Criteria for Scale Selection and Evaluation",
10 In *Measures of Personality and Social Psychological Attitudes*, Robinson, J.P. Shaver, P.R.
11 and Wrightsman, L.S. (eds.), San Diego, CA: Academic Press.
12

13
14
15 Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N.P. (2003). "Common
16 method biases in behavioral research: A critical review of the literature and recommended
17 remedies". *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903. doi: 10.1037/0021-
18 9010.88.5.879
19

20
21
22 Podsakoff, P.M. and Organ, D.W. (1986), "Self-Reports in Organizational Research:
23 Problems and Prospects". *Journal of Management*, Vol. 12 No. 4, pp. 531-544. doi:
24 10.1177/014920638601200408
25

26
27
28 Quevedo-Silva, F., Freire, O., Lima-Filho, D.d.O., Brandão, M.M., Isabella, G. and Moreira,
29 L.B. (2016), "Intentions to purchase food through the internet: developing and testing a
30 model", *British Food Journal*, Vol. 118 No. 3, pp. 572-587. doi: 10.1108/BFJ-09-2015-0305
31

32
33 Rasool, S., Cerchione, R., Salo, J., Ferraris, A. and Abbate, S. (2021), "Measurement of
34 consumer awareness of food waste: construct development with a confirmatory factor
35 analysis", *British Food Journal*, Vol. 123 No. 13, pp. 337-361. doi: 10.1108/BFJ-02-2021-
36 0160
37

38
39 Reichenberger, J., Kuppens, P., Liedlgruber, M., Wilhelm, F.H., Tiefengrabner, M., Ginzinger
40 S. and Blechert, J. (2018), "No haste, more taste: An EMA study of the effects of stress,
41 negative and positive emotions on eating behavior", *Biological psychology*, Vol. 131, pp. 54-
42 62. doi: 10.1016/j.biopsycho.2016.09.002
43

44
45
46 de Ridder, D., Adriaanse, M., Evers, C. and Verhoeven, A. (2014), "Who diets? Most people
47 and especially when they worry about food", *Appetite*, Vol. 80, pp. 103-108. doi:
48 10.1016/j.appet.2014.05.011
49

50
51 Resciniti, R., Matarazzo, M. and Baima, G. (2020), "Consumers' reactions to cross-border
52 acquisitions: The role of psychic distance and acquirer's corporate reputation", *British Food
53 Journal*, Vol. 122 No. 2, pp. 655-677. doi: 10.1108/BFJ-03-2019-0147
54

55
56 Saha, S.K., Duarte, P., Silva, S.C. and Zhuang, G. (2020), "Supporting sustainability by
57 promoting online purchase through enhancement of online convenience", *Environment,
58 Development and Sustainability*, Vol. 23, pp. 7251-7272. doi: 10.1007/s10668-020-00915-7
59
60

1
2
3 Salazar-Fernández, C., Palet, D., Haeger, P.A. and Román Mella, F. (2021), “The Perceived
4 Impact of COVID-19 on Comfort Food Consumption over Time: The Mediational Role of
5 Emotional Distress”, *Nutrients*, Vol. 13 No. 6, 1910. doi: 10.3390/nu13061910

6
7
8 Scarmozzino, F. and Visioli, F. (2020), “Covid-19 and the Subsequent Lockdown Modified
9 Dietary Habits of Almost Half the Population in an Italian Sample”, *Foods*, Vol. 9 No. 5, p.
10 675. doi: 10.3390/foods9050675

11
12
13 Schmalz, D.L., Joyner, L., Duffy, L.N., Bricker, K.S. and Blomquist, K.K. (2019), “The cycle
14 of food socialization: leisure as resistance”, *Annals of Leisure Research*, Vol. 23 No. 4, pp.
15 510-529. doi: 10.1080/11745398.2019.1568891

16
17
18 Shaw, S.D. and Bagozzi, R.P. (2018), “The neuropsychology of consumer behavior and
19 marketing”, *Consumer Psychology Review*, Vol. 1, pp. 22-40. doi: 10.1002/arcv.1006

20
21
22 Sheikhesmaeili, S. and Hazbavi, S. (2019), “Model construction of engagement and outcomes
23 in consumers food life: Evidence from chain stores customer”, *British Food Journal*, Vol. 121
24 No. 1, pp. 218-239. doi: 10.1108/BFJ-06-2017-0344

25
26
27 Slovic, P. and Peters, E. (2006), “Risk Perception and Affect”, *Current Directions in*
28 *Psychological Science*, Vol. 15 No. 6, pp. 322-325. doi: 10.1111/j.1467-8721.2006.00461.x

29
30
31 Smith, L. E., Duffy, B., Moxham-Hall, V., Strang, L., Wessely, S. and Rubin, G. J. (2021),
32 “Anger and confrontation during the COVID-19 pandemic: a national cross-sectional survey
33 in the UK”, *Journal of the Royal Society of Medicine*, Vol. 114 No. 2, pp. 77–90. doi:

34
35
36 Snuggs, S. and McGregor, S. (2021), “Food & meal decision making in lockdown: How and
37 who has Covid-19 affected?”, *Food Quality and Preference*, Vol. 89, 104145. doi:
38 10.1016/j.foodqual.2020.104145

39
40
41 Stocchi, L., Kemps, E. and Anesbury, Z. (2021), “The effect of mental availability on snack
42 food choices”, *Journal of Retailing and Consumer Services*, Vol. 60, doi:
43 10.1016/j.jretconser.2021.102471.

44
45
46 Szolnoki, G., Lueke, M.N., Tafel, M., Blass, M., Ridoff, N. And Nilsson, C. (2021), “A cross-
47 cultural analysis of the motivation factors and profitability of online wine tastings during
48 Covid-19 pandemic”, *British Food Journal*, Vol. 123 No. 13, pp. 599-617. doi: 10.1108/BFJ-
49 04-2021-0438

50
51
52 Szymkowiak, A., Gaczek, P., Jeganathan, K. and Kulawik, P. (2020), “The impact of
53 emotions on shopping behavior during epidemic. What a business can do protect customers”,
54 *Journal of Consumer Behaviour*, Vol. 20 No. 1, pp. 48-60. doi: 10.1002/cb.1853

55
56
57 Tabachnick, B.G. and Fidell, L.S. (2007), *Using Multivariate Statistics*, 5th Ed., New York:
58 Allyn and Bacon.
59
60

1
2
3 Tellström, R., Gustafsson, I.B. and Mossberg, L. (2006), “Consuming heritage: The use of
4 local food culture in branding”, *Place Branding and Public Diplomacy*, Vol. 2, pp. 130-143.
5 doi: 10.1057/palgrave.pb.5990051
6

7
8 Torres, S.J. and Nowson, C.A. (2007), “Relationship between stress, eating behaviour and
9 obesity”, *Nutrition*, Vol. 23, No. 11-12, pp. 887-894. doi: 10.1016/j.nut.2007.08.008
10

11 Trieste, L., Bazzani, A., Amato, A., Faraguna, U. and Turchetti, G. (2021), “Food literacy and
12 food choice – a survey-based psychometric profiling of consumer behavior”, *British Food*
13 *Journal*, Vol. 123 No. 13, pp. 124-141. doi: 10.1108/BFJ-09-2020-0845
14

15
16 Troudi, H. and Bouyoucef, D. (2020), “Predicting purchasing behavior of green food in
17 Algerian context”, *EuroMed Journal of Business*, Vol. 15 No. 1, pp. 1-21. doi:
18 10.1108/EMJB-03-2019-0046
19

20
21 Truman, E., Bischoff, M. and Elliott, C. (2020), “Which literacy for health promotion: health,
22 food, nutrition or media?”, *Health Promotion International*, Vol. 35 No. 2, pp. 432-444. doi:
23 10.1093/heapro/daz007
24

25
26 Tselempis, D., Karipidis, P., Tzimas, D. and Karypidou, I. (2020), “Factors that impact
27 farmers’ engagement in local food brand development”, *EuroMed Journal of Business*, Vol.
28 15 No. 1, pp. 86-101. doi: 10.1108/EMJB-06-2019-0079
29

30
31 Varatharaj, A., Thomas, N., Ellul, M.A., Davies, N.W.S., Pollak, T.A., Tenorio, E.L., Sultan,
32 M., Easton, A., Breen, G., Zandi, M., Coles, J.P., Manji, H., Al-Shahi Salman, R., Menon
33 D.K., Nicholson, T.R., Benjamin, L.A., Carson A., Smith C., Turner M.R., Solomon T.,
34 Kneen, R., Pett, S.L., Galea, I., Thomas, R.H. and Michael, B.D.(2020), “Neurological and
35 neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study”,
36 *The Lancet Psychiatry*, Vol. 7 No. 10, pp. 875-882. doi: 10.1016/S2215-0366(20)30287-X
37

38
39 Wheaton, B., Muthen, B., Alwin, D.F. and Summers, G. (1977), “Assessing Reliability and
40 Stability in Panel Models”, *Sociological Methodology*, Vol. 8 No. 1, pp. 84-136.
41

42
43 Zhang, X., Chen, B. and Jia, P. (2021), “Locked on salt? Excessive consumption of high-
44 sodium foods during COVID-19 presents an underappreciated public health risk: a review”,
45 *Environmental Chemistry Letters*, Vol. 19 No. 5, pp. 3583–3595. doi: 10.1007/s10311-021-
46 01257-0
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Annex – Survey Questions

<i>Questionnaire item</i>	<i>Pertinent references</i>
<i>To measure the effect of missing usual activities:</i>	
During this time of confinement at home, due to the coronavirus, which of the following usual activities do you miss and to what extent:	
• to move freely	Brooks <i>et al.</i> , 2020
• to be amongst people	Brooks <i>et al.</i> , 2020
• to go shopping	Brooks <i>et al.</i> , 2020
• to engage in sport activities	Di Renzo <i>et al.</i> , 2020
• to enjoy personal care services (hairdresser, beautician etc.)	Brooks <i>et al.</i> , 2020; Schmalz <i>et al.</i> , 2019
• to go to the restaurant	Brooks <i>et al.</i> , 2020; Schmalz <i>et al.</i> , 2019
• to attend places of leisure (pubs, lounge bars, recreational clubs, associations, leisure and entertainment venues, etc.)	Brooks <i>et al.</i> , 2020; Schmalz <i>et al.</i> , 2019
• to take trips/holidays/vacation	Brooks <i>et al.</i> , 2020; Schmalz <i>et al.</i> , 2019
• to participate in cultural activities (theatre, exhibitions, museums, etc.)	Brooks <i>et al.</i> , 2020; Schmalz <i>et al.</i> , 2019
<i>To measure the health concerns:</i>	
During this time of confinement at home due to the coronavirus:	
• do you worry about your personal health	Brooks <i>et al.</i> , 2020
• do you worry about the health of your relatives	Brooks <i>et al.</i> , 2020
<i>To measure the change in food preferences:</i>	
During this time of confinement at home due to the coronavirus:	
• do you consume more fresh and short-life products	Coppin, 2020; Di Renzo <i>et al.</i> , 2020; Johansson <i>et al.</i> , 1999
• do you consume more fruits and vegetables	Coppin, 2020; Di Renzo <i>et al.</i> , 2020
• do you consume more fresh meat	Sheikhesmaeili and Hazbavi, 2019; Di Renzo <i>et al.</i> , 2020
• do you consume more fresh fish	Sheikhesmaeili and Hazbavi, 2019; Di Renzo <i>et al.</i> , 2020
<i>To measure the change in propensity regarding food:</i>	
During this time of confinement at home due to the coronavirus:	
• do you prefer products bearing a quality mark (PGI-Protected Geographic Indication, PDO-Protected Designation of Origin, e.g. Fair Trade, Bio, etc.)?	Iazzi <i>et al.</i> , 2016; Troudi and Bouyoucef, 2020
• do you prefer branded food products?	Iazzi <i>et al.</i> , 2016; Troudi and Bouyoucef, 2020
• do you spend more on food (than before the coronavirus)?	Troudi and Bouyoucef, 2020
• do you buy more foods of higher quality and price (than before the coronavirus)?	Iazzi <i>et al.</i> , 2016; Troudi and Bouyoucef, 2020
• to what extent do you cook more elaborate or different foods (than before the coronavirus)?	Sheikhesmaeili and Hazbavi, 2019

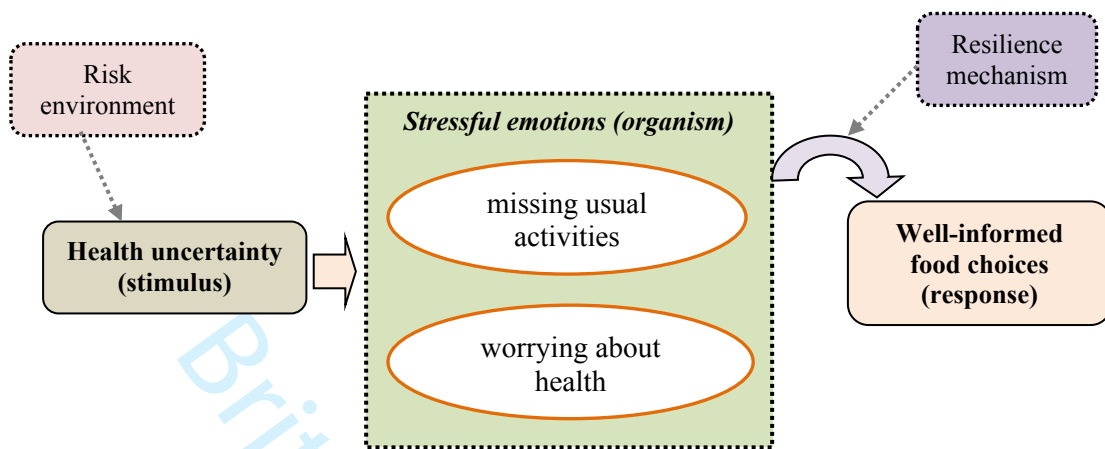


Figure 1. The conceptual framework

British Food Journal

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 1.1 Sample breakdown by country

Country	Frequency	Percentage (%)
Italy	1099	86.9
Greece	126	10.0
United Kingdom	40	3.2
Total	1265	100.0

British Food Journal

Table 1.2 Sample breakdown by gender

Gender	Frequency	Percentage (%)
Males	504	39.8
Females	761	60.2
Total	1265	100.0

British Food Journal

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 1.3 Sample breakdown by age

Age	Frequency	Percentage (%)
Under 30	367	29.0
31-45	427	33.8
46-55	215	17.0
56-65	170	13.4
Over 65	86	6.8

British Food Journal

Table 1.4 Sample breakdown by income

Income range (€)	Frequency	Percentage (%)
0-10000	310	24.5
10001-20000	323	25.5
20001-35000	370	29.2
35001-50000	151	11.9
More than 50000	111	8.8

British Food Journal

Table 1.5 Sample breakdown by occupation

Country	Frequency	Percentage (%)
Student	271	21.4
Payroll employee/worker	555	43.9
Self-employed	232	18.3
Housekeeping	45	3.6
Unemployed	64	5.1
Retired	98	7.7

British Food Journal

Table 1.6 Sample breakdown by education level

Education level	Frequency	Percentage (%)
High school	25	2.0
Senior high school (lyceum)	389	30.8
University / Master's3	851	43.9

British Food Journal

Items	Components				
	1	2	3	4	5
Miss_leisure	,771				
Miss_restaurant	,730				
Miss_vacation	,689				
Miss_people	,664				
Miss_move_freely	,650				
Miss_culture	,596				
Miss_shopping	,588				
Miss_personal_care	,588				
Miss_sport	,463				
Food_pref_fish		,783			
Food_pref_meat		,729			
Food_pref_fruit_veg		,653			
Food_pref_fresh		,649			
food_more			,770		
qual_exp			,737		
cook_elab			,641		
Worry_health_relatives				,813	
Worry_personal_health				,769	
Food_pref_qual_mark					,786
Food_pref_brand					,684

Table 2.1 Rotated component matrix

<i>Factor</i>	<i>Cronbach's alpha</i>
Miss	0.829
Worry	0.695
Fresh food preference	0.689
Diverse food propensity	0.614
Quality food propensity	0.567

Table 2.2 Reliability coefficients

British Food Journal

	Composite Reliability	Average Variance Extracted	Max Shared Variance	Miss	fFresh	Worry	fDiff	fQual
Miss	0.831	0.387	0.094	0.622				
fFresh	0.691	0.363	0.138	0.227***	0.603			
Worry	0.716	0.561	0.097	0.000	0.132**	0.749		
fDiff	0.626	0.362	0.094	0.306***	0.208***	0.180***	0.602	
fQual	0.576	0.408	0.138	0.270***	0.372***	0.312***	0.228***	0.639

Table 3. Validity Analysis

British Food Journal

	miss	fFresh	worry	fDiff	fQual
miss					
fFresh	0,218				
worry	0,035	0,139			
fDiff	0,336	0,207	0,185		
fQual	0,244	0,425	0,321	0,207	

Table 4. HTMT Analysis

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

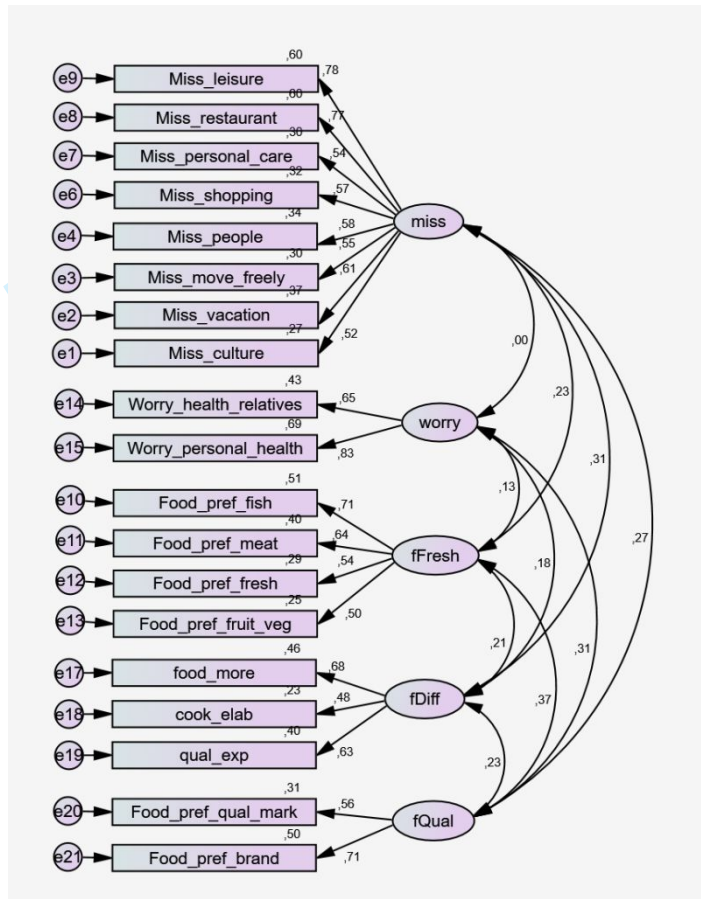


Figure 2. Confirmatory factor analysis

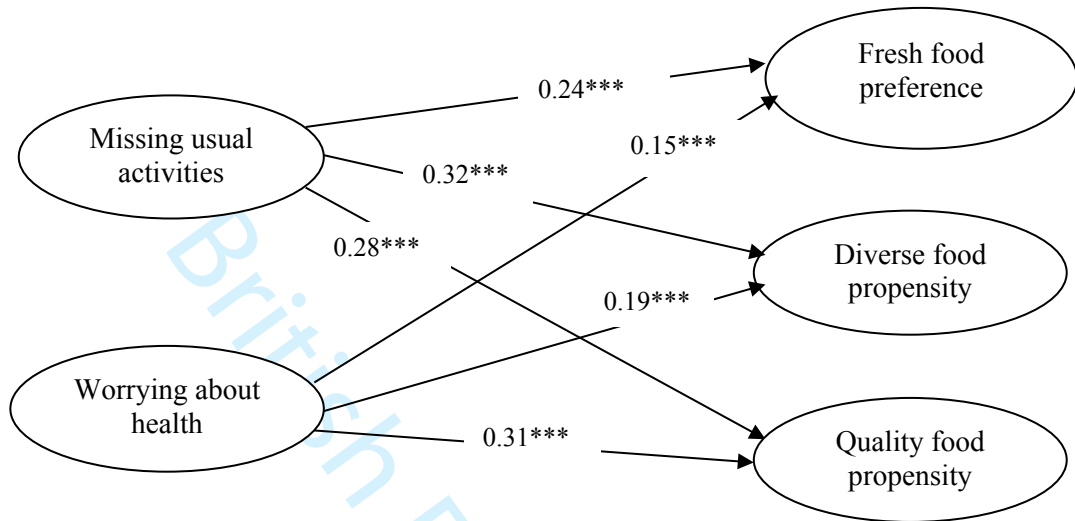


Figure 3. Structural model - Best fit solution (***: $p < 0.001$)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

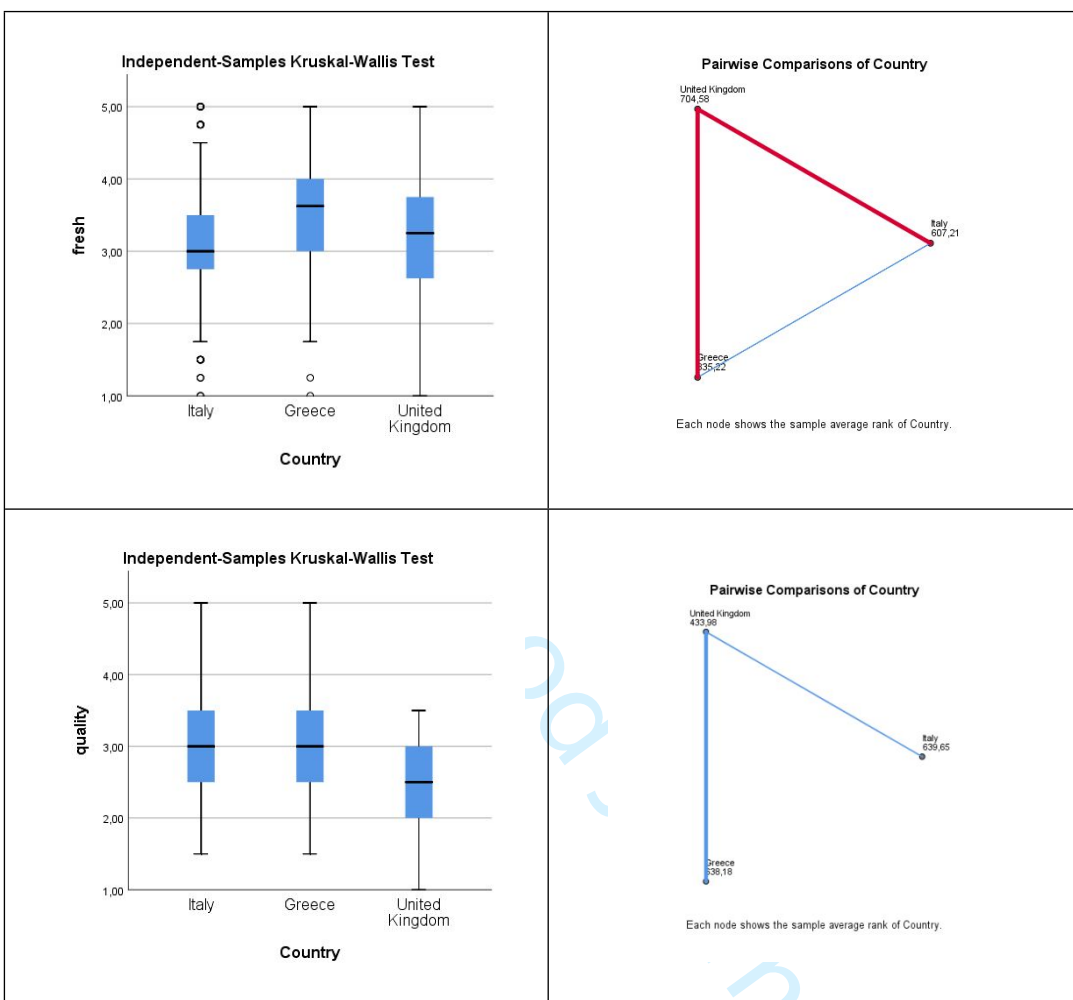


Figure 4.1 Comparisons of preferences across countries

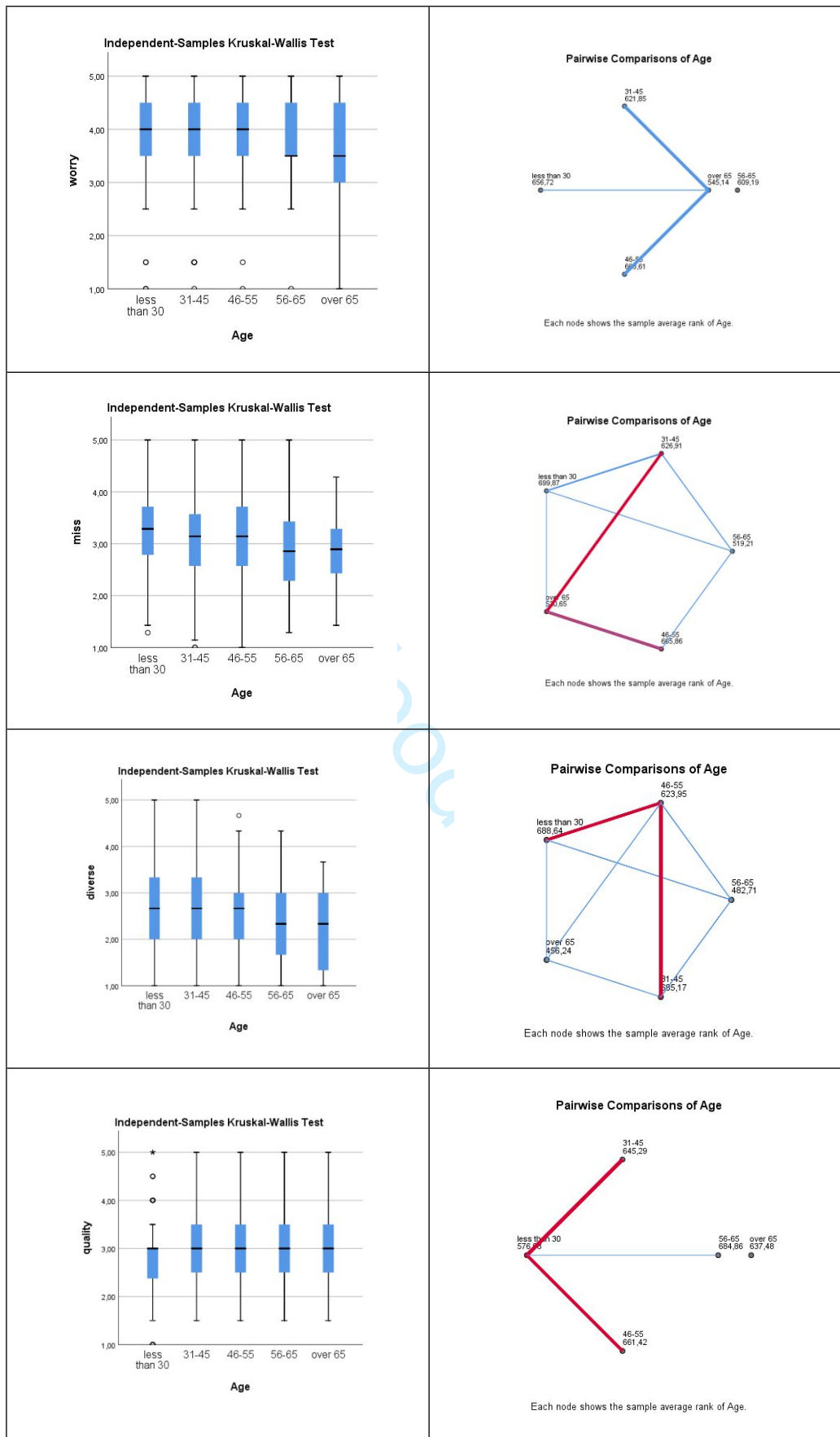


Figure 4.2 Comparisons of emotions and preferences across age groups

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

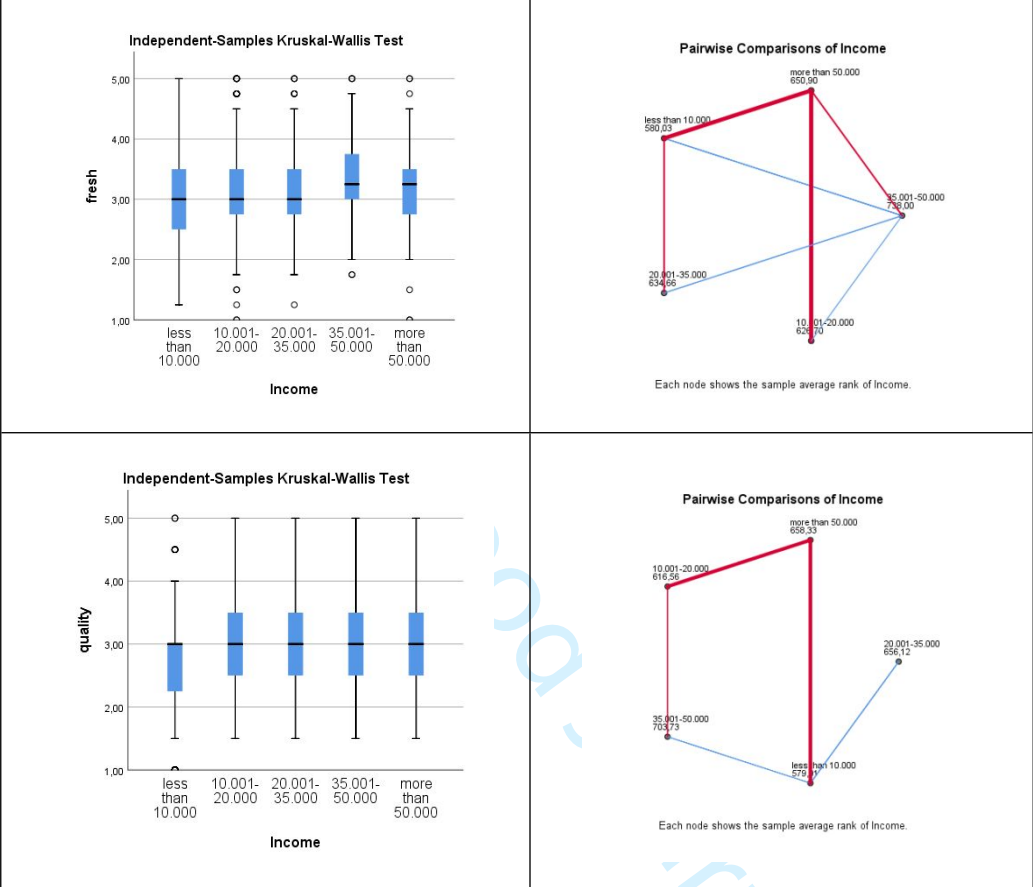


Figure 4.3 Comparisons of preferences across income groups

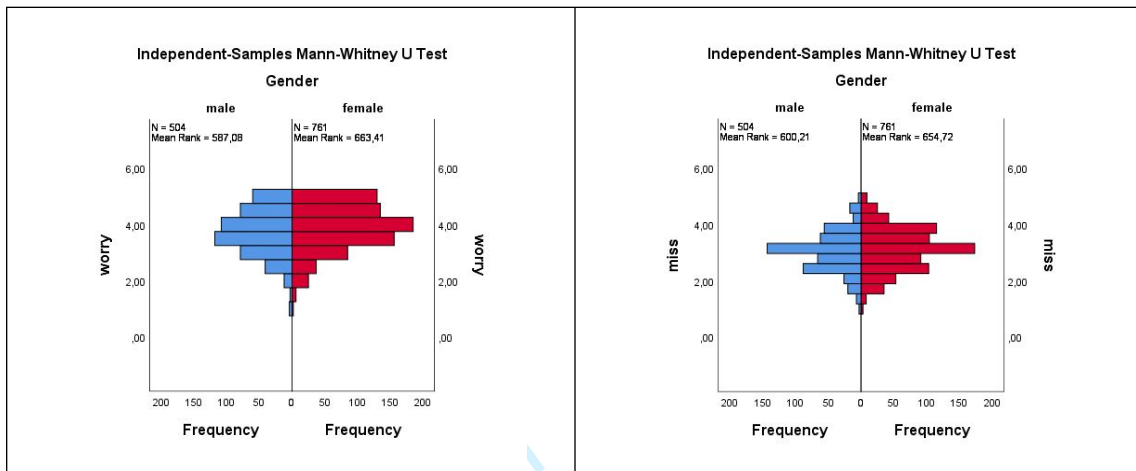


Figure 4.4 Comparison of emotions by gender

British Food Journal

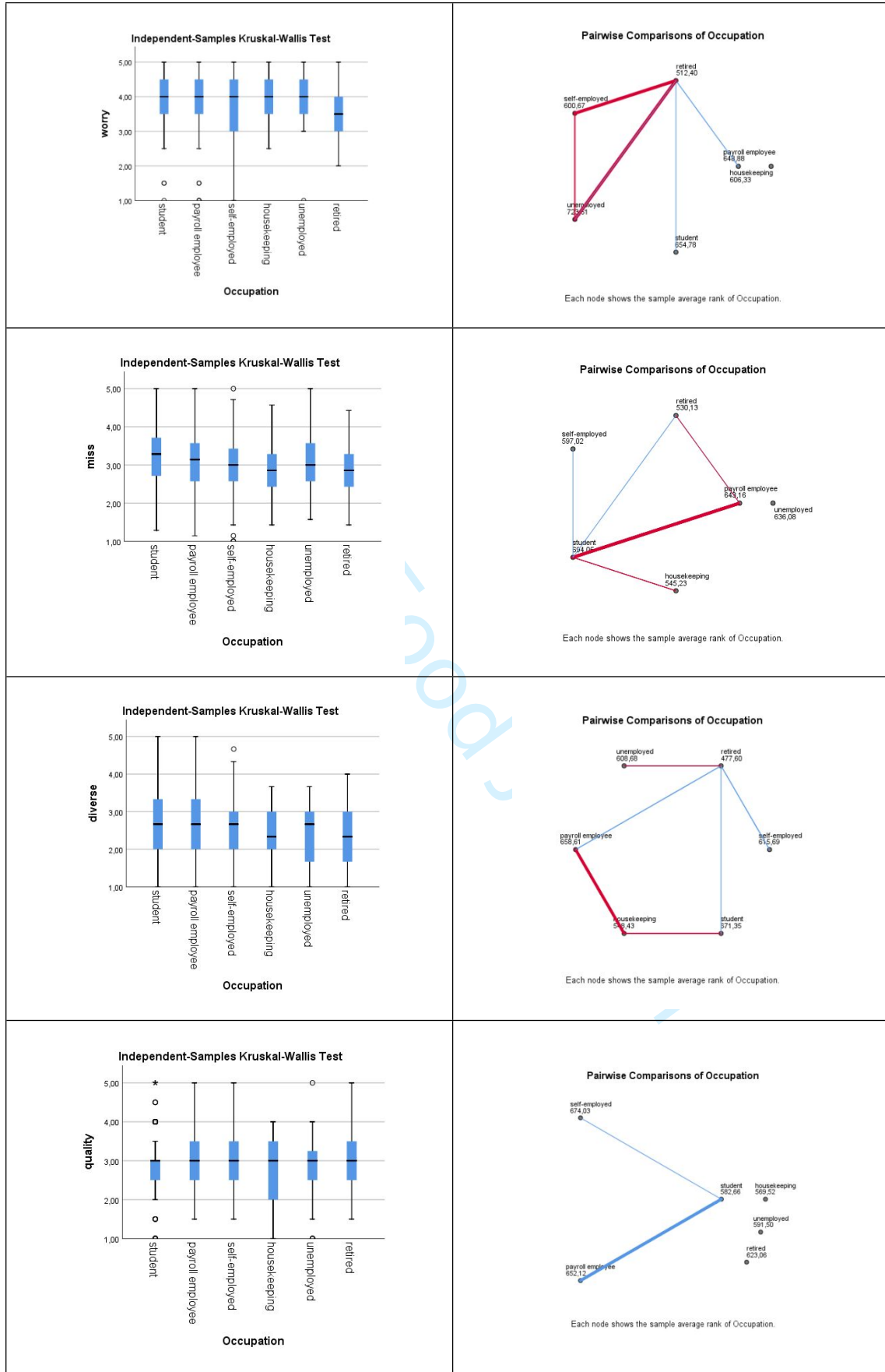


Figure 4.5 Comparisons of emotions and preferences by occupation

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

British Food Journal

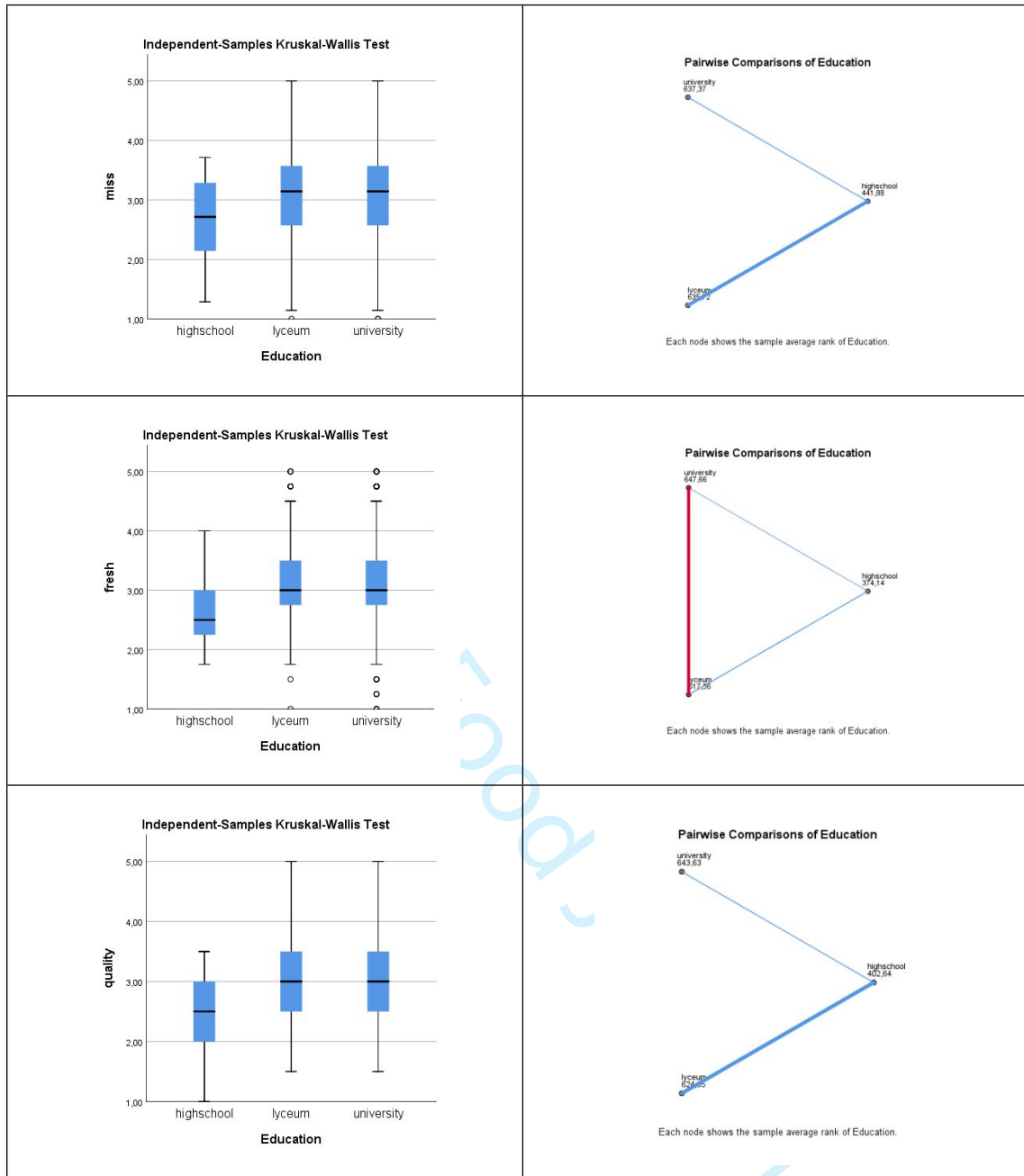


Figure 4.6 Comparisons of emotions and preferences by education level

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

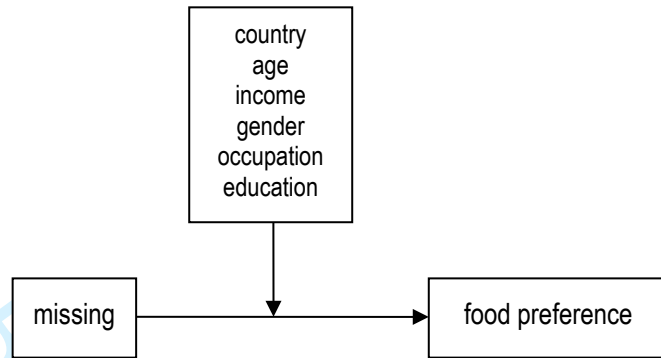


Figure 5.1 Moderation effects of demographic variables on the hypothesised relationships between missing emotions and food preferences

British Food Journal

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

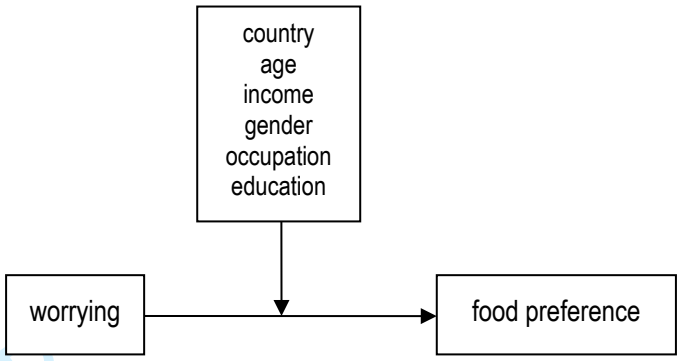


Figure 5.2 Moderation effects of demographic variables on the hypothesised relationships between worrying emotions and food preferences

British Food Journal

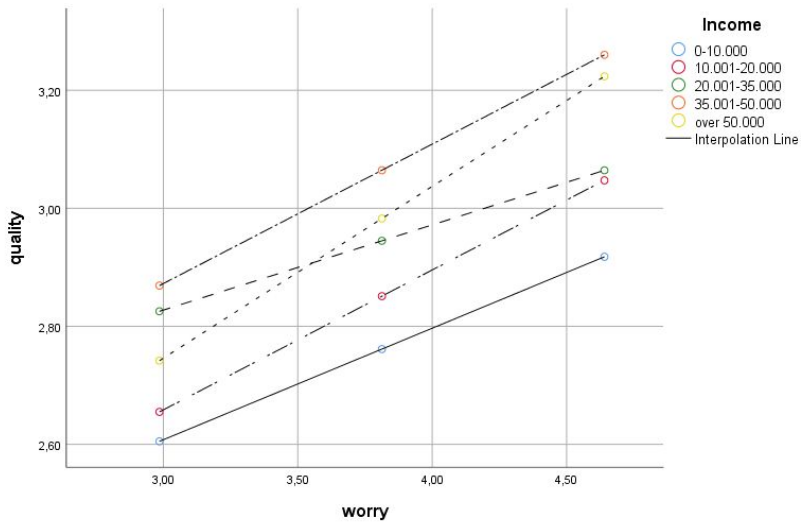


Figure 6.1 Moderation effect of income on the hypothesised relationship between worrying emotions and quality food preferences

British Food Journal

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

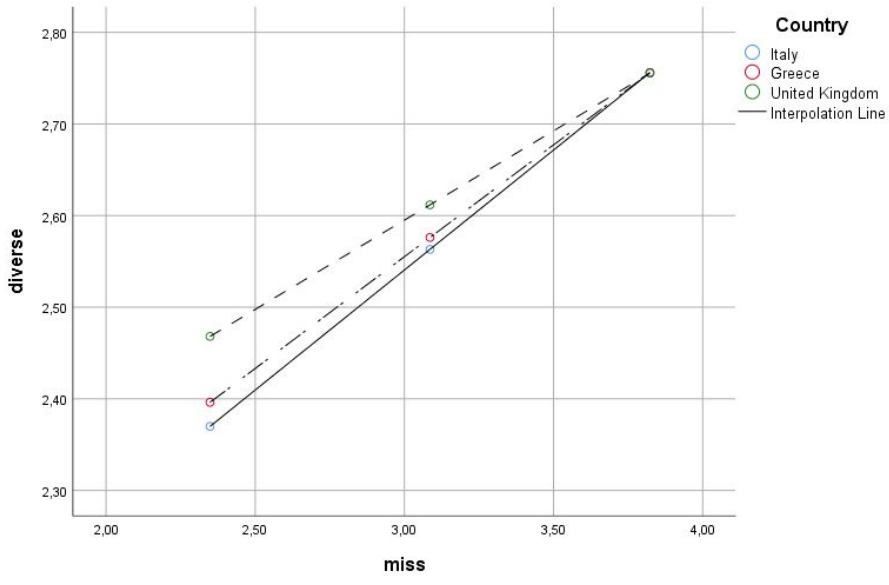


Figure 6.2 Moderation effect of country on the hypothesised relationship between missing emotions and diverse food preferences

British Food Journal

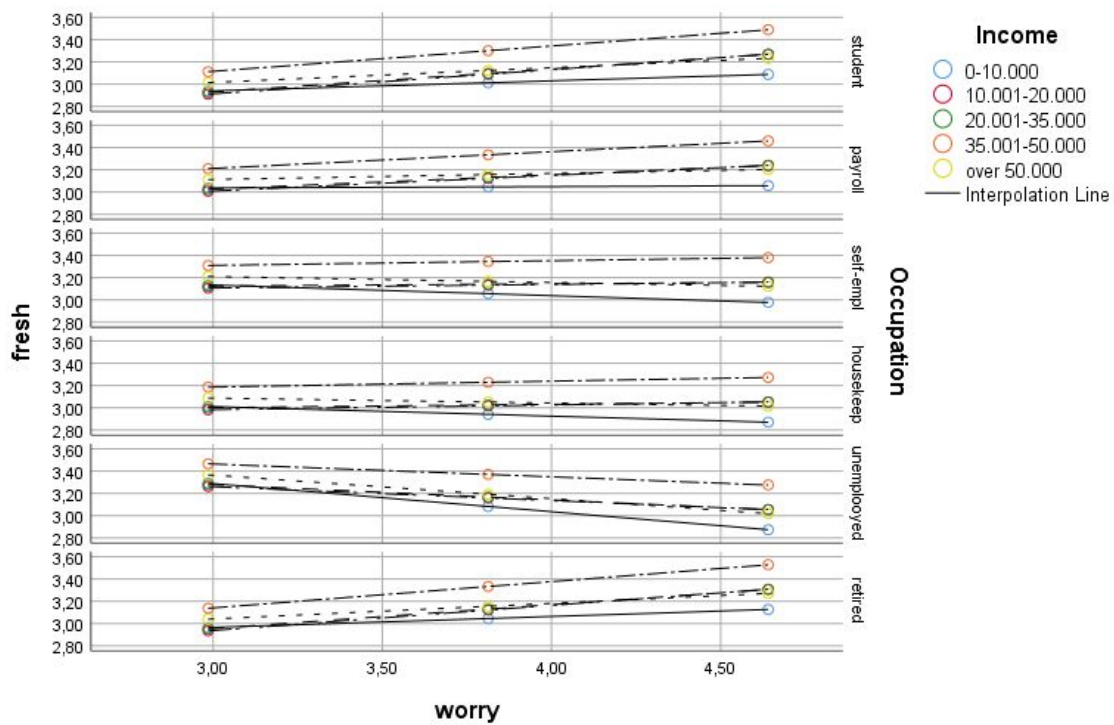


Figure 6.3 Combined moderation effect of income and occupation on the hypothesised relationship between worrying emotions and fresh food preferences ($R = 0.2025, p < 0.001$)

British Food Journal

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Manuscript ID: BFJ-10-2021-1145

Title: Food Literacy as a Resilience Factor in response to health-related uncertainty

Response to the editor's and to the reviewers' comments

We are grateful to the reviewers for their insightful suggestions to improve the manuscript. We hope that the revised manuscript is significantly improved. All additions are highlighted in blue.

Editor's comment	Response
<p>Dear authors, I am happy to say that your manuscript has been appreciated by me and the reviewers. However, some changes are needed. Please, follow the suggestion of the reviewers as well as the following:</p>	<p>We would like to thank the editor and the reviewers for their time and effort in reviewing our manuscript. The manuscript has been revised accordingly. We hope that this revised version of the manuscript meets the reviewer's expectations.</p>
<p>- Motivation of the Paper. In the introduction I do not understand and see clearly the theoretical contribution of the paper. I think the paper, at the present form, partially fails to formulate a research problem, which is of interest. We have partial answers on what we know now about the topic and what we do not know. The author should more in detail and in a more systematic way present answer on these questions, but also what we need to know. Why is this important, for research, for practice? Also, the introduction is critical and I suggest the following key points within this section (Positioning, Gap, Purpose, Central argument, Organizing, Contribution, So what?)</p>	<p>The manuscript has been thoroughly revised to address all reviewers' concerns. Theoretical grounding (conceptual model) is now presented in detail in a separate section. All sections have been reorganised and enriched.</p>
<p>- Literature. The paper should be grounded more on recent literature. Also, do you think food waste may be in some way related to part of your paper? See: Rasool, S., Cerchione, R., Salo, J., Ferraris, A., & Abbate, S. (2021). Measurement of consumer awareness of food waste: construct development with a confirmatory factor analysis. <i>British Food Journal</i>.</p>	<p>We thank the Editor for the literature suggestions. The Introduction, Literature review, Conceptual Model, Materials and methods, Results, Discussion, and Conclusion sections have been revised and enriched and grounded by pertinent research. The following references - and several more - have been added in the revised manuscript.</p> <ul style="list-style-type: none"> • Bazzani, A., Bruno, S., Frumento, P., Cruz-Sanabria, F., Turchetti, G. and Faraguna, U. (2021), "Sleep quality mediates the effect of chronotype on resilience in the time of COVID-19", <i>Chronobiology International</i>, Vol. 38 No. 6, pp. 883-892. https://doi.org/10.1080/07420528.2021.1895199 • Rasool, S., Cerchione, R., Salo, J., Ferraris, A. and Abbate, S. (2021), "Measurement of consumer awareness of food waste: construct development with a confirmatory factor analysis", <i>British Food Journal</i>, Vol. 123 No. 13, pp. 337-361. https://doi.org/10.1108/BFJ-02-2021-0160 • Trieste, L., Bazzani, A., Amato, A., Faraguna, U. and Turchetti, G. (2021), "Food literacy and food choice - a survey-based psychometric profiling of consumer behavior", <i>British Food Journal</i>, Vol. 123 No. 13, pp. 124-141. https://doi.org/10.1108/BFJ-09-2020-0845
<p>- Building your discussion: I would suggest that a discussion section be more comprehensively developed that links back to your initial research questions and a clear statement of proposed contributions, once you have reframed your arguments and developed some propositions. What should we, as readers, take away regarding your study? What are the key theoretical contributions that are gained? How can these findings contribute to the literature stream associated with food businesses? What do we know about this literature stream now that we</p>	<p>Discussion section is now revised and justified by more pertinent research. Theoretical and practical aspects are now more clearly discussed.</p>

<p>1 have read your study? What future research should be conducted within this literature stream 2 that can be extended based upon your study?</p>	
<p>3 This is what I often call “closing the loop”. Specifically, you a) state in the introduction that 4 there is a gap (your research questions), and you plan to address the gap theoretically; b) 5 present a formally developed and very focused literature review that gives the rationale for the 6 study and develop propositions/hypos that reflect this gap; and c) “Close the loop”, by 7 developing your discussion section that ties back to the research question(s). In the end, you 8 hope that the reader has been able to read the article and see the article, in its entirety, as 9 encapsulating the resolution of a theoretical or empirical gap.</p>	<p>The revised manuscript includes enhanced theoretical grounding of this research. Literature review explains the development of the conceptual model. Findings support the posited research hypotheses and, furthermore, they offer comparisons across different countries, age groups, genders, income groups, occupations, and education levels. Discussion and conclusion address the results in light of the developed hypotheses.</p>

Reviewer: 1	
Reviewer's comment	Response
<p>12 13 Interesting paper with some improvements however needed.</p>	<p>We would like to thank the reviewer for the encouraging comments. The manuscript has been revised accordingly. We hope that this revised version of the manuscript meets the reviewer's expectations.</p>
<p>18 1. Originality: 19 This is an interesting paper, and timely given that research regarding the effects of the 20 pandemic is very much needed. 21 But the aim is not clear. There are three instances the 'aim' is presented, and quite differently 22 stated in each of these instances: 23 page 1, line 9 24 page 1, line 13 25 page 2, line 1 26 So what is the aim??</p>	<p>The aim is now stated once in the introduction.</p>
<p>27 2. Relationship to Literature: 28 Although important and relevant literature is presented, it does seem to need more improvement 29 in content and richness. As it stands the hypotheses presented do not seem to have adequate 30 justification - perhaps more on food preferences, more on habits, more on emotion, more on 31 factors affecting decision, are some examples this section could improve.</p>	<p>Literature review has been enriched. A section (section 3) is dedicated to the description of the conceptual framework that led to the development of the research hypotheses.</p>
<p>32 3. Methodology: 33 overall acceptable - but no information as to sampling method used (probability or non? how 34 were units selected? and so on)</p>	<p>Methodology section has been revised. Sampling method is now clearly described and referenced. Data collection subsection is also added. Sample breakdown by country, gender, age, income, occupation, and education level is now shown in Tables 1.1 to 1.6.</p>
<p>35 4. Results: 36 acceptable presentation of results. but there is a weakness in the discussion and conclusion. 37 these two sections could be further enriched as the findings are somewhat 'undersold'.</p>	<p>Results are now enriched in the revised manuscript by comparisons and moderation analysis. Discussion and Conclusion sections have been revised accordingly.</p>
<p>38 5. Implications for research, practice and/or society: further research suggests comparison 39 among countries. but this research was done in different countries (Italy, Greece, UK) why 40 could the comparison not be done in this case?</p>	<p>Following the reviewer's kind recommendations moderating analysis has been performed using demographic variables as moderators. The respective findings are presented in the results section.</p>
<p>41 6. Quality of Communication: good</p>	

Reviewer: 2	
Reviewer's comment	Response
There are some serious concerns raised and it has to be fixed by the authors before publication.	We revised the manuscript to address the concerns raised by the reviewer. Hopefully, the revision meets the reviewer's recommendations.
1. Originality: <i>Does the paper contain new and significant information adequate to justify publication?</i> Yes, it is new and much-needed research	We would like to thank the reviewer for the encouraging comments.
2. Relationship to Literature: <i>Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?</i> No, I feel still the hypotheses links were not explained adequately. No theoretical stance applied here? Authors can explain each hypothesis with a detailed literature review. Also, if possible authors can add the conceptual model in graphical format.	The manuscript has been revised accordingly. A distinct section (Section 3) is dedicated to the explanation of the conceptual grounding of the study that led to the posited research hypotheses. A figure has been added to depict the conceptual framework.
3. Methodology: <i>Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?</i> Somewhat Yes. The authors stated that this study is exploratory in nature. Most of the exploratory researches are qualitative in nature. It follows, constructivism paradigm and the authors followed quantitative methods. This discussion is contradicting.	This phrase is removed from the revised manuscript to avoid contradictions.
It seems you have used the same samples for EFA and CFA, many researchers disagree with this technique. So cite some research work to justify the same sample usage in EFA and CFA.	A paragraph has been added in the beginning of the discussion section to justify the use of both EFA and CFA to the same sample. Relevant research is referenced in the revised manuscript.
As per the literature, AVE values should be more than 0.5, and in your study, some of the constructs were less than 0.5. It is recommended to remove some of the items to increase the convergent validity. Authors have given explanation for this, however, many researchers follow both reliability and validity as important measure.	Indeed, AVE values of certain constructs are lower than anticipated. However, any removal of items of these constructs fails to raise the respective AVE values. Therefore, we used heterotrait-monotrait (HTMT) analysis. HTMT is a rather novel type of analysis that is used as an alternative in such cases. This analysis is now included in the Results section.
4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: Somewhat Yes. Since validity is a big concern in this research, I am not sure how much the structural model results are reliable.	More detailed justification regarding the validity concerns is included in the results section. Additional validity (HTMT) testing supports the findings.
Moreover, in studies like this, the authors can use some more analysis, such as moderating analysis. It is recommended to use demographic variables as moderators to check the model difference based on important demographics.	Following the reviewer's kind recommendations moderating analysis has been performed using demographic variables as moderators. The respective findings are presented in the results section.
5. Implications for research, practice and/or society: No academic implications. It is recommended to include academic implications for future researchers and theories.	Academic implications are included in the revised manuscript.
Practical implications are fine.	We would like to thank the reviewer for the encouraging comments.

Reviewer: 2	
Reviewer's comment	Response
6. Quality of Communication: Yes. Perfect	We are grateful to the reviewer for the encouraging comments.
Reviewer: 3	
Reviewer's comment	Response
It is not clear to me to what audience this paper is designed for: marketers, practitioners, or the broadest audience possible? Authors should explicitly state their positioning. Due to a lack of clarity in most of its sections (i.e., mainly aims, methods and results), although focused on a very interesting topic, this paper would benefit from additional work before being published.	We are grateful to the reviewer for the insightful recommendations. Text is revised accordingly. Aim is clarified, methods and results are enriched.
With respect to the introduction and literature review, I suggest the authors to make sure that all passages are backed with appropriate references. For instance, are the following sentences reported at pag.1 supported by empirical evidence? - lines 28-30: "given that those who are more physically fit usually [...]" - lines 49-54: "Then, in an effort to adapt [...]" - etc.	The text is revised and all passages are now backed with respective references.
The authors should provide additional explanation about the reason why they chose the conceptual framework proposed. As an example, why is the concept of "solastalgia" so relevant? Why is it not further commented across the manuscript?	Thanks to the reviewer's kind recommendation the conceptual framework of this research is now presented in detail in the revised manuscript. The concept of 'solastalgia' is now better justified and commented.
Finally, in section 2.2 (pag.3) authors might consider citing also recent works on the association between physiological functions and resilience (e.g., Bazzani, A., Bruno, S., Frumento, P., Cruz-Sanabria, F., Turchetti, G., & Faraguna, U. (2021). Sleep quality mediates the effect of chronotype on resilience in the time of COVID-19. <i>Chronobiology International</i> , 1-10.), as well as on the importance of food literacy in food choice (e.g., Trieste, L., Bazzani, A., Amato, A., Faraguna, U. and Turchetti, G. (2021), "Food literacy and food choice – a survey-based psychometric profiling of consumer behaviour", <i>British Food Journal</i> , Vol. 123 No. 13, pp. 124-141. https://doi.org/10.1108/BFJ-09-2020-0845).	Recent works on the association between physiological functions and resilience and on the importance of food literacy in food choice – including those suggested by the reviewers - are now cited in the manuscript.
Objectives are not clearly stated: e.g., the aim reported at pag. 1 (lines 26-32) sounds different from the one declared at p.2 (lines 3-5).	Research aim is now stated only once in the manuscript.
Methodology is too poorly described. This part should be significantly expanded. There is no sufficient description of the sample characteristics (e.g., mean age, gender information, etc.). Also, are the questions used in the survey obtained from validated questionnaires? Which are the "certain precautions" taken?	Methodology section has been revised. Data collection is now described in a distinct subsection. Sample breakdown by country, gender, age, income and occupation is now shown in Tables 1.1 to 1.5. The sources where the questions were drawn from are presented in a table (in the Annex) in the revised manuscript. The precautions taken to tackle common method bias are now better justified and supported by relevant references.
Results mainly describe statistical analysis for the internal validity of the questionnaire without precisely addressing the research hypotheses listed at pag.4. Please modify the display of the results section so to clearly distinguish between findings related to the analysis of the reliability of the questionnaire (ideally as a first part), and a second part dedicated to findings related to the research questions.	Following the reviewer's insightful suggestion, a paragraph is now added in the Results section dedicated to findings related to research hypotheses. Also, group comparisons are now included in the results section.
The conclusion section (together with "research implications", as well as "limitations and	Conclusion section has been revised, as advised.

Reviewer: 3	
Reviewer's comment	Response
future research directions") should be revised accordingly.	
Also, please provide clear captions for figures and tables (not shown).	Captions for all figures and tables are provided.
Descriptive statistics should be provided as well: did authors consider the possible differences among the three countries taken into account?	Demographics group comparisons are now included in the revised manuscript.
Finally, pay attention p.5, lines 19-20: authors state that "Cronbach's alpha reliability coefficients are higher than 0.6, which is an acceptable threshold value in exploratory research", while in table 2 is reported a Cronbach's alpha value of 0.567 for "quality food propensity". Please fix this mistake.	This mistake has been corrected in the revised manuscript, supported by relevant justification.
Some additional and punctual suggestions to improve the readability of the manuscript are listed below:	All suggestions have been addressed. Please see the detailed justification that follows.
P. 2, lines 5-12: you can remove the sentences from "To serve [...]" to "[...] conclusion section".	The indicated sentences are omitted.
P. 2, lines 36-39, please rephrase the sentence "In other words, [...]"	The indicated sentence is rephrased in the revised manuscript.
P.2, line 42: "excessive emotional reactions". Excessive compared to?	The adjective "excessive" has been replaced by "instinctive and intuitive"
P. 2, line 49: "on collective awareness". How does this finding apply to COVID-19 pandemic? Please specify.	First and Brozina (2009) in their study on cultural influences on motivation for organic food consumption found that "Croatian consumers display homogeneous collective awareness, i.e. they almost exclusively consider health as prime consumption motive." This explanation has been added in the revised manuscript.
P. 2, line 58: "spending and hoarding food later". "[...] spending [...] later"?	This sentence is now rephrased to increase comprehension: "young <i>people started mass buying and stockpiling food at a later point in time than older people</i> "
P. 3, line 50: remove "etc."	"Etc." has been replaced by "and": "... social, emotional, and work relationships ..."
P.4, lines 4-5: remove the sentence "Dining at home has become something more than a necessity".	The indicated phrase is removed from the manuscript.
P.4, lines 10-22: make some relevant examples of "regular/usual activities"	The following explanatory text is added in the revised manuscript: <i>e.g. to reach their physical workplace and socialise, to meet with family and friends, to practice sports and recreational activities, to visit restaurants, cafes, cinemas and theatres, to attend parties, anniversaries and celebrations, to travel, and go shopping</i>
Additional Questions:	
1. Originality: This paper focuses on a very interesting topic, which is the role of food literacy as a resilience factor during the COVID-19 pandemic. The possible implications of a paper of this kind are immediate both for researchers and professionals. However, some major issues should be addressed before definitely sharing this work with the scientific community.	We would like to thank the reviewer for the encouraging comments. We made sincere efforts to address the reviewer's kind recommendations.
2. Relationship to Literature: Authors should clearly state whether all passages, especially in the introduction section, are backed with appropriate references. For instance, are the following sentences reported at pag.1 supported by empirical evidence? - lines 28-30: "given that those who are more physically fit usually [...]" - lines 49-54: "Then, in an effort to adapt [...]" - etc.	The text has been revised and all passages are now backed with respective references.

Reviewer: 3	
Reviewer's comment	Response
Also, authors should provide additional explanation about the reason why they chose the conceptual framework proposed. As an example, why is the concept of "solastalgia" so relevant? Why is it not further commented across the manuscript?	Solastalgia is a concept related to the human-ecosystem health nexus. This research draws on a risk-resilience perspective to link external risk factors (like Covid-19) with changes in the mood (caused by missing and worry feelings) and ways to cope (like food choices). This elaboration is now added in the manuscript in the conceptual framework development subsection.
Finally, in section 2.2 (pag.3), authors might consider citing other recent works on the association between physiological functions and resilience (e.g., Bazzani, A., Bruno, S., Frumento, P., Cruz-Sanabria, F., Turchetti, G., & Faraguna, U. (2021). Sleep quality mediates the effect of chronotype on resilience in the time of COVID-19. <i>Chronobiology International</i> , 1-10.), as well as on the importance of food literacy in food choice (e.g., Trieste, L., Bazzani, A., Amato, A., Faraguna, U. and Turchetti, G. (2021), "Food literacy and food choice – a survey-based psychometric profiling of consumer behaviour", <i>British Food Journal</i> , Vol. 123 No. 13, pp. 124-141. https://doi.org/10.1108/BFJ-09-2020-0845)	Suggested and other recent works have been added in section 2.2. Also, a distinct section (Section 3) is now dedicated to the explanation of the conceptual grounding of the study that led to the posited research hypotheses. A figure has been added to depict the conceptual framework.
3. Methodology: Methodology is too poorly described. This part should be significantly expanded. There is no sufficient description of the sample characteristics (e.g., mean age, gender information, etc.).	Data collection is now described in a distinct subsection. Sample breakdown by country, gender, age, income and occupation is now shown in Tables 1.1 to 1.5.
Also, are the questions used in the survey obtained from validated questionnaires?	The sources where the questions were drawn from are presented in a table (in the Annex) in the revised manuscript.
Which are the "certain precautions" taken?	The precautions taken to tackle common method bias are now better justified and supported by relevant references.
4. Results: Results mainly describe statistical analysis for the internal validity of the questionnaire without precisely addressing the research hypotheses listed at pag.4. Please modify the structure of the results section so to clearly distinguish between findings related to the analysis of the reliability of the questionnaire (ideally as a first part), and a second part dedicated to findings related to the research questions.	Following the reviewer's insightful suggestion, a paragraph is now added in the Results section dedicated to findings related to research hypotheses.
Also, pay attention p.5, lines 19-20: authors state that "Cronbach's alpha reliability coefficients are higher than 0.6, which is an acceptable threshold value in exploratory research", while in table 2 is reported a Cronbach's alpha value of 0.567 for "quality food propensity". Please fix this mistake.	A primary reason for the moderate reliability value is that the scale has only two items. Scale reliability is sensitive to the number of items (Hair et al., 2013). Future research should add more items to increase the scale reliability of the construct that represents the preference of consumers toward branded, certified food products. <i>This justification is now included in the results section of the revised manuscript.</i>
Finally, please provide clear captions for figures and tables (not shown) .	Captions for all figures and tables are provided.
Descriptive statistics should be provided as well: did authors consider the possible differences among the three countries from which data were collected?	Descriptive statistics are now provided in the data analysis and the results sections. Differences across country, age, income, gender, occupation, and education level groups are now presented in the results section.
5. Implications for research, practice and/or society: The conclusion section, including research implications, should be entirely revised. See "Quality of Communication".	Conclusion has been revised according to the reviewer's insightful suggestions.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Reviewer: 3	
Reviewer's comment	Response
<p>6. Quality of Communication: It is not clear to me to what audience this paper is designed for: marketers, practitioners, or the broadest audience possible? Authors should explicitly state their positioning. Otherwise, the lack of clarity throughout the whole structure of the manuscript will negatively affect the main message about the findings reported and, as a consequence, the relevance of this work for the readers. Objectives are not clearly stated: e.g., the aim reported at pag. 1 (lines 26-32) sounds different from the one declared at p.2 (lines 3-5). Methodology is poorly described. I suggest modifying the display of results so to clearly answer to the research hypotheses (from 1 to 6) listed at page 4 (lines 13-22). The conclusion section (together with "research implications", as well as "limitations and future research directions") should be revised accordingly.</p>	<p>The manuscript has been revised in terms of both structure and content. The materials and methods are now described in detail. Research aim is stated only once. The conceptual model of the research is discussed and presented in figure form. Results are now enriched and better justified. Discussion and conclusion sections have been revised accordingly.</p>

British Food Journal