Personality traits and food choice motives

Explaining the intention of choosing organic products in restaurants

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Summary

Using quantitative research, the predictive value of (food-related) personality traits and food choice motives onto the intention of choosing organic products in restaurants is studied. Previous research pointed out relations between general personality traits and food-related personality traits (i.e. Knaapila et al., 2011), food-related personality traits and food choice motives (i.e. Eertmans et al., 2005) or food choice motives and the intention of choosing organic products (Chen, 2007). This research captures four different levels of specificity and takes it out of the context of home and puts it into the domain of leisure and tourism instead. In order to find out whether such relations exist, the following main and sub-questions are raised:

Main research question:

- How do (food-specific) personality traits and food choice motives relate to the intention of choosing organic products in restaurants?

Sub research questions:

- What is the relationship between personality traits and food-related personality traits?
- What is the relationship between food-related personality traits and food choice motives
- What is the relationship between food choice motives and the intention of choosing organic products in a restaurant?

After literature study to set up this theoretical framework, empirical research was performed using a questionnaire. This questionnaire was distributed among students of Wageningen University. After weeks of online and face-to-face distribution, 132 questionnaires were returned. These were analyzed using SPSS. In order to answer the above questions, factor analyses, reliability testing and regression calculations were performed.

In this research the Big-five factors of general personality traits as predicted in theory were not proven reliable in reliability testing and therefore did not allow for use. Food-related personality traits were significantly related in eight out of nine cases to food choice motives. As food-related personality traits were not statistically significantly related to Weight Control, food-related personality traits are not related to food choice motives per se. Food choice motives are related to the intention of choosing organic food products though. Food choice motives explained almost half of the variance in intentions of choosing organic food products in restaurants. Appealing to the food choice motives that sorted most effect could help restaurant owners steer guests towards their (organic) restaurants or their organic products on the menu.

Preface

This thesis is an important marker in my life as it finalizes a long struggle. Where many students manage to finish the Master of Science in Leisure, Tourism and Environment in about two years, it has taken me five years. Bringing the skills learnt in the first year to practice in the last year has been a challenge to say the least. The topic of organic products in restaurants and which factors might predict the intention of choosing these products has been a good choice. Being able to research a topic close to my heart and of relevance in my work helped me greatly.

Finalizing my Master would not have been possible without some help though. As mentioned earlier, it has been quite a struggle, but some people have always kept faith in me. They were there to motivate me when things didn't go as planned and they cheered me on when I succeeded. Of course I am grateful for all the support from friend, family and the university staff and students, but I would like to point out some people in particular:

- First, I would like to thank my girlfriend Liselotte. She has always given me the confidence that I would be able to finish this project. When I needed extra time, she was understanding, but she was always there to get me up and running again. She also enabled me to stop working for half a year in order to focus on my thesis. Getting my MSc is great, but she is the best I got out of my time at Wageningen University. I could not have done it without her support.
- Second, I would like to thank my family, who have always been supportive in going back to university at a higher age. They have helped me wherever they could, either by picking up books from the library or by helping collect questionnaires.
- Also, I would like to thank one friend of mine in particular. Max has helped me keep focus on what mattered in this research. He has helped me put things in perspective and look at the people instead of just the figures.
- Last, but certainly not least, I would like to thank my supervisor Maarten. He always made himself available and was extremely quick to react to the many questions I had. When I needed guidance, he provided the advice I needed and he helped brush of skills learnt years ago. Also, he kept my goals in mind and helped me finish this thesis in time.

1 Introduction

Over the last years the demand, production and revenue of organic food products has increased steadily (LEI, 2008) in the Netherlands. The Dutch government has been highly involved in fostering a sustainable growth over the past dozen of years (LNV, 2008). This is not just a trend that can be found in the Netherlands, but also in Europe and to some extend even globally (LEI, 2008). The Netherlands are performing at about the European average with organic products accounting for 2% of the total food consumption (LEI, 2009).

As restaurants are concerned, the number of certified organic restaurants in the Netherlands is growing, but still limited (Van der Reijden, 2013). Just across the Channel, in the UK, organic restaurants showed a 10% growth in sales in 2013 (Soil Association, 2014). According to the monitor for sustainable food the out-of-home market sales grew by 2,7% in the Netherlands in 2013. In comparison, other food sales shrank by 0,4% over the same period (Min EZ, 2014).

In order to know more about the topic of organic products, we must first define organic. We should also look into what has previously been research, which gaps still exist and how this research seeks to fill this gap. We will also look how this research could help restaurants attract more guest looking for organic products.

1.1 Defining organic

When looking it up in the dictionary "Organic" (food or farming methods) is:

"produced or involving production without the use of chemical fertilizers, pesticides, or other artificial chemicals." (Oxford Dictionary)

The United States Department of Agriculture (USDA) broadens this definition and puts it as:

"A production system which avoids or largely excludes the use of synthetic compounded fertilisers, pesticides, growth regulators, and livestock feed additives. To the maximum extent feasible, organic farming systems rely upon crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic wastes, and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients, and to control insects, weeds, and other pests." (USDA, 1980).

The International Federation of Organic Agriculture Movements (IFOAM) broadens the definition even further with the inclusion of people. It defines organic agriculture as:

"a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved". (IFOAM, 2012)

Although these definitions show similarities, many differences remain. McCluskey (2000) already found that there is no consensus about the definition of organic. Guthman (1998) is even more rigorous and considers an undisputed definition impossible.

Oxford Dictionary's definition allows for a more personal view on organic food products in restaurants as it is not as broad as those given by USDA or IFOAM. Because no definition of organic food products is provided to participants in this research, the definition as provided by the Oxford Dictionary fits this research best as it allows more personal interpretation.

1.2 Relevance and main research question

In the last two decades, and the last decade in particular, some research has been conducted into the relation between general personality traits and motives concerning food intake (i.e. Carrillo et al., 2012, Mezquita et al., 2010 and Theakston et al., 2004). Most of these researchers looked into how these traits relate to drinking motives or dietary patterns. Some however looked into the relation between food-specific personality traits and food choice motives (i.e. Chen, 2007 and Eertmans et al., 2005).

The past decade has also shown increased attention into the intention to buy organic products (food and beverages). In many cases this has been done by using food choice motives as a potential indication (i.e. Magnusson et al., 2003, Verhoef, 2005 and Zakoska-Biemans, 2011). Some researchers, such as Chen (2007), looked into how the two concepts, food-specific personality traits and food choice motives, relate to each other and in turn how these are related to the intention of buying organic products.

Helping explain the intention of choosing organic products in restaurants could be beneficial to restaurant owners. Knowing which food choice motives are related to these intentions would allow them to appeal to the food choice motives that sort most effect. Also, should this research show that food choice motives have very little influence on the intention of choosing organic products in restaurants, owners would know that they would have to focus their attention on different areas instead.

To my best knowledge, all current research into this subject is done within the context of home. Instead, this research aims to find out how (food-specific) personality traits and food choice motives relate to the intention of buying organic products in restaurants. Thus taking it out of the context of home and into the domain of leisure and tourism.

This research aims to find out whether these concepts are related and explain each other. To reach this aim, the following main research question is formulated:

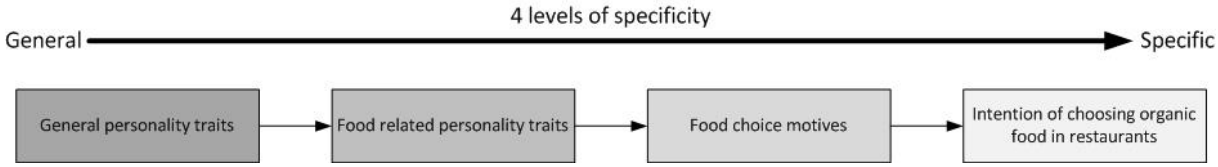
- How can the intention of choosing organic products in restaurants be explained?

2 Literature review

According to Jacobs et al. (2012) *"human cognitions exist on different levels of abstraction"*. These levels of abstractions of human cognitions form a cognitive hierarchy. In this cognitive hierarchy abstract cognitions inform more specific cognitions. Bandura (1994) points out that specific cognitions are the best predictors of specific behaviors. The concept of specificity is represented by Bandura's idea, that specific cognitions predict behaviors better than abstract and general cognitions. The theoretical framework that guides this study is based upon this concept of specificity. In the theoretical framework, four concepts on different levels of specificity (level of person in general, level of views on food, level of choosing your own food and level of menu choices in restaurants) are presumed to predict each other, ultimately leading to the explanation of the intention of choosing organic products in restaurants.

Should these four levels, general personality traits, food-related personality traits, food choice motives and the intension of choosing organic products in restaurants, be each others' predictor, a schematic model would look like the one below.

Figure 1: The four levels of specificity



This model leads to the below research sub-questions:

- What is the relationship between personality traits and food-related personality traits?
- What is the relationship between food-related personality traits and food choice motives?
- What is the relationship between food choice motives and the intention of choosing organic products in a restaurant?

In order to answer these sub-questions, the theoretical framework is set up to provide for a solid basis for the research. In this framework the below topics will be addressed:

- Personality traits in psychology, types of personality traits, and measures of personality traits;
- Definition of food-related personality traits, types of food-related personality traits, and measures of food-related personality traits;
- Definition of motives, types of food choice motives, and measures of food choice motives;
- Definition of intentions, and value of intentions as a measure;
- Existing research into these areas.

The literature review follows the same order of topics as stated above. So first personality traits will be investigated. Second it addresses the topic of and food-related personality traits, third it will explain about food choice motives. After that concept of intention is addressed. Finally, relations in existing research are studied. This shows how the various concepts are related to each other according to existing research. At the end of this literature review hypotheses are formulated with a schematic visualization of how these hypotheses fit into a model.

2.1 Personality traits

As Funder (2001) describes, seven different paradigms can be distinguished in psychology research. He divides those into four classic paradigms (psychoanalytic, trait, behaviorist, and humanistic) and three new paradigms (the social-cognitive and biological approaches and evolutionary psychology). Social-cognitive and biological approaches are spin-offs of the behaviorist and trait paradigms. Evolutionary psychology is considered an entirely new paradigm.

How traits in personality research are viewed, depends on which paradigm the research was conducted in. The different views are briefly described in paragraph 2.1.1. Paragraph 2.1.2 lists what kind of personality traits have been identified in prior research and paragraph 2.1.3 describes how personality traits can be measured in empirical research.

2.1.1 Personality traits in psychology

As mentioned earlier, Funder (2001) distinguished seven paradigms in psychology research. The psychoanalytic paradigm's main proponent was Sigmund Freud. According to adherents of this paradigm the compromise of independently operating mental subsystems results in consciousness and behavior. By contrast, adherents of the behaviorist paradigm view behavior as a function of environmentally imposed reinforcement contingencies. They exclude unobservable mediators from the analysis. According to adherents of the humanistic paradigm human beings can only be explained through phenomenology. The social-cognitive paradigm shows similarities with the behaviorist paradigm, but focuses on the individual's cognitive processes. The biological paradigm combines research in genetics, neuroanatomy and physiology with personality research. According to adherents of the evolutionary paradigm, behavioral patterns are founded biologically and that should be seen in the light of human evolution.

Adherents of the trait paradigm believe that consistencies in individuals' behavior are pervasive or broad enough to be meaningfully described in terms of personality traits (Kenrick & Funder 1988). According to Wrightsman et al. (1979) the traits approach of personality in psychology has much to offer, such as being able to describe people with adjectives. Instead of placing people in pigeonholes, the traits approach places them along dimensions. This can help simplify the way we think about individual differences. Proponents of personality trait research contend that personality traits have two important characteristics.

First, personality traits can predict behaviors. As an example, Funder & Colvin (1991) studied individuals in two different situations and found that the correlation between personality and behavior was ,40 or greater. This means 16% of behavior can be predicted by someone's personality traits. However, they reject that the remaining 84% should be ascribed to situational factors, because it could possibly be ascribed to other personality variables that were not measured.

Second, traits are stable over time. For example, Costa & McCrae (1988) found in their six-year longitudinal study retest correlations for Neuroticism (,83), Extraversion (,82), and Openness (,83), that approached the reliability of the scales themselves. This lead them to conclude that *"All five of the major domains of normal personality showed stability in self-reports of men and women across the adult age range; spouse ratings confirmed this stability for Neuroticism, Extraversion and Openness. Corrections for attenuation and comparison of concurrent and cross-lagged cross-observer correlations suggested that the stability of true scores is even higher than the observed correlations and, indeed, approaches unity in main cases."*

To conclude, personality traits are meaningful constructs, helpful for understanding people, can predict behaviors, and are relatively stable over time. For all of these reasons, the concept of personality traits is potentially useful in a theoretical framework and empirical research for studying food choice behaviors in restaurants.

2.1.2 Types of personality traits

Previous research by Funder (2001) shows that the Five Factor Model (FFM) is the most accepted theory in personality traits research. Digman (1990) provides an overview of how the five dimensions developed in literature over the years. He described that although over the past decades there was some debate over the number of dimension, *"fairly good agreement appears to be developing concerning the number of necessary dimensions"* (Digman, 1990).

After earlier work by Allport & Odbert in 1936, Cattell (1943) reduced their work to 35 clusters using factor analysis. According to Goldberg (1993), this makes him the intellectual "father" of Big-Five factors. Fiske (1949) looked at 22 variables developed in Cattell's research. He used self-ratings, peer-ratings and staff-ratings and found a total of five recurrent factors. How these components are labeled has varied greatly. Digman (1990) represented the trait structure using the Five Factor Model (FFM). These five factors are five dimensions, namely:

1. Extraversion or Surgency (E);
2. Agreeableness versus Antagonism (A);
3. Conscientiousness or Will to Achieve (C));
4. Neuroticism versus Emotional Stability (N);
5. Openness to Experience or Intellect, Imagination, or Culture (O).

According to Digman (1990) most personality traits can be described using the five dimensions of his model. Goldberg (1981) called these five dimensions the "Big Five" (McCrae & John, 1992).

McCrae & Costa (1997) compared results from an American sample to six samples from all over the world. They found cross-cultural and cross-language similarities and point out *"that the five-factor structure of personality in some sense transcends language and may indeed be universal".* This leads them to the conclusion that the FFM will help understand personality worldwide.

Based on the explained convergence in personality traits research and worldwide applicability, the Five-Factor Model will be used in the current study.

2.1.3 Measures of personality traits

Various measures exist for scoring the Five-Factor Model. The Neuroticism, Extraversion, Openness Personality Inventory (or more commonly known as NEO-PI) by Costa & McCrae (1985) consists of 240 items and is one of the most renown measures. NEO-PI does not just measure the Big-Five domains, but also breaks down each domain into six specific facets. As Digman (1990) puts it, this is *"an inventory specifically tailored along the lines of the Five-Factor Model"*. This measure has been improved over the years and evolved, via NEO-PI-R (Costa & McCrae 1992), into NEO-PI-3 (McCrae et al, 2005).

A much shorter, but more unreliable measure is Gosling et al.'s (2003) Ten-Item Personality Inventory-(TIPI), which only consists of ten items. This would allow participants to take this test in just a minute. This comes at a certain cost however, as it is not only less reliable. As this is a very short test it does not provide scores for latent (facet-level) constructs, which a more extensive measure (i.e. NEO-PI-3) does do. In Gosling et al.'s sample of students (N=1813) Conscientiousness ranked first (Mean=5,40, Std. Dev.=1,32), closely followed by Openness to Experiences (Mean=5,38, Std. Dev.=1,07). Extraversion was ranked last of all five concepts (Mean=4.44, Std. Dev.=1,45). Reliability is an issue with only three factors over the r>,40 threshold.

John & Srivastava (1999)'s Big Five Inventory (BFI) meets both somewhere in the middle. It consist of only 44 items, so participants should be able to complete it in about ten minutes. As it is more extensive than Gosling et al.'s TIPI, the BFI is more reliable.

Most important factor in choosing a measure for the Five-Factor Model in the case of this research is length and time needed to complete it. Also there is no need to measure facet-level constructs, because food-related personality traits will be used to narrow it down. There is no need for an extensive measure such as NEO-PI either. Therefore Gosling et al.'s TIPI is used to measure personality traits.

2.2 Food-related personality traits

General personality traits as measured using TIPI are very general and probably have very little predictive value as food choice is concerned. To narrow this down, food-related personality traits are studied as the next level of specificity. It could possibly bridge the gap between general personality traits and food choice motives.

2.2.1 Definition of food-related personality traits

Mak et al. (2012) describe food-related personality traits as *"individual characteristics that exert a pervasive influence on a broad range of food-related behaviours"*. Food-related personality traits are stable (Knaapila et al., 2011) individual predispositions to food consumption, but also to the larger process of growing, allocating, cooking, eating and disposal as described by Goody (1982). Much emphasis in food-related personality trait research is on novelty seeking or avoidance. This is captured in the traits Food Neophobia and Food Involvement.

Just like general personality traits, food-related personality traits are stable and they also exert influence on behavior as food is concerned. As this research focuses on food-related behavior, food-related personality traits are used as the next level of specificity in this research.

2.2.2 Types of food-related personality traits

Hoek et al. (2011) describe Food Neophobia as *"the tendency to avoid new foods"*. According to Pliner & Hobden (1992) it is reluctance to eat novel food or avoidance of novel food. They point out a potential evolutionary background, as they assume that it served to protect us in a hostile food environment. Despite it possibly dating back to the earlier days of mankind, Olabi et al. (2009) mention that food neophobia still has influence on our everyday food choices. Arvola et al. (1999) take food neophobia even further and point out that it goes beyond avoidance of novel foods. Their study suggest an affective tendency to disliking novel foods.

Although not the exact opposite of Food Neophobia, Food Involvement is a food-related personality trait that is negatively correlated with Food Neophobia. Bell & Marshall (2003) describe Food Involvement as *"the level of importance of food in a person's life"*. They also point out that Food Involvement *"may be an important mediator to consider when undertaking research with food and food habits"*. Eertmans et al. (2005) used both concepts and in their research Food Involvement ranked much higher (Mean=5,31, Std. Dev.=0,81) than Food Neophobia (Mean=3,26, Std. Dev.=0,82).

As organic food products still only represent a small percentage of the total food consumption, these products are still unfamiliar to many people. Thus, Food Neophobia could offer valuable insights. And although Food Involvement is not Food Neophobia's counterpart, it represents a different view on food. Food Involvement offers a more positive dimension with regard to view on food in people's lives. Therefore Food Involvement is included as dimension of food-related personality traits in this research as well.

2.2.3 Measures of food-related personality traits

Bell & Marshall (2003) sought to develop a measure of the characteristics of the food-related personality trait Food Involvement. The twelve items in their Food Involvement Scale (FIS) all involve food and stage of the food provisioning process as defined by Goody (1982), thus acquisition, preparation, cooking, eating, and disposal. Based on Goody's cycle they had 30 participants draft 32 statements that reflected these stages. Three different groups of participants narrowed this down to the final twelve items.

Pliner & Hobden's (1992) Food Neophobia Scale (FNS) was developed as a measure of the trait of Food Neophobia. They used undergraduate students to draft and rate a list of statements about liking and being willing to try novel foods. They narrowed this down to 18 items which they combined with a set of 12 items focusing on general neophobia. Using correlation they came up with two times five items: five positively worded and five negatively worded items. These make up the final ten items of the FNS.

Both scales have been widely used in countries all over the world, i.e. Belgium (Eertmans et al., 2005), Canada (Pliner & Hobden, 1992), Finland (Arvola et al., 1999), Lebanon (Olabi et al., 2009), The Netherlands (Schickenberg et al., 2007), Taiwan (Chen, 2007), United Stated of America (Bell & Marshall, 2003) and it seems applicable worldwide. It must be noted that some researchers either used a translated or an adapted version.

Both the FIS and FNS are brief measures, but used and tested worldwide. Thus, they combine two important factors to include them into this research. As TIPI is chosen for its length and time needed for completion, these measures are also chosen for this research. In case of the FNS the orginal (shorter) version is chosen, for its length and for comparability with existing research.

2.3 Food choice motives

As mentioned in the introduction, the relation between food choice motives and organic products' purchasing intentions have been studied. But what are motives? And what kind of food choice motives can be distinguished? Various tools for measuring food choice motives are addressed as well.

2.3.1 Definition of motives

Winter (1973, p. 21) defines a motive as *"a way of explaining those changes in behavior that cannot readily be explained by external forces alone"* . Kagan (1972, p. 54) defines a motive as *"a cognitive representation of a future goal state that is desired"*. Murray (1964, p. 7) notes that *"there is general agreement that a motive is an internal factor that arouses, directs and integrates a person's behavior"*. He continues and explains that a motive can be broken down into two major components, namely drive and goal. Goossens (2000, p. 302) argues that "*a motive implies action*". He elaborates on that by pointing out that motives move individuals to do something.

Morris (1973) explains that motives are part of the chain of motivation:

Stimulus → motive → behavior → goal attainment

He defines motivation as *"a series of stages that we are continually going through. Each series begins with a stimulus (perhaps a bodily need or a cue in the environment). The stimulus triggers a motive--a sort of arousal to action of one kind or another. The motive, in turn, activates behavior. When this behavior leads to goal attainment, the motive is satisfied and the chain of motivation is complete"* (Morris, 1973, p. 322).

What most definitions have in common is that motives are part of a larger chain or cycle, the role of the internal force of the individual and the importance of motives relation with behavior. The influence of the individual and the influence of motives on behavior are the most important reasons

to include (food choice) motives into this research. The value of motives as a level of specificity in this research is captured best in Winter's definition.

2.3.2 Types of food choice motives

In order to help explain behavior, Shepherd (1985) set up a framework for factors affecting food choice and intake. In this framework he used three categories of factors:

1. Person (broken down into perception of sensory attributes and psychological factors);
2. Food (broken down into physical/chemical properties plus nutrient content, and physiological effects);
3. Economic and social (broken down into price, availability, brand plus social/cultural, and attitudes).

Research by Steptoe et al. (1995) into food choice motives showed many similarities with the framework as set up by Shepherd. The motives they found could all fit into the three categories as defined by Shepherd. Their research using a Food Choice Questionnaire resulted in nine food choice motives:

1. Health;
2. Mood;
3. Convenience;
4. Sensory appeal;
5. Natural content;
6. Price;
7. Weight control;
8. Familiarity;
9. Ethical concern.

Health, Sensory Appeal and Natural Content could fit into Shepherd's Food category as all involve either physiological effects (Health), physical properties (Sensory Appeal) or chemical properties (Natural Content). Mood, Weight Control and Familiarity could fit into the Person category as they all involve psychological factors. Convenience and price could fit into Economic and social as Price is named specifically and convenience is often influenced by availability.

In their research, Steptoe et al. tested and retested for replicability, reproducibility and reliability using two studies and a repeat questionnaire among samples of 358 (study 1) and 245 (study 2, repeat questionnaire. In the first try Sensory Appeal ranked first, followed by Price with Health a close third. In the retest they came out in the same order. In both cases Familiarity ranked last, just behind Ethical Concern.

The food choice motives as distinguished by Steptoe et al. represent all the various categories that according to Shepherd affect food choice and intake (and thus behavior). As they are also replicable, reproducible and reliable, they are a suitable representation of motives concerning food choice in this research.

2.3.3 Measures of food choice motives

This research method, the Food Choice Questionnaire (FCQ) or the version extended by Lindeman and Väänänen (2000) has been tested by researchers all over the world (i.e. Honkanen & Frewer, 2009, Januszewska et al., 2011, Pieniak et al., 2009, Prescott et al., 2002 and Sun, 2008). Originally, Steptoe et al. (1995) started this questionnaire of with 68 items, but after testing and conducting factor analysis, they retained only 36 items. The nine factors found after factor analysis accounted for 65,2% of the variance. They also proved to be reliable, as the Cronbach alpha for these nine factors ranged from ,70 to ,87. Vaske (2008) considers an alpha of ,65 to ,70 an *"adequate"* scale.

The extended version of the FCQ as created by Lindeman and Väänänen(2000) added items in order to measure ethical motives. They replaced Ethical Concern by Ecological Welfare, Political Values and Religion. These also proved reliable, with these three factors loading alpha's of respectively ,91, ,80 and ,85. The Ethical Concern factor that is replaced by these three factors only had a Cronbach's alpha of ,70, making it the least reliable factor of the original set of factors.

Translated versions of the FCQ have been used (i.e. Prescott et al., 2002), pointing out cultural differences between countries, but also showing the cross-cultural applicability of the FCQ as a measure.

The student population of Wageningen University is multi-cultural and multi-lingual, therefore this research will not use a Dutch (translated) version of the FCQ, but the English version. Although the extended version of the FCQ by Lindeman and Väänänen showed good reliability, the original version will be used, as this version is still reliable, shorter and offers plenty of material for comparison.

2.4 Intentions

As behavior is not measured directly in this research, intentions are as close as this gets. So, what are intentions and how do they fit into the cognitive hierarchy? This paragraph explains about the definition of intentions, how it fits into the cognitive hierarchy and its value as a measure to this research.

2.4.1 Definition of intentions

When looking it up in the dictionary "Intention" is:

"A thing intended; an aim or plan" (Oxford Dictionary)

Fishbein and Ajzen (1975, p. 288) put it differently by defining an intention as a:

"person's location on a subjective probability dimension involving a relation between himself and some action."

Warshaw & Davis (1985) formulate intentions as: *"The degree to which a person has formulated conscious plans to perform or not perform some specific future behavior"*. This definition fits this research best, as it also includes the (non-)performance of specific future behavior. Thus also explaining its place in the cognitive hierarchy.

2.4.2 Value of intentions as a measure

As the predictive value of intentions is concerned, Ajzen & Fishbein (1980) explain that actual behaviors are best predicted by the intention to engage in specific behavior. In this research actual behavior is not measured, but as Ajzen & Fishbein pointed out, intentions are the best predictors for actual behavior, so intentions are a vital part of this research. They are the most specific concepts used in this research.

2.5 Relationships between the different concepts: existing research

Research by Verhoef in 2005 into choice for and purchasing frequency of organic meat showed that economic and marketing variables are the main drivers of purchasing behavior. He also pointed out that emotional variables have a substantial and significant influence on purchasing frequency, but only a weak influence on choice for organic meat. Choice is not affected by environmental considerations and socio-demographic variables, but those do have an effect (although being just weak) on purchase frequency.

Tsakiridou et al. (2007) looked into the influence of demographics towards organic food. In comparison to low and medium income level consumers, high income level consumers have a positive attitude. Also age seems to be of influence, as young adults (under thirty) are not interested in organic food and do not value it either. Tsakiridou et al. showed that they are not willing to pay a higher price and would not buy it if the shape is not nice. Older consumers (over 51 years old) prefer organic food products as they consider their quality and taste to be better and perceive them as healthier. Therefore they prefer organic food products over conventional food, even at a higher price.

2.5.1 Relationship between personality traits and food-related personality traits

According to research by Knaapila et al. (2011) among young Finnish adult twins, personality traits Openness and Extraversion are negatively correlated with Food Neophobia. In their research they made a division between women and men and found that for women Openness correlated most strongly with Food Neophobia in Knaapila et al.'s research. In the case of men, Extraversion was the personality dimension that (negatively in this case) correlated most with Food Neophobia. In the other three personality dimensions the correlation coefficients for Food Neophobia was small.

2.5.2 Relationship between food-related personality traits and food choice motives

Chen (2007) and Eertmans et al. (2005) used food-related personality traits to study their effect on our food choices. Chen's research shows the moderating effects of Food Neophobia on the food choice motives Natural Content and Political Values. According to Eertmans et al. Health, Natural Content and Sensory Appeal were associated with Food Involvement.

Regression calculations in Eertmans et al.'s 2005 research showed positive association between food Involvement and six food choice motives (Health, Mood, Sensory Appeal, Natural Content, Price and Ethical Concern). The remaining three food choice motives in their research (Convenience, Weight control and Familiarity) are positively associated with Food Neophobia.

Chen's (2007) research also showed a relationship between higher Food Involvement and Familiarity, which in turn resulted in more familiarity with organic products. According to her this would make it more likely for those consumers to hold a positive attitude.

2.5.3 Relationship between food choice motives and organic food intake

Research by Lockie et al. (2002) has shown a difference in ranking of food choice motives between organic and non-organic consumers. Organic consumers rate Health, Natural Content and Price to be the most important motives, whereas non-organic consumers rate Price, Health and Convenience (both in that particular order) as the most important food choice motives.

According to Magnusson et al. (2003) a majority of respondents considers choosing organic foods to have beneficial consequences for the environment, health and animal welfare. These are also consequences their respondents found very/rather important.

Research by Chen (2007) on purchasing intentions of organic foods in Taiwan showed positive association for several food choice motives. The only food choice motive to be associated negatively is Convenience. Mood, Religion, Environmental Protection, Political Values, Animal Welfare and Natural Content all were positively associated however.

In her 2009 research, Chen recognizes that the personal health is of greater importance to the respondents than their concern with the environment. She mentions that the strong link between health consciousness and respondents' attitude towards organic foods can be explained by the perceived health benefits of organic foods over conventional (non-organic) foods. Chryssohoidis & Krystallis (2005) also point out that the perceived health benefits of organic products has a positive influence, resulting in higher frequency of purchase.

Tsakiridou et al. (2007) point out that consumers are concerned about their health and the environment. Food safety is also a huge concern, as 94,5% of their respondents are concerned about this. As the environment is concerned, almost three-quarter of respondent consider buying organic products as a means of environmental protection. With regard to organic products, almost all their respondents regard those to be healthier. Given their concern about their health, this is probably why a large group (40,8%) would choose organic over non-organic products even if the price is higher. Price is one of the most important objection to buying organic. Over three-quarter of their respondents consider organic food to be very expensive.

Research in Poland (Zakowska-Biemans and Gutkowska, 2003 in Zakowska-Biemans, 2011) stresses the importance of Convenience as a major influence on the willingness to purchase organic products. If these products would be available in stores near their homes, participants would be more motivated to buy organic. This currently is the most important hindering factor for organic food consumption. Second is price, as price differences between conventional and organic food is often unacceptably big. In later research (2011) Zakowska-Biemans showed that sensory motives were the most important to Polish consumers.

2.5.4 Possible implications of existing research for this research

Previous research by Knaapila et al. (2011) has shown correlation between general personality traits and food-related personality traits. In their research only Extraversion and Openness to Experiences correlated strongly with Food Neophobia. So their research could imply that a similar relation is found in this research. Their research did not look into Food Involvement, but as Food Involvement contrasts Food Neophobia in some ways, this research might show a stronger relationship between Food Involvement and the remaining three dimensions.

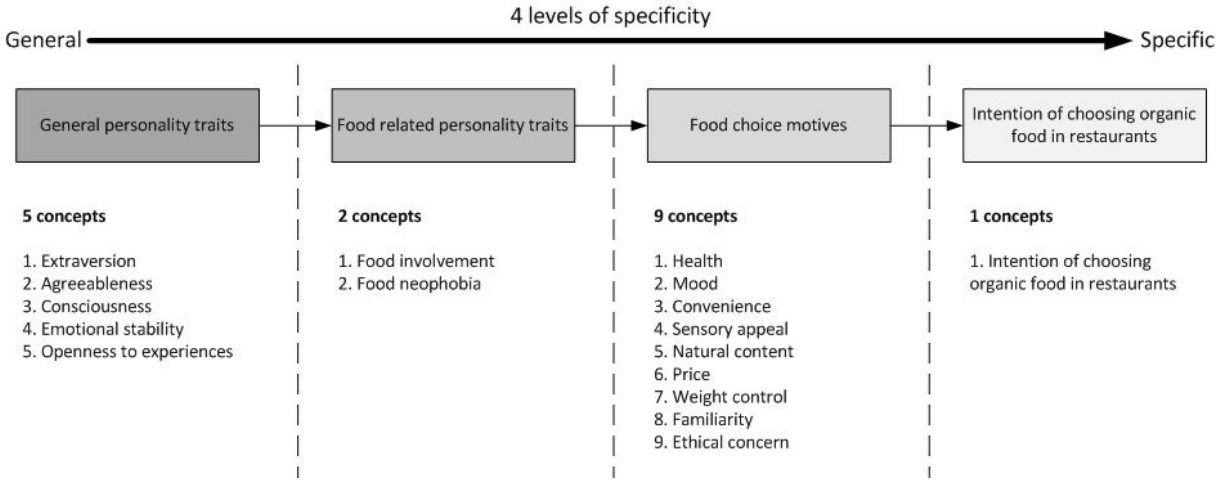
Research by Chen (2007) and Eertmans et al. (2005) showed associations between food-related personality traits and food choice motives. In Eertmans et al.'s research Food Involvement was positively associated with six food choice motives. Food Neophobia was positively associated with the remaining three food choice motives. Their research would imply that food-related personality traits would predict food choice motives in this research.

Chen (2007) also showed positive associations between food choice motives and the intention of purchasing organic products. Actually, all but one (Convenience) food choice motives were positively associated. Lockie et al. (2002) showed that differences exist in importance of food choice motives when choosing organic products. This leads to the conclusion that food choice motives and intentions of choosing organic products could be associated in this research as well.

2.6 Hypothesis and provisional model

Based on this literature review, the below model is proposed:

Figure 2: Four levels of specificity, associated concepts and hypothesized relations



As shown in the above figure, the five concepts in the most general level of specificity (general personality traits) might predict food-related personality traits (Food Involvement and Food Neophobia), this has been researched by Knaapila et al. (2011). In turn, these concepts might predict the next level of specificity (food choice motives), as previously researched by Chen (2007) and Eertmans et al. (2005). In the end, these nine food choice motives might predict the intention of choosing organic food products in restaurants. Chen also researched relations between food choice motives and purchasing intentions of organic food products. This was in the context of home instead of leisure and tourism however.

Given the literature review and the above figure, the three hypotheses below are formulated:

- H1: Personality traits are a predictor for food-related personality traits.
- H2: Food-related personality traits are a predictor for food choice motives.
- H3: Food choice motives are a predictor for the intention of choosing organic products at a restaurant.

The following chapter will describe in detail how these hypotheses will be tested.

3 Methodology

3.1. Sample and sampling method

A questionnaire was distributed, both face-to-face on paper as well as digitally, among students of Wageningen University. This population was chosen for its accessibility, as generalization to a more general population is not an aim of this research. According to data from October 2012 (WUR, 2012) Wageningen University had a total of 7933 students.

A questionnaire was chosen, because the advantages of this method. As Vaske (2008) describes "*they can describe characteristics of a larger population, large sample sizes can be obtained in a short period of time, they facilitate comparison among groups, and numerous questions can be asked in a single instrument*". Especially the time advantage and the comparability were important, given the limited amount of time and the desire to compare existing research at various levels of specificity.

A paper copy of the questionnaire was distributed among students of Wageningen University over a period of four weeks. This was done during the lunch break at various areas of the campus (e.g. Restaurant, seating areas outside). Students were asked to fill out the questionnaire and drop them off at the reception desk afterwards. Students waiting for bus 88 at the Droevendaalsesteeg were handed out questionnaires as well, they could either fill them out while waiting for the bus or return them at the Ede-Wageningen train station.

A link to the digital version of the questionnaire was posted on the Facebook page and the bulletin board of the Intraweb of the university. The WUR Facebook page has 6021 members. Fellow MLE-students from Wageningen University were sent an email with a link to the digital version with the request to fill out and distribute the questionnaire.

A total of 144 paper copies were distributed, 122 copies have been returned. Digital distribution resulted in 10 respondents. This adds up to a total of 132 respondents.

3.2 Variables

The questionnaire consists of questions about the following subjects:

- Demographics of the respondent;
- Personality traits of the respondent;
- Food-related personality traits of the respondent;
- Food Choice Motives of the respondent;
- Intention of choosing organic products in restaurants.

The questions about personality traits were based upon Gosling et al.'s (2003) Ten-Item Personality Inventory-(TIPI, table 1). TIPI is a short and very general measure for personality traits. It is often used in human resources management to quickly create a profile of a (potential new) employee and to see if he or she matches the requirements of the position and the organization.

Table 1: Ten-Item Personality Index-TIPI (Gosling et al., 2003, Appendix A, p. 525)

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

I see myself as:

1. _____ Extraverted, enthusiastic.
2. _____ Critical, quarrelsome.
3. _____ Dependable, self-disciplined.
4. _____ Anxious, easily upset.
5. _____ Open to new experiences, complex.
6. _____ Reserved, quiet.
7. _____ Sympathetic, warm.
8. _____ Disorganized, careless.
9. _____ Calm, emotionally stable.
10. _____ Conventional, uncreative.

TIPI scale scoring ("R" denotes reverse-scored items): Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness; 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

The set of questions about food-specific personality traits is a combination of the Food Involvement Scale (FIS, Bell & Marshall, 2003, table 2) and the Food Neophobia Scale (FNS, Pliner & Hobden, 1992, table 3). The FIS by Bell & Marshall (2003) is a 12 item questionnaire which looks into how involved people are with food and eating. Pliner & Hobden (1992) developed the FNS to study willingness to eat (un)familiar food among children.

Table 2: Food Involvement Scale (Bell & Marshall, 2003, Table 1, P.238)

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7
1. I don't think much about food each day.						
2. Cooking or barbequing is not much fun.						
3. Talking about what I ate or am going to eat is something I like to do.						
4. Compared with other daily decisions, my food choices are not very important.						
5. When I travel, one of the things I anticipate most is eating the food there.						
6. I do most or all of the clean up after eating.						
7. I enjoy cooking for others and myself.						
8. When I eat out, I don't think or talk much about how the food tastes.						
9. I do not like to mix or chop food.						
10. I do most or all of my own food shopping.						
11. I do not wash dishes or clean the table.						
12. I care whether or not a table is nicely set.						
To score the scale, item numbers 1, 2, 4, 8, 9 and 11 should be reversed.						

Table 3: Food Neophobia Scale (Pliner & Hobden, 1992, Table 1, P.109)

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7
I am constantly sampling new and different foods. (R)						
I don't trust new foods.						
If I don't know what is in a food, I won't try it.						
I like foods from different countries. (R)						
Ethnic foods look too weird to eat.						
At dinner parties, I will try a new food. (R)						
I am afraid to eat things I have never had before.						
I am very particular about the food I will eat.						
I will eat almost anything. (R)						
I like to try new ethnic restaurants. (R)						
Items for which scoring is reversed are marked (R).						

The next set of 36 questions about food choice motives are based upon the Food Choice Questionnaire (FCQ, Steptoe et al., 1995, table 4). The FCQ has been tested by researchers all over the world (i.e. Honkanen & Frewer, 2009, Januszewska et al., 2011, Pieniak et al., 2009, Prescott et al., 2002 and Sun, 2008).

Table 4: Food Choice Questionnaire (Steptoe et al., 1995, Table 1, P.272)

not at all important	a little important	moderately important	very important
1	2	3	4

1. Is easy to prepare
2. Contains no additives
3. Is low in calories
4. Tastes good
5. Contains natural ingredients
6. Is not expensive
7. Is low in fat
8. Is familiar
9. Is high in fibre and roughage
10. Is nutritious
11. Is easily available in shops and supermarkets
12. Is good value for money
13. Cheers me up
14. Smells nice
15. Can be cooked very simply
16. Helps me cope with stress
17. Helps me control my weight
18. Has a pleasant texture
19. Is packaged in an environmentally friendly way
20. Comes from countries I approve of politically
21. Is like the food I ate when I was a child
22. Contains a lot of vitamins and minerals
23. Contains no artificial ingredients
24. Keeps me awake/alert
25. Looks nice
26. Helps me relax
27. Is high in protein
28. Takes no time to prepare
29. Keeps me healthy
30. Is good for my skin/teeth/hair/nails etc
31. Makes me feel good
32. Has the country of origin clearly marked
33. Is what I usually eat
34. Helps me to cope with life
35. Can be bought in shops close to where I live or work
36. Is cheap

The set of questions about the demographics are common standard questions. People were asked for their age, sex and highest degree or level of education (High School/GED, Some college, Bachelor's Degree, Master's Degree, Advanced Graduate work or Ph.D., Did not complete High School or not sure). The set of questions about intentions of choosing organic products in restaurants have been designed by the author (see table 5 below). No reversely coded items were used, so no recoding is needed for the following items.

Table 5: Intentions of choosing organic products in restaurants

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7
When going for dinner I look for restaurants offering organic products						
When going for dinner I choose restaurants offering organic products						
When I am in a restaurant I look for organic products on the menu						
When I am in a restaurant I choose organic products instead of regular products						
When I am in a restaurant, I am willing to pay more for organic products instead of regular products						

3.3 Data analysis

IBM's Statistical Package for the Social Sciences (SPSS) version 22 was used for the analysis of the data gathered.

To start off reversely coded items were recoded. Exploratory Factor Analysis (EFA) was performed in order to check if items loaded according to predictions in theory. Should these items load differently, a fix number of factors (as predicted in theory) was set in SPSS. These factors were tested for reliability. In the case of larger factors (over two items per factor) reliability testing was run in SPSS. For the smaller factors (just two items) correlation was calculated in SPSS. Factors were also checked whether they improved if items were deleted. If so, reliability testing was run again after deletion.

After EFA and reliability testing, new indices were calculated based on the tested factors. Descriptive statistics were obtained from the dataset in order to provide for a general image of the sample. Finally, regression calculations were performed for the indices formed earlier. Regression provides the answers to the hypotheses as formulated in the theoretical framework.

4 Results

4.1 Sample characteristics

A total of 132 questionnaires were filled out, however some of these did not fill out the final questions. As questions about their age, sex and education were last, no data were collected about those. These respondents were included in the sample in order to check for reliability for the parts they did fill out.

The remaining 125 respondents available for analysis in SPSS had an average age of 23,58. Almost twice as many women participated as men. Wageningen University does not specify the percentage of female students, but the majority of their graduates are male (61% of all Dutch graduates and 55% of all foreign graduates, WUR, 2012). For further details please see the below tables.

Table 6: Age of the respondents in the sample

Age	**Years**
Youngest respondent	17
Oldest respondent	50
Average age	23,58

Table 7: Sex of the respondents in the sample

Sex	**Frequency**	**Percentage**
Male	45	35,7%
Female	81	64,3%

As the highest degree of completed education is concerned, most respondents filled out Bachelor's degree (39,0%) with High School/GED as a close second (36,6%). The three remaining options (some college, Master's Degree and Advanced Graduate work or Ph.D.) accounted for a total of less than 25%. A complete breakdown can be found in the below table.

Table 8: Highest degree of completed education of the respondents in the sample

Education	**Frequency**	**Percentage**
Bachelor's Degree	48	39,0%
High School/GED	45	36,6%
Master's Degree	18	14,6%
Advanced Graduate work or Ph.D.	7	5,7%
Some college	5	4,1%

4.2 Scale analyses

The vast majority of the questions in the questionnaire (68 out of 76 questions) are based on existing research. Twelve questions are based upon the Food Involvement Scale (FIS, Bell & Marshall, 2003), ten questions upon the Food Neophobia Scale (FNS, Pliner & Hobden, 1992), 36 questions upon the Food Choice Questionnaire (Steptoe et al., 1995) and ten questions upon the Ten-Item Personality Inventory-(TIPI) (Gosling et al., 2003). The remaining eight questions about intentions of choosing organic products in restaurants and the respondents characteristics were created by the author.

Gosling et al.'s Ten-Item Personality Inventory (TIPI, 2003) consists of five concepts in ten questions. These five concepts reflect "the Big Five". EFA in SPSS also extracted five components, but the questions loaded unlike predicted in Gosling et al.'s model. As the five concepts only consist of two items each, correlation is used as an internal consistency reliability estimate. According to Vaske, (2008) a Pearson's r of ,3 indicates a typical relationship and ,5 indicates a substantial relationship, therefore a threshold of ,4 has been chosen. In this dataset only two of five factors passed this threshold, with a third almost passing it. For full details, please see the table 9.

Indices were calculated for averages of the two items per personality trait, but because of the reliability issues with these indices no clear analyses can be made based on these five general personality traits.

Table 9: Personality trait factors from the TIPI after EFA

Personality trait	**Questions**	Pearson's r
Extraversion	I see myself as Extraverted, enthusiastic	*,523*
	I see myself as Reserved, quiet	
Agreeableness	I see myself as Critical, quarrelsome	-,038
	I see myself as Sympathetic, warm	
Conscientiousness	I see myself as Dependable, self-disciplined	,364
	I see myself as Disorganized, careless	
Emotional Stability	I see myself as Anxious, easily upset	*,419*
	I see myself as Calm, emotionally stable	
Openness to Experiences	I see myself as Open to new experiences, complex	,181
	I see myself as Conventional, uncreative	

According to Bell & Marshall (2003), their twelve questions represent the concept Food Involvement. When running Exploratory Factor Analysis (EFA) in SPSS for this dataset four components were extracted. Therefore reliability testing was performed in SPSS in order to check whether the single concept found in Bell & Marshall's (2003) research was reliable for this dataset. Vaske (2008) explains that several internal consistency reliability estimates are available, but Cronbach's alpha is the most common one. He also addresses the issue of the size of Cronbach's alpha, although there is no consensus, he indicates that ,65 to ,70 is often considered adequate for research in this field. The Cronbach's alpha for the concept Food Involvement was ,777. As this is over the threshold of ,65, the single concept for these twelve items can be accepted as reliable. For all twelve items it was checked if reliability improved when items were deleted, which was not the case. Therefore an index for Food Involvement was calculated based on an average of all these twelve items.

The ten questions from Pliner & Hobden's FNS (1992) represent the concept Food Neophobia. EFA in SPSS extracted two components for this database. As done before in the case of the concept of Food Involvement, reliability testing was performed in SPSS. The Cronbach's alpha for the concept Food Neophobia was ,780, as this is also over the threshold of ,65, the single concept for these ten items can be accepted as reliable. However, when for these ten items was checked if reliability improved when items were deleted, dropping one item improved the overall reliability. This would improve if the item "I am very particular about the food I will eat" would be deleted. Therefore, this item was

dropped and only nine items were included in this concept. Based on the average of these nine items an index was calculated for Food Neophobia.

Steptoe et al.'s FCQ (1995) consists of 36 questions covering a total of nine concepts. When running EFA in SPSS eight components were extracted. In order to try and force SPSS to create nine concepts, EFA with Varimax rotation was performed for nine factors. In this case questions loaded differently from the factor loadings in Steptoe et al.'s research. When checking reliability for the concepts as used by Steptoe et al. all factors' Cronbach's alpha passed the ,65 threshold. In two cases (Natural Content and Price) the reliability improved if items were dropped, as is also shown in table 10. Therefore the item "Contains natural ingredients" was dropped from Natural Content and "Is good value for money" was dropped from Price. Based on the averages of the items, nine indices were calculated for the nine food choice motive factors.

Table 10: Motive factors from the Food Choice Questionnaire after EFA for nine factors

Motive factors	**Questions**	***α***	***Improved α after deletion***
Health	Is high in fibre and roughage	,809	Same
	Is nutritious		
	Contains a lot of vitamins and minerals		
	Is high in protein		
	Keeps me healthy		
	Is good for my skin/teeth/hair/nails etc.		
Mood	Cheers me up	,848	Same
	Helps me cope with stress		
	Keeps me awake/alert		
	Helps me relax		
	Makes me feel good		
	Helps me to cope with life		
Convenience	Is easy to prepare	,828	Same
	Is easily available in shops and supermarkets		
	Can be cooked very simply		
	Takes no time to prepare		
	Can be bought in shops close to where I live or work		
Sensory Appeal	Tastes good	,691	Same
	Smells nice		
	Has a pleasant texture		
	Looks nice		
Natural Content	Contains no additives	,842	.844 (Pearson's r=.734)
	Contains no artificial ingredients		
	Contains natural ingredients		
Price	Is not expensive	,715	.806 (Pearson's r=.683)
	Is cheap		
	Is good value for money		
Weight Control	Is low in calories	,884	Same
	Is low in fat		
	Helps me control my weight		
Familiarity	Is familiar	,673	Same
	Is like the food I ate when I was a child		
	Is what I usually eat		
Ethical Concern	Has the country of origin clearly marked	,767	Same
	Comes from countries I approve of politically		
	Is packaged in an environmentally friendly way		

When running EFA for the five items concerning the intention of choosing organic products in restaurants, all five items loaded for one component. This factor was tested for reliability and proved very reliable (Cronbach's alpha=,948). It was also checked if reliability improved when items were deleted. This showed that reliability would improve to Cronbach's alpha of ,952 if the item "When I am in a restaurant, I am willing to pay more for organic products instead of regular products" was dropped. Therefore an index reflecting intentions of choosing organic products in restaurants was calculated based on the average of the remaining four items.

To conclude, three out of five factors (Agreeableness, Conscientiousness and Openness to Experiences) at the general personality traits level proved unreliable. Still, five indices were calculated to reflect these factor, but it must be noted that no clear analyses can be made based on these indices. As the next level of specificity is concerned, both scales for food-related personality traits proved reliable. This led to two indices reflecting these factors. With regard to food choice motives, nine reliable factors were found, which allowed for the calculation of nine indices reflecting these food choice motives. On the final level of specificity, four items regarding the intention of choosing organic products in restaurants proved one reliable factor, therefore one index was created to reflect this concept.

4.3 Descriptive overviews of the variables

When looking at the five dimensions of general personality traits, respondents are most in agreement with statements concerning Openness to Experiences (Mean=5,09, Std. Dev.=0,93), and those statements concerning Conscientiousness (Mean=4,89, Std. Dev.=1,08). As a mean of 5 indicates that respondents agree with the statements. They are least in agreement with those statements concerning Agreeableness (Mean=4,18, Std. Dev.=0,72), however this is still better then the mean=4 neutral score. Details can be found below in table 11.

Table 11: TIPI Scores of the respondents in the sample

General personality traits	Mean	Std. Dev.	Minimum	Maximum
Extraversion	4,44	1,23	1,5	7
Agreeableness	4,18	0,72	2,5	6
Conscientiousness	4,89	1,08	2,5	7
Emotional Stability	4,69	1,12	2	7
Openness to Experiences	5,09	0,93	2	7

Variables ranging from 1 (totally disagree) to 7 (totally agree)

As the food specific personality traits are concerned, respondents are much more in agreement with the statements concerning Food Involvement ranks much higher (Mean=5,10, Std. Dev.=0,69) than with those concerning Food Neophobia (Mean=2,87, Std. Dev.=0,80). A mean of 5 indicates respondents are in agreement with the average of the items in this index. A mean of 3 indicates that respondents are in disagreement with the average of the items in this index. Full details in table 12.

Table 12: FIS and FNS Scores of the respondents in the sample

Food-specific personality traits	Mean	Std. Dev.	Minimum	Maximum
Food Involvement	5,10	0,69	3,42	6,92
Food Neophobia	2,87	0,80	1,22	5,00

Variables ranging from 1 (totally disagree) to 7 (totally agree)

In the case of food choice motives, none of the motives are considered very important. Sensory Appeal (Mean=3,12, Std. Dev.=0,53), Price (Mean=2,93, Std. Dev.=0,75), Health third (Mean=2,74, Std. Dev.=0,62), and Convenience (Mean=2,74, Std. Dev.=0,65) are indicated as slightly important. Familiarity (Mean=2,03, Std. Dev.=0,69) and Ethical Concern (Mean=2,10, Std. Dev.=0,78) are a little important. Overall, the average scores ranged from little to slightly important. Full details can be found in the table on the next page.

Table 13: FCQ Scores of the respondents in the sample

Food choice motives	Mean	Std. Dev.	Minimum	Maximum
Health	2,74	0,62	1,17	4,00
Mood	2,47	0,70	1,17	4,00
Convenience	2,74	0,65	1,00	4,00
Sensory Appeal	3,12	0,53	1,75	4,00
Natural Content	2,37	0,94	1,00	4,00
Price	2,93	0,75	1,00	4,00
Weight Control	2,26	0,88	1,00	4,00
Familiarity	2,03	0,69	1,00	3,67
Ethical Concern	2,10	0,78	1,00	4,00

Variables ranging from 1 (not at all important) to 4 (very important)

As shown in the table below the intention of choosing organic products in restaurant mean score was 3,26 and standard deviation was 1,40. It must be noted that the "willingness to pay more-item" in this concept scored 0,41 higher than any of the other four items in this concept.

Table 14: Organic intentions of the respondents in the sample

Intention	Mean	Std. Dev.	Minimum	Maximum
Choosing organic products in restaurants	3,26	1,40	1,00	6,75

4.4 Regression calculations

In order to find out whether concepts are a predictor for the intention of choosing organic products in restaurants, multiple regression calculations were performed in SPSS. Results of these calculations are twofold: 1) The standardized Beta expresses the size of the effect of one independent variable on the dependent variable, 2) The R^2 expresses the variability of the dependant variable that can be explained by all independent variables included.

The conceptual model as proposed in Chapter 2 suggests that general personality traits explain food-related personality traits. Food-related personality traits explain food choice motives, which in turn would explain the intention of choosing organic products in restaurants. These relations will be addressed in this order in this paragraph.

Although reliability analysis proved the five factors used for personality traits unreliable, regression calculation of this concept and the two food-related personality traits were performed. The 'Big-Five' personality traits explain 17% of the variability of Food Involvement (R^2= ,167 with p=,002) and 10% of the variability in Food Neophobia (R^2=,096 with p=,056). Yet, as the measurement of personality traits was not reliable, these figures should be interpreted carefully, as they might be artifacts due to measurement problems. Details can be found in the tables below.

Table 15: Regression personality traits and Food Involvement traits

Personality trait	**Standardized Beta**	**p-value (Sig.)**
Extraversion	,138	,154
Agreeableness	,028	,764
Conscientiousness	,194	,037
Emotional stability	,159	,091
Openness to Experiences	,266	,007
R^2	**,167**	**,002**

Table 16: Regression personality traits and Food Neophobia traits

Personality trait	**Standardized Beta**	**p-value (Sig.)**
Extraversion	,071	,475
Agreeableness	,066	,486
Conscientiousness	,008	,931
Emotional Stability	-,123	,197
Openness to Experiences	-,312	,002
R^2	**,096**	**,056**

On the next level of specificity, regression calculations were made between food-related personality traits and the nine various food choice motives. The variability in these motives that is explained by food-related personality traits is minimal to typcial. The food choice motive that is most affected, is Sensory Appeal in which case 18,7% (R^2=,187 with p<,001) of the variability can be explained by food-related personality traits. In the case of Natural Content 15,8% was explained (R^2=,158 with p<,001), and for Health 15,0% was explained (R^2=,150 with p<,001). For the remaining food choice motives the explained variability was under 15% and the relationship between food-related personality traits and the food choice motive Weight Control was statistically insignificant (p>0,05). Full details can be found in table 17 on the next page.

Table 17: Regression food-related personality traits and food choice motives (sorted by variability explained)

Food choice motive	R^2	p-value (Sig.)
Sensory Appeal	,187	,000
Natural Content	,158	,000
Health	,150	,000
Mood	,111	,002
Familiarity	,108	,002
Price	,095	,004
Convenience	,067	,023
Ethical Concern	,057	,039
Weight Control	,031	,164
Average R^2	**,107**	

As shown in the table below, the effect of Food Involvement and Food Neophobia on the food choice motives, Food Involvement has the greater effect in the case of the motives Health, Mood, Sensory appeal, Natural Content and Ethical Concern. Food Neophobia has a greater effect in the case of the motives Convenience, Price, Familiarity and Ethical Concern. But in the case of the motive Ethical Concern the p-value is >0,05 and therefore statistically insignificant.

Table 18: Regression food-related personality traits and food choice motives

	Food Involvement		Food Neophobia	
Food choice motive (Dependent variable)	**Standardized Beta**	**p-value (Sig.)**	**Standardized Beta**	**p-value (Sig.)**
Health	**,429**	**,000**	,214	,032
Mood	**,368**	**,000**	*,190*	*,063*
Convenience	*-,101*	*,329*	***,197***	***,058***
Sensory Appeal	**,477**	**,000**	,192	,044
Natural Content	**,439**	**,000**	,228	,019
Price	*-,101*	*,316*	**,252**	**,013**
Weight Control	*,098*	*,341*	***,196***	***,059***
Familiarity	*,166*	*,102*	**,367**	**,000**
Ethical Concern	**,265**	**,011**	*,128*	*,215*

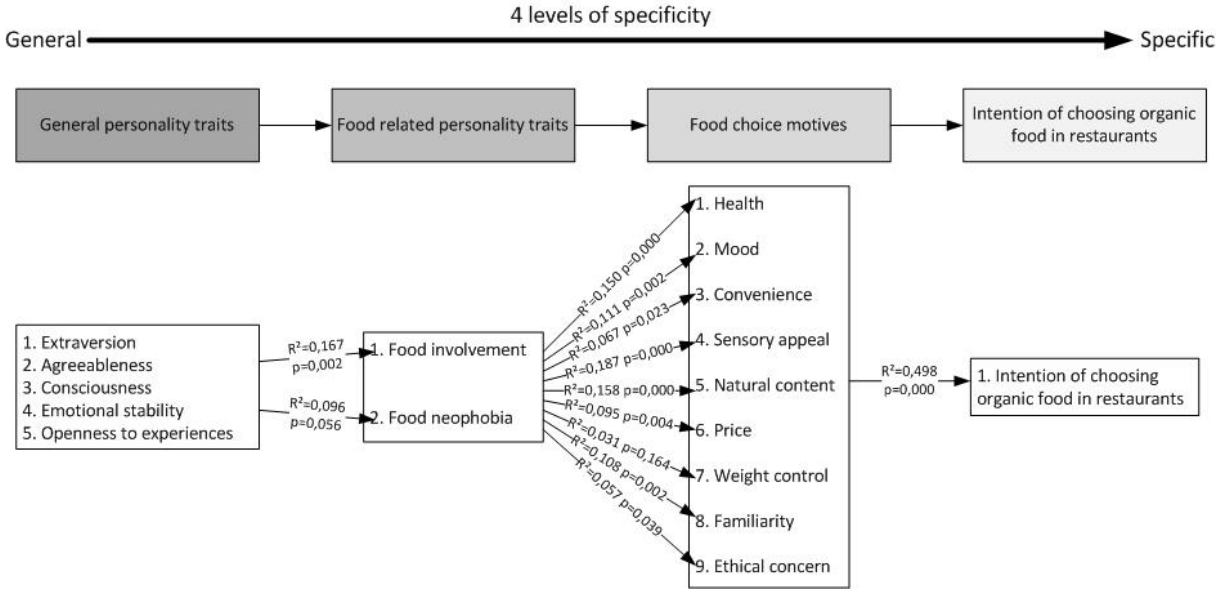
As the final level of specificity is concerned, food choice motives explain 49,8% of the variability (R^2=,498 with p<,001) in intentions of choosing organic products in restaurants. It explains more variability than any other level of specificity have explained between them, unlike the others this is substantial or even beyond substantial. When looking which food choice motive has the largest effect on the intention of choosing organic products in restaurants Ethical Concern is first, closely followed by Health and Natural Content. According to SPSS four food choice motives (Weight control, Familiarity, Price and Sensory Appeal) have a negative effect on the intention of choosing organic products in restaurants, but as p>0,05 these two (Sensory Appeal and Price) are statistically insignificant. All details can be found in table 19 on the next page.

Table 19: Regression food choice motives and intention of choosing organic products in restaurants

Food choice motive	Standardized Beta	p-value (Sig.)
Ethical Concern	,416	,000
Health	,284	,004
Natural Content	,237	,017
Mood	,066	,525
Convenience	,019	,867
Sensory Appeal	-,037	,700
Price	-,101	,263
Familiarity	-,192	,047
Weight Control	-,223	,011
R^2	**,498**	**,000**

The results of the regression calculations are summarized in the model shown in Figure 3.

Figure 3: Explanatory value of variability between the four levels of specificity



Due to reliability problems with the five dimensions of general personality traits, the explained variability shown between this level and Food Involvement and Food Neophobia, should be interpreted carefully. This relationship is minimal, typical at best. Food-related personality traits explain a similar variability in food choice motives. Most variability is explained in Sensory Appeal (18,7%, R^2=,187) which indicates a typical relationship. On average, R^2 for all food choice motives is ,107, indicating only minimal relationship. Food choice motives, by contrast, explain almost half (49,8%, R^2=,498) of the variability in intentions of choosing organic products in restaurants. A substantial relationship that truly stands out, especially in comparison to the other relationships.

5 Discussion

The next section is divided up into sections in the same order as the results section. First a comparison between the sample characteristics and the results in existing research is made, second the results from the sample's factor analysis and reliability testing are compared to theory, after that the regression calculations results are compared to those in theory. Finally there is some focus on shortcomings and special circumstances in the research.

5.1 Sample characteristics compared

The focus in this paragraph will be on the first three levels of specificity, as these three are based upon existing research and therefore offer material for comparison. First up are general personality traits based upon Gosling et al.'s (2003) TIPI.

Gosling et al.'s sample (N=1813) showed some similarity to this research's sample as both had almost twice as many female participants as male participants. Gosling et al. did not provide an age range. As their sample consisted of undergraduate students, similarity in age is also likely. The results in the table below show more differences than similarities however.

Overall, the concepts in Gosling et al.'s sample scored slightly higher, so respondents were a bit more in agreement (or disagreement for reversely coded items) with the statements. But when means are rounded to whole number, only agreeableness is different. In most cases the mean is either neutral or slightly agreeing. In this research this scale proved unreliable, and as the sample shows many similarities to the original sample, perhaps the scale was too unreliable in general.

Table 20: Comparison TIPI Scores of the respondents in the samples

	Metz, 2014		**Gosling et al., 2003**	
General personality traits	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Extraversion	4,44	1,23	4,44	1,45
Agreeableness	4,18	0,72	5,23	1,11
Conscientiousness	4,89	1,08	5,40	1,32
Emotional Stability	4,69	1,12	4,83	1,42
Openness to Experiences	5,09	0,93	5,38	1,07

Means for variables ranging from 1 (Totally disagree) to 7 (Totally agree)

As the food-related personality traits are concerned the research by Eertmans et al. (2005) offers good material for comparison, as it covers both food-related personality traits. Furthermore the sample consists of students from a similar area (Belgium in this case, also a Western country).

The sample from Eertmans et al. scores rather similar. As shown in the table below, in both cases, food involvement is scored over two points higher than Food Neophobia. So on average people are in slight agreement with the statements concerning Food Involvement and people are in slight disagreement with the statements concerning Food Neophobia. Even the standard deviation is of a similar size. In both researches scores for Food Involvement and Food Neophobia are contrasting. Future research could look into this, as this might be two opposing dimensions.

Table 21: FIS and FNS Scores of the respondents in the samples of Metz and Eertmans et al.

	Metz, 2014		**Eertmans et al., 2005**	
Food-specific personality traits	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Food Involvement	5,10	0,69	5,31	0,81
Food Neophobia	2,87	0,80	3,26	0,82

Means for variables ranging from 1 (Totally disagree) to 7 (Totally agree)

Although the sample of Steptoe et al. (1995) differs from this research, as it does not consist solely of students and the average age is over ten years higher, it offers a good comparison from a methodological perspective. The questions as used in my research are identical as the ones designed by Steptoe et al. Unlike in many other researches, the Food Choice Questionnaire has not been translated nor adapted.

The results showed many differences, but some of the highlights show similarities. The three highest ranked concepts (Sensory Appeal, Price and Health) are the same in both. So on average participants in both our researches consider these as slightly important and the two lowest ranked concepts (Ethical Concern and Familiarity) only as a little important. Research by i.e. Chen, Tsakiridou et al. and Zakowska-Biemans showed the importance of the highest ranking food choice motives with regard to organic products. For the full comparison, please see table 22 below.

Table 22: FCQ Scores of the respondents in the samples of Metz and Steptoe et al.

	Metz		Steptoe et al. Time 1		Steptoe et al. Time 2	
Food choice motives	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Health	2,74	0,62	2,83	0,72	2,77	0,70
Mood	2,47	0,70	2,11	0,73	2,01	0,77
Convenience	2,74	0,65	2,75	0,80	2,74	0,79
Sensory Appeal	3,12	0,53	2,99	0,63	2,94	0,65
Natural Content	2,37	0,94	2,47	0,86	2,48	0,86
Price	2,93	0,75	2,83	0,80	2,79	0,79
Weight Control	2,26	0,88	2,38	0,88	2,37	0,84
Familiarity	2,03	0,69	1,75	0,68	1,80	0,77
Ethical Concern	2,10	0,78	1,85	0,78	1,81	0,76

Means for variables ranging from 1 (Not at all important) to 4 (Very important)

5.2 Factor analysis and reliability testing compared

When EFA was run in SPSS for the general personality traits items, these items did not load as predicted in theory. Therefore the reliability results will be compared instead. As shown in the table below the factors as predicted by theory did not prove reliable in the case of this sample.

As shown in the table below, Gosling et al.'s (2003) results proved better reliability, compared to this sample, with higher Pearson's r for all factors. Although it must be noted that still factors are falling short of the r>,40 threshold. Openness to Experiences would not even make the more lenient r>,35 threshold. Still, results report much better reliability.

Table 23: Reliability results of personality trait factors in samples of Metz and Gosling et al.

		Pearson's r	
Personality trait	**Questions**	**Metz**	**Gosling et al.**
Extraversion	I see myself as Extraverted, enthusiastic	*,523*	,59
	I see myself as Reserved, quiet		
Agreeableness	I see myself as Critical, quarrelsome	-,038	,36
	I see myself as Sympathetic, warm		
Conscientiousness	I see myself as Dependable, self-disciplined	,364	,42
	I see myself as Disorganized, careless		
Emotional stability	I see myself as Anxious, easily upset	*,419*	,61
	I see myself as Calm, emotionally stable		
Openness to experiences	I see myself as Open to new experiences, complex	,181	,28
	I see myself as Conventional, uncreative		

EFA of the food-related personality traits in this research did not result in the outcome as predicted by theory. The items about Food Involvement showed four components in EFA and the items about Food Neophobia showed two components. In theory these concepts are not broken down, so they should be just two separate concepts instead of a total of six. As it was decided to keep the factors as predicted by theory, reliability testing results will be compared.

As earlier in the comparison of sample characteristics, results from Eertman's et al.'s (2005) research will be used as they used food specific personality traits as well. As shown in the table below, the Cronbach's alpha for both factors are different from this research, but in both cases their Cronbach's alphas surpassed the α>,65 threshold.

Table 24: Reliability comparison of the FIS and FNS scores in the samples of Metz and Eertmans et al.

	Metz, 2014	**Eertmans et al. 2005**
Food-specific personality traits	***α***	***α***
Food involvement	,777	,73
Food neophobia	,780	,85

Also in the case of the food choice motives, EFA did not result in the desired number of factors, as this research came up with eight instead of nine factors. When EFA was forced to nine factors, factor loadings were not like predicted in theory. As the original factors were kept, reliability will be compared.

Just like in the comparison of sample characteristics, results will be compared with Steptoe et al.'s results. As shown below, reliability was sufficient and over the α>,65 threshold in both researches. There were differences between the two samples, but factors that showed high Cronbach's alphas in Steptoe et al.'s research showed high Cronbach's alphas in this research as well.

Table 25: Reliability comparison of motive factors from the FCQ after EFA for nine factors

		Metz 2014	**Steptoe et al. 1995**
Motive factors	**Questions**	***α***	***α***
Health	Is high in fibre and roughage	,809	,87
	Is nutritious		
	Contains a lot of vitamins and minerals		
	Is high in protein		
	Keeps me healthy		
	Is good for my skin/teeth/hair/nails etc.		
Mood	Cheers me up	,848	,83
	Helps me cope with stress		
	Keeps me awake/alert		
	Helps me relax		
	Makes me feel good		
	Helps me to cope with life		
Convenience	Is easy to prepare	,828	,81
	Is easily available in shops and supermarkets		
	Can be cooked very simply		
	Takes no time to prepare		
	Can be bought in shops close to where I live or work		
Sensory Appeal	Tastes good	,691	,70

	Smells nice		
	Has a pleasant texture		
	Looks nice		
Natural Content	Contains no additives	,842	,84
	Contains no artificial ingredients		
	Contains natural ingredients		
Price	Is not expensive	,715	,82
	Is cheap		
	Is good value for money		
Weight Control	Is low in calories	,884	,79
	Is low in fat		
	Helps me control my weight		
Familiarity	Is familiar	,673	,70
	Is like the food I ate when I was a child		
	Is what I usually eat		
Ethical Concern	Has the country of origin clearly marked	,767	,70
	Comes from countries I approve of politically		
	Is packaged in an environmentally friendly way		

5.3 Regression calculations compared

5.3.1 Regression general personality traits and food-related personality traits

As reliability testing of the factors for general personality traits did not prove reliable in the case of this sample, no comparison will be made for regression calculations with food-related personality traits.

5.3.2 Regression food-related personality traits and food choice motives

In Eertmans et al.'s (2005) research, Food Involvement was positively associated with Health, Mood, Sensory Appeal, Natural Content, Price and Ethical Concern. Food Neophobia was positively associated with the other three food choice motives, Convenience, Weight Control and Familiarity.

In this research standardized Betas were higher and associations were almost similar. The exception was the association with the food choice motive Price. In Eertmans et al.'s research, Food Involvement was associated with Price. In this research Food Neophobia was positively associated with Price. Further details can be found in the table below. Based on the sample, no clear explanation can be given for the higher standardized Betas in this research, as the samples show many similarities. The only possible explanation could be the use of a translated (Dutch) version of the Food Choice Questionnaire by Eertmans et al.. The different association for Price can be explained, as in this research one item was dropped from this motive. So instead of being represented by three items, this research uses only two, unlike Eertmans et al.'s research. A full comparison can be found in table 26 below.

Table 26: Comparison regression food-related personality traits and food choice motives

	Metz, 2014		**Eertmans et al., 2005**	
	Food Involvement	**Food Neophobia**	**Food Involvement**	**Food Neophobia**
Food choice motive (Dependent variable)	**Standardized Beta**	**Standardized Beta**	**Standardized Beta**	**Standardized Beta**
Health	,429		,29	

Mood	,368		,17	
Convenience		,197		,14
Sensory Appeal	,477		,25	
Natural Content	,439		,23	
Price		,252	,17	
Weight Control		,196		,12
Familiarity		,367		,29
Ethical Concern	,265		,20	

5.3.3 Regression food choice motive and intention of choosing organic products

This research stands apart from existing research in such a way that it focuses on choosing organic products in restaurants instead of in the context of home. Therefore no existing research exists and a comparison will be made with research into the attitude to organic products in the context of home.

Chen (2007) used an adapted version of Steptoe et al.'s Food Choice Questionnaire. This version comprised of twelve instead of nine food choice motives. The factor Ethical Concern is replaced by four factors: Animal Welfare, Environmental Protection, Political Values and Religion. In research by Chen seven choice motives (Mood, Convenience, Natural Content, Animal Welfare, Environmental Protection, Political Values, and Religion) contribute to the consumer's attitude to organic foods.

In this research the food choice motive Ethical Concern was most positively associated with the intention of choosing organic products. This food choice motive was broken down by Chen into four separate factors, which all were positively associated. Health was a close second, Natural Content was third. Familiarity was negatively associated in this research, but not in Chen's 2007 research. Unlike in Chen's research, association with the food choice motives Mood and Convenience were statistically insignificant. In Chen's research, association with the food choice motive Health was statistically insignificant. Details can be found in the table below. Differences could possibly be explained by cultural difference, as Chen surveyed in Taiwan. Also participants in Chen's research were generally older, as only participants over 20 years were included in the target population.

Table 27: Comparison regression food choice motives and intention of choosing organic products

	Metz, 2014	**Chen, 2007**
Food choice motive	**Standardized Beta**	**Standardized Beta**
Ethical Concern	**,416**	
Health	**,284**	
Natural Content		**0,22**
Mood		**0,16**
Convenience		**-0,16**
Familiarity	**-,192**	
Animal Welfare		**0,12**
Environmental Protection		**0,13**
Political Values		**0,28**
Religion		**0,14**

5.4 Shortcomings and special circumstances

This research did not aim to be generalizable, and it's sample did not allow for generalization either. It was rather small (N=132) compared to for example Eertmans et al. (2005, N=324), Chen (2007, N=470), Knaapila et al. (2011, N=1175) or Gosling et al. (2003, N=1691). Also the consistency characteristics of the sample would be problematic. In majority it consists of female students under 26. Given the number of graduates from Wageningen University this is not representative for students at Wageningen University in general. Compared to an even more general audience, the sample is even less representative, as the Dutch population is getting increasingly older. Furthermore there is the possibility of bias. As this sample consists of students at a university with an agricultural background, their responses might be biased given the topic of this thesis.

If time and money were no issue and the possibility of generalization (i.e. to the Dutch student population) would be desired, first of all the sample would have to be increased drastically. This would also allow for a weighted sample, make up for the inequality in this sample. A possible way to do so would be by extending this research to universities all over the Netherlands (i.e. Wageningen, Tilburg, Amsterdam and Delft). This would also minimize the possibility of bias, as these universities all have very different backgrounds.

As circumstances affecting the results are concerned, it must be mentioned that the physical face-to-face distribution of the questionnaires was done during lunch breaks in public areas. So usually people filled out the questionnaire in the company of fellow-students. Although respondents filled them out individually, the factor of peer-pressure must not be underestimated. When money would not have been an issue, students could have been asked to fill the questionnaire out in separate rooms (cubicles for instance) over lunch.

Also the effect of distributing the questionnaire personally and usually still being around while the questionnaire was being filled out, might have affected the results. This could have resulted in socially desired, or biased answers, as they got to know the researcher personally. Having others distribute the questionnaire, would have been costly, but could have minimized this effect.

As the questionnaire itself was concerned, the part with general personality traits proved unreliable and would have been more valuable if a more extensive method was used. The potential lack of reliability was also addressed in the methodology, but it was even more unreliable in case of this sample. Would more time and money have been available, the questionnaire could have been distributed by mail. Respondents could have been sent a follow-up questionnaire elaborating on the general personality traits, thus resolving this issue.

6 Conclusion and recommendations

6.1 Research questions answered

6.1.1 Hypothesis 1: Personality traits are a predictor for food-related personality traits

Hypothesis 1 can neither be accepted, nor rejected, because reliability testing proved the five factors as proposed in literature (i.e. Cattell (1943), Fiske (1949), Goldberg (1981)) and in Gosling et al.'s TIPI as not adequate. As the five factor model is generally accepted in personality research theory (Funder, 2001), no new factors were constructed and this did not allow for reliable testing of hypothesis 1.

Existing research by Gosling et al. (2003) lead to their Ten-item Personality Inventory (TIPI). *"A very brief measure of the Big-Five personality domains"* as Gosling et al. put it themselves, allows measurement of general personality traits in just one minute, but this comes at a price. In exchange for the limited time needed, it trades off reliability due to the limited amount of items. Bell & Marshall (2003) and Pliner & Hobden (1992) developed two scales for measuring food-related personality traits. Bell & Marshall's Food Involvement Scale (FIS) looks into how involved people are with food and eating. Pliner & Hobden's Food Neophobia Scale (FNS) studies the willingness to eat (un)familiar food. Research by Knaapila et al. (2011) found that the general personality traits Openness to Experiences and Extraversion are negatively correlated with Food Neophobia.

6.1.2 Hypothesis 2: Food-related personality traits are a predictor for food choice motives

Hypothesis 2 is accepted, because food-related personality traits explained a portion of the variability in food choice motive in all cases, with the exception of the case of Weight Control, as this was statistically insignificant. Food-related personality traits explained 18,7% of the variability in the food choice motive Sensory Appeal (R^2=,187). Explained variability for other food choice motive is smaller ranging from R^2=,158 (Natural content) to R^2=,057 (Ethical Concern).

Steptoe et al. developed the Food Choice Questionnaire (FCQ) in 1995. This 36 item questionnaire looks into the various motives involved with food choice. These 36 items show a total of nine motive factors. Adapted versions of the FCQ have up to twelve motive factors. Research by Eertmans et al. (2005) looked into the associations between food-related personality traits and food choice motives. Food Involvement and six food choice motives (Health, Mood, Sensory Appeal, Natural Content, Price and Ethical Concern) were positively associated. Food Neophobia was positively associated with the remaining three food choice motives (Convenience, Weight Control and Familiarity).

Although EFA in SPSS extracted a different number of factors for food involvement, Food Neophobia and food choice motives, reliability testing proved all factors adequate. In this research associations were similar to those in earlier research (by Eertmans et al.), with the exception of Price which was positively associated with Food Neophobia in this research (instead of with Food Involvement).

6.1.3 Hypothesis 3: Food choice motives are a predictor for the intention of choosing organic products at a restaurant

Hypothesis 3 is accepted, because food choice motives explained half (R^2=,498) of the variance in the intentions of choosing organic products in restaurants. Even though this still allows for many other factors explaining variability in these intentions, this is a big amount in the domain of social sciences. As Vaske (2008) explains r=,5 (R^2=,25) as substantial, so R^2=,498 is beyond substantial! Vaske does not have a level of interpretation above r=,5 (substantial), but R^2=,498 would translate to r=,706.

As choosing organic products is concerned research by Chen (2007) showed positive associations between Mood, Natural Content and Ethical Concern (by Chen broken down into Religion, Environmental Protection, Political Values and Animal Welfare). Convenience was negatively associated with the intention of purchasing organic products in her research.

In this research, statistically significant associations were somewhat different from those found by Chen. Ethical Concern was positively associated as it was in Chen's research (although she broke this factor down into four separate factors), as was Health. Familiarity was negatively associated however (Std. B=-,192). No statistically significant association could be found for Natural Content, Mood or Convenience though.

6.2 Overall conclusion

This also answers the main research question posed in the theoretical framework, how do (food-specific) personality traits and food choice motives relate to the intention of choosing organic products in restaurants? Factors for general personality traits were statistically insignificant in this research, but food-related personality traits explained variance in eight out of nine food choice motives. Food choice motives explain half of the variance in the intentions of choosing organic products in restaurants.

6.3 Suggestions for future research

The most important recommendation for future research would be to choose a more reliable measure for general personality traits. TIPI's benefit of its time effectiveness was out-weighted by the disadvantage of its unreliability. An alternative could be John & Srivastava's Big Five Inventory (BFI, 1999), which consists of 44 instead of 10 items, but is more reliable.

As the sample was concerned, a more balanced sample could allow for better possibilities of generalization. As mentioned earlier, students from a university with an agricultural background, might be biased as this topic is concerned. A sample of students from various universities could make up for this. That could also solve the uneven distribution of male and female respondents. For generalization to an even larger population (i.e. the Dutch population) the sample should be extended beyond students, given the age distribution and the spending power of elderly.

The distribution method also allows rooms for improvement. In case time is not a restraint, focusing on online instead of face-to-face distribution, could result in more unbiased results. As mentioned in the paragraph on shortcomings and special circumstances, face-to-face distribution might have resulted in peer-pressure and socially desirable answers. This would be avoided when focusing on online distribution. However it could also be argued that participants are feeling less involved when filling out online questionnaires. This should be further investigated first.

6.4 Practical implications

Restaurants could use these results, keeping in mind that food choice motives explain almost half the variance in intentions of choosing organic products. In order to steer guests towards their (organic) restaurants and organic products on their menu, they should appeal to motives sorting most effect. In this case those are Ethical Concern (Std. B.=,416), Health (Std. B.=,284) and Natural Content (Std. B.=,237).

Ethical Concern might be a difficult concept to market, as the breakdown by Chen (2007) showed. Using Political Values to promote your business or products is a risky strategy. Focusing on Health and Natural Content instead would be the way to go.

From a scientific perspective this research shows that there are as many similarities as differences between results in the context of home and the domain of leisure and tourism. This indicates that results from one cannot be duplicated in the other and that we should be careful when comparing the two.

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Appendix 1 Questionnaire as face-to-face distributed

Thank you very much in advance for participating. This questionnaire is part of my thesis on choices for organic products when dining in restaurants. You do NOT need to have had organic products in order to participate.

The questionnaire consists of seven parts, the first six parts are multiple choice questions. The last part is about you and consists of three short questions. The total questionnaire should take you between 5-10 minutes.

Thank you very much for your time and assistance!

Jan Metz,
MSc-student in Leisure, Tourism and Environment

For the next questions please look at the scale and select what reflects your level of agreement or disagreement with each of the following statements.

	Totally disagree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Totally agree
I don't think much about food each day.	0	0	0	0	0	0	0
Cooking or barbequing is not much fun.	0	0	0	0	0	0	0
Talking about what I ate or am going to eat is something I like to do.	0	0	0	0	0	0	0
Compared with other daily decisions, my food choices are not very important.	0	0	0	0	0	0	0
When I travel, one of the things I anticipate most is eating the food there.	0	0	0	0	0	0	0
I do most or all of the clean up after eating.	0	0	0	0	0	0	0
I enjoy cooking for others and myself.	0	0	0	0	0	0	0
When I eat out, I don't think or talk much about how the food tastes.	0	0	0	0	0	0	0
I do not like to mix or chop food.	0	0	0	0	0	0	0
I do most or all of my own food shopping.	0	0	0	0	0	0	0
I do not wash dishes or clean the table.	0	0	0	0	0	0	0
I care whether or not a table is nicely set.	0	0	0	0	0	0	0
I am constantly sampling new and different foods	0	0	0	0	0	0	0
I don't trust new foods	0	0	0	0	0	0	0
If I don't know what is in a food, I won't try it	0	0	0	0	0	0	0
I like foods from different countries	0	0	0	0	0	0	0
Ethnic foods look too weird to eat	0	0	0	0	0	0	0
At dinner parties, I will try a new food	0	0	0	0	0	0	0
I am afraid to eat things I have never had before	0	0	0	0	0	0	0
I am very particular about the food I will eat	0	0	0	0	0	0	0
I will eat almost anything	0	0	0	0	0	0	0
I like to try new ethnic restaurants	0	0	0	0	0	0	0

It is important to me that the food I eat on a typical day:

	Not at all important	A little important	Slightly important	Very important
Is easy to prepare	0	0	0	0
Contains no additives	0	0	0	0
Is low in calories	0	0	0	0
Tastes good	0	0	0	0
Contains natural ingredients	0	0	0	0
Is not expensive	0	0	0	0
Is low in fat	0	0	0	0
Is familiar	0	0	0	0
Is high in fibre and roughage	0	0	0	0
Is nutritious	0	0	0	0
Is easily available in shops and supermarkets	0	0	0	0
Is good value for money	0	0	0	0
Cheers me up	0	0	0	0
Smells nice	0	0	0	0
Can be cooked very simply	0	0	0	0
Helps me cope with stress	0	0	0	0
Helps me control my weight	0	0	0	0
Has a pleasant texture	0	0	0	0
Is packaged in an environmentally friendly way	0	0	0	0
Comes from countries I approve of politically	0	0	0	0
Is like the food I ate when I was a child	0	0	0	0
Contains a lot of vitamins and minerals	0	0	0	0
Contains no artificial ingredients	0	0	0	0
Keeps me awake/alert	0	0	0	0
Looks nice	0	0	0	0
Helps me relax	0	0	0	0
Is high in protein	0	0	0	0
Takes no time to prepare	0	0	0	0
Keeps me healthy	0	0	0	0
Is good for my skin/teeth/hair/nails etc.	0	0	0	0
Makes me feel good	0	0	0	0
Has the country of origin clearly marked	0	0	0	0
Is what I usually eat	0	0	0	0
Helps me to cope with life	0	0	0	0
Can be bought in shops close to where I live or work	0	0	0	0
Is cheap	0	0	0	0

For the next questions please look at the scale and select what reflects your level of agreement or disagreement with each of the following statements.

	Totally disagree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Totally agree
When going for dinner I look for restaurants offering organic products	0	0	0	0	0	0	0
When going for dinner I choose restaurants offering organic products	0	0	0	0	0	0	0
When I am in a restaurant I look for organic products on the menu	0	0	0	0	0	0	0
When I am in a restaurant I choose organic products instead of regular products	0	0	0	0	0	0	0
When I am in a restaurant, I am willing to pay more for organic products instead of regular products	0	0	0	0	0	0	0

Here are a number of personality traits that may or may not apply to you. Please rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:	Totally disagree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Totally agree
_____ Extraverted, enthusiastic.	0	0	0	0	0	0	0
_____ Critical, quarrelsome.	0	0	0	0	0	0	0
_____ Dependable, self-disciplined.	0	0	0	0	0	0	0
_____ Anxious, easily upset.	0	0	0	0	0	0	0
_____ Open to new experiences, complex.	0	0	0	0	0	0	0
_____ Reserved, quiet.	0	0	0	0	0	0	0
_____ Sympathetic, warm.	0	0	0	0	0	0	0
_____ Disorganized, careless.	0	0	0	0	0	0	0
_____ Calm, emotionally stable.	0	0	0	0	0	0	0
_____ Conventional, uncreative.	0	0	0	0	0	0	0

My age is:

I am a:

0 Man 0 Woman

What is the highest degree or level of education you have completed?

0 Did not complete High School 0 High School/GED 0 Some college

0 Bachelor's Degree 0 Master's Degree 0 Advanced Graduate work or Ph.D.

0 Not sure

Thank you very much for participating, it was much appreciated!

Appendix 2 SPSS Data

Sample characterics

Statistics

Age My age is

N	Valid	125
	Missing	7
Mean		23,58
Median		22,00
Mode		22
Std. Deviation		5,657
Variance		32,003
Range		33

Age My age is

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17	6	4,5	4,8	4,8
	18	14	10,6	11,2	16,0
	19	8	6,1	6,4	22,4
	20	10	7,6	8,0	30,4
	21	14	10,6	11,2	41,6
	22	17	12,9	13,6	55,2
	23	11	8,3	8,8	64,0
	24	7	5,3	5,6	69,6
	25	5	3,8	4,0	73,6
	26	6	4,5	4,8	78,4
	27	2	1,5	1,6	80,0
	28	5	3,8	4,0	84,0
	29	2	1,5	1,6	85,6
	30	3	2,3	2,4	88,0
	31	2	1,5	1,6	89,6
	32	3	2,3	2,4	92,0
	33	4	3,0	3,2	95,2
	34	2	1,5	1,6	96,8
	38	1	,8	,8	97,6
	40	1	,8	,8	98,4
	44	1	,8	,8	99,2
	50	1	,8	,8	100,0
	Total	125	94,7	100,0	
Missing	0	5	3,8		
	999	1	,8		
	System	1	,8		
	Total	7	5,3		
Total		132	100,0		

Sex I am a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Man	45	34,1	35,7	35,7
	2 Woman	81	61,4	64,3	100,0
	Total	126	95,5	100,0	
Missing	0	5	3,8		
	System	1	,8		
	Total	6	4,5		
Total		132	100,0		

Education What is the highest degree or level of education you have completed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 High School/GED	45	34,1	36,6	36,6
	3 Some college	5	3,8	4,1	40,7
	4 Bachelor's Degree	48	36,4	39,0	79,7
	5 Master's Degree	18	13,6	14,6	94,3
	6 Advanced Graduate work or Ph.D.	7	5,3	5,7	100,0
	Total	123	93,2	100,0	
Missing	0	5	3,8		
	9	3	2,3		
	System	1	,8		
	Total	9	6,8		
Total		132	100,0		

Statistics

TIPI_Extraversion

N	Valid	121
	Missing	11
Mean		,4421
Median		,5000
Mode		,50
Std. Deviation		1,22846
Variance		1,509
Range		5,50

Statistics

TIPI_Agreeableness

N	Valid	122
	Missing	10
Mean		,1803
Median		0,0000
Mode		0,00
Std. Deviation		,71889
Variance		,517
Range		3,50

Statistics

TIPI_Conscientiousness

N	Valid	121
	Missing	11
Mean		,8926
Median		1,0000
Mode		1,00
Std. Deviation		1,08437
Variance		1,176
Range		4,50

Statistics

TIPI_Emotional_stability

N	Valid	119
	Missing	13
Mean		,6891
Median		1,0000
Mode		1,00
Std. Deviation		1,11612
Variance		1,246
Range		5,00

Statistics

TIPI_Openness_to_experiences

N	Valid	120
	Missing	12
Mean		1,0875
Median		1,0000
Mode		1,50
Std. Deviation		,92505
Variance		,856
Range		5,00

*For comparison sake, items have been converted back from a -3 to 3 scale to a 1 to 7 scale. Converted statistics can be found in the below tables

Statistics

TIPI_Extraversion

N	Valid	121
	Missing	11
Mean		4,4421
Median		4,5000
Mode		4,50
Std. Deviation		1,22846
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N	Valid	120
	Missing	12
Mean		5,0875
Median		5,0000
Mode		5,50
Std. Deviation		,92505
Variance		,856
Range		5,00

Statistics

FIS_Index

N	Valid	120
	Missing	12
Mean		1,1014
Median		1,0417
Mode		,83
Std. Deviation		,69008
Variance		,476
Range		3,50

Statistics

FNS_Index

N	Valid	126
	Missing	6
Mean		-1,1287
Median		-1,1667
Mode		-1,22
Std. Deviation		,80350
Variance		,646
Range		3,78

FCQ_Health

N	Valid	125
	Missing	7
Mean		2,7440
Median		2,8333
Mode		2,50
Std. Deviation		,62452
Variance		,390
Range		2,83

FCQ_Mood

N	Valid	122
	Missing	10
Mean		2,4713
Median		2,4167
Mode		2,50
Std. Deviation		,70179
Variance		,493
Range		2,83

FCQ_Convenience

N	Valid	126
	Missing	6
Mean		2,7429
Median		2,8000
Mode		3,00
Std. Deviation		,64985
Variance		,422
Range		3,00

FCQ_Sensory_appeal

N	Valid	128
	Missing	4
Mean		3,1211
Median		3,2500
Mode		3,25
Std. Deviation		,53332
Variance		,284
Range		2,25

FCQ_Natural_content

N	Valid	129
	Missing	3
Mean		2,3721
Median		2,5000
Mode		2,50
Std. Deviation		,94224
Variance		,888
Range		3,00

FCQ_Price

N	Valid	127
	Missing	5
Mean		2,9291
Median		3,0000
Mode		3,00
Std. Deviation		,74993
Variance		,562
Range		3,00

FCQ_Weight_control

N	Valid	129
	Missing	3
Mean		2,2610
Median		2,3333
Mode		3,00
Std. Deviation		,87595
Variance		,767
Range		3,00

FCQ_Familiarity

N	Valid	127
	Missing	5
Mean		2,0315
Median		2,0000
Mode		1,67
Std. Deviation		,68678
Variance		,472
Range		2,67

FCQ_Ethics

N	Valid	125
	Missing	7
Mean		2,0987
Median		2,0000
Mode		2,00[a]
Std. Deviation		,77717
Variance		,604
Range		3,00

Multiple modes exist. The smallest value is shown

Statistics

Organic_index

N	Valid	128
	Missing	4
Mean		-,7383
Median		-,5000
Mode		-3,00[a]
Std. Deviation		1,40298
Variance		1,968
Range		5,75

Multiple modes exist. The smallest value is shown

*For comparison sake, items have been converted back from a -3 to 3 scale to a 1 to 7 scale. Converted statistics can be found in the below table

Statistics

Organic_index

N	Valid	128
	Missing	4
Mean		3,2617
Median		3,5000
Mode		1[a]
Std. Deviation		1,40298
Variance		1,968
Range		5,75

Multiple modes exist. The smallest value is shown

Exploratory factor analysis and reliability testing

General personality traits: Component Matrix[a]

	Component				
	1	2	3	4	5
TIPI1 _____ Extraverted, enthusiastic.	,719				
TIPI2 _____ Critical, quarrelsome.					,820
TIPI3 _____ Dependable, self-disciplined.	-,431	,538			
TIPI4 _____ Anxious, easily upset.			,815		
TIPI5 _____ Open to new experiences, complex.		,574		-,556	
TIPI6 _____ Reserved, quiet.	,626			,487	
TIPI7 _____ Sympathetic, warm.		,638			
TIPI8 _____ Disorganized, careless.			-,418	,438	
TIPI9 _____ Calm, emotionally stable.	-,524	,607			
TIPI10 _____ Conventional, uncreative.	,654				

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Correlations

		TIPI1 _____ Extraverted, enthusiastic.	TIPI6 _____ Reserved, quiet.
TIPI1 _____ Extraverted, enthusiastic.	Pearson Correlation	1	,523**
	Sig. (2-tailed)		,000
	N	122	121
TIPI6 _____ Reserved, quiet.	Pearson Correlation	,523**	1
	Sig. (2-tailed)	,000	
	N	121	122

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		TIPI2 _____ Critical, quarrelsome.	TIPI7 _____ Sympathetic, warm.
TIPI2 _____ Critical, quarrelsome.	Pearson Correlation	1	-,038
	Sig. (2-tailed)		,675
	N	122	122
TIPI7 _____ Sympathetic, warm.	Pearson Correlation	-,038	1
	Sig. (2-tailed)	,675	
	N	122	123

Correlations

		TIPI3 _____ Dependable, self-disciplined.	TIPI8 _____ Disorganized, careless.
TIPI3 _____ Dependable, self-disciplined.	Pearson Correlation	1	,364**
	Sig. (2-tailed)		,000
	N	121	121
TIPI8 _____ Disorganized, careless.	Pearson Correlation	,364**	1
	Sig. (2-tailed)	,000	
	N	121	123

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		TIPI4 _____ Anxious, easily upset.	TIPI9 _____ Calm, emotionally stable.
TIPI4 _____ Anxious, easily upset.	Pearson Correlation	1	,419**
	Sig. (2-tailed)		,000
	N	119	119
TIPI9 _____ Calm, emotionally stable.	Pearson Correlation	,419**	1
	Sig. (2-tailed)	,000	
	N	119	122

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		TIPI5 _____ Open to new experiences, complex.	TIPI10 _____ Conventional, uncreative.
TIPI5 _____ Open to new experiences, complex.	Pearson Correlation	1	,181*
	Sig. (2-tailed)		,048
	N	122	120
TIPI10 _____ Conventional, uncreative.	Pearson Correlation	,181*	1
	Sig. (2-tailed)	,048	
	N	120	121

*. Correlation is significant at the 0.05 level (2-tailed).

Food involvement: Component Matrix[a]

	Component			
	1	2	3	4
FIS3 Talking about what I ate or am going to eat is something I like to do.	,697			
FIS1 I don't think much about food each day.	,664			,400
FIS4 Compared with other daily decisions, my food choices are not very important.	,651		-,408	
FIS7 I enjoy cooking for others and myself.	,619	,420		
FIS11 I do not wash dishes or clean the table.	,598		,532	
FIS10 I do most or all of my own food shopping.	,565			
FIS8 When I eat out, I don't think or talk much about how the food tastes.	,540			
FIS12 I care whether or not a table is nicely set.	,458			-,439
FIS5 When I travel, one of the things I anticipate most is eating the food there.	,456			
FIS2 Cooking or barbequing is not much fun.		,704		
FIS9 I do not like to mix or chop food.		,588		
FIS6 I do most or all of the clean up after eating.	,415		,596	

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,777	,780	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FIS1 I don't think much about food each day.	11,85	57,490	,513	,525	,751
FIS2 Cooking or barbequing is not much fun.	11,38	61,364	,311	,353	,771
FIS3 Talking about what I ate or am going to eat is something I like to do.	12,46	56,637	,551	,413	,747
FIS4 Compared with other daily decisions, my food choices are not very important.	12,44	58,081	,488	,494	,754
FIS5 When I travel, one of the things I anticipate most is eating the food there.	12,68	58,473	,359	,243	,768
FIS6 I do most or all of the clean up after eating.	12,48	61,109	,293	,225	,774
FIS7 I enjoy cooking for others and myself.	12,03	55,545	,517	,408	,749
FIS8 When I eat out, I don't think or talk much about how the food tastes.	11,70	60,783	,387	,269	,764
FIS9 I do not like to mix or chop food.	12,14	61,030	,319	,247	,771
FIS10 I do most or all of my own food shopping.	12,07	56,281	,428	,282	,760
FIS11 I do not wash dishes or clean the table.	11,34	59,302	,491	,363	,755
FIS12 I care whether or not a table is nicely set.	12,81	59,400	,356	,215	,768

Food neophobia: Component Matrix[a]

	Component	
	1	2
FNS4 I like foods from different countries	,772	
FNS7 I am afraid to eat things I have never had before	,753	
FNS6 At dinner parties, I will try a new food	,654	
FNS10 I like to try new ethnic restaurants	,644	
FNS5 Ethnic foods look too weird to eat	,643	
FNS2 I don't trust new foods	,639	
FNS1 I am constantly sampling new and different foods	,565	-,409
FNS3 If I don't know what is in a food, I won't try it	,541	,404
FNS9 I will eat almost anything		,649
FNS8 I am very particular about the food I will eat		,609

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,78	0,794	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FNS1 I am constantly sampling new and different foods	-10,20	49,424	,398	,304	,768
FNS2 I don't trust new foods	-9,02	50,567	,504	,386	,757
FNS3 If I don't know what is in a food, I won't try it	-9,52	48,139	,438	,325	,763
FNS4 I like foods from different countries	-8,71	48,670	,628	,536	,743
FNS5 Ethnic foods look too weird to eat	-9,28	48,570	,487	,394	,756
FNS6 At dinner parties, I will try a new food	-9,12	49,498	,490	,443	,757
FNS7 I am afraid to eat things I have never had before	-9,11	45,444	,637	,562	,735
FNS8 I am very particular about the food I will eat	-10,16	52,295	,216	,140	,794
FNS9 I will eat almost anything	-9,79	49,413	,337	,310	,778
FNS10 I like to try new ethnic restaurants	-9,44	49,592	,479	,427	,758

Food choice motives: Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
FCQ34 Helps me to cope with life	,665		,415					
FCQ30 Is good for my skin/teeth/hair/nails etc.	,641							
FCQ17 Helps me control my weight	,609				-,491			
FCQ26 Helps me relax	,605							
FCQ7 Is low in fat	,603							
FCQ16 Helps me cope with stress	,602		,436					
FCQ23 Contains no artificial ingredients	,599		-,468					
FCQ2 Contains no additives	,545							
FCQ27 Is high in protein	,535							
FCQ24 Keeps me awake/alert	,531							
FCQ9 Is high in fibre and roughage	,522							
FCQ31 Makes me feel good	,504							-,423
FCQ8 Is familiar	,498							
FCQ19 Is packaged in an environmentally friendly way	,492			,437				
FCQ5 Contains natural ingredients	,488	-,452						
FCQ18 Has a pleasant texture	,473							
FCQ21 Is like the food I ate when I was a child	,460							
FCQ22 Contains a lot of vitamins and minerals	,451	-,403						
FCQ12 Is good value for money	,443							
FCQ29 Keeps me healthy	,440							
FCQ33 Is what I usually eat	,437			,415				
FCQ10 Is nutritious	,434							
FCQ28 Takes no time to prepare		,676						
FCQ11 Is easily available in shops and supermarkets	,412	,656						
FCQ1 Is easy to prepare		,643						
FCQ15 Can be cooked very simply	,509	,633						
FCQ36 Is cheap		,578						
FCQ35 Can be bought in shops close to where I live or work		,528						
FCQ6 Is not expensive	,417	,519				,403		
FCQ13 Cheers me up	,457		,614					
FCQ14 Smells nice	,443		,536					
FCQ25 Looks nice			,462					
FCQ4 Tastes good			,442				,406	
FCQ20 Comes from countries I approve of politically				,647				
FCQ32 Has the country of origin clearly marked	,463			,542				
FCQ3 Is low in calories	,482				-,544			

Extraction Method: Principal Component Analysis.

a. 8 components extracted.

Food choice motives: Rotated Component Matrix[a]

	Component								
	1	2	3	4	5	6	7	8	9
FCQ1 Is easy to prepare			,718						
FCQ2 Contains no additives		,757							
FCQ3 Is low in calories				,875					
FCQ4 Tastes good							-,663		
FCQ5 Contains natural ingredients		,693							
FCQ6 Is not expensive					,823				
FCQ7 Is low in fat				,795					
FCQ8 Is familiar			,602						
FCQ9 Is high in fibre and roughage		,669							
FCQ18 Has a pleasant texture								,568	
FCQ19 Is packaged in an environmentally friendly way						,728			
FCQ2 Contains no additives		,757							
FCQ20 Comes from countries I approve of politically						,844			
FCQ21 Is like the food I ate when I was a child			,606						
FCQ22 Contains a lot of vitamins and minerals		,674							
FCQ23 Contains no artificial ingredients		,815							
FCQ24 Keeps me awake/alert	,642								
FCQ25 Looks nice	,554								
FCQ26 Helps me relax	,766								
FCQ27 Is high in protein							,599		
FCQ28 Takes no time to prepare			,695						
FCQ29 Keeps me healthy		,569							
FCQ3 Is low in calories				,875					
FCQ30 Is good for my skin/teeth/hair/nails etc.		,501							
FCQ31 Makes me feel good	,603								
FCQ32 Has the country of origin clearly marked						,722			
FCQ33 Is what I usually eat			,747						
FCQ34 Helps me to cope with life	,782								
FCQ35 Can be bought in shops close to where I live or work			,472						
FCQ36 Is cheap					,754				
FCQ4 Tastes good							-,663		
FCQ5 Contains natural ingredients		,693							
FCQ6 Is not expensive					,823				
FCQ7 Is low in fat				,795					
FCQ8 Is familiar			,602						
FCQ9 Is high in fibre and roughage		,669							

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 12 iterations.

Reliability Statistics Health

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,809	,814	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ9 Is high in fibre and roughage	14,14	9,657	,601	,412	,773
FCQ10 Is nutritious	13,30	10,033	,611	,415	,771
FCQ22 Contains a lot of vitamins and minerals	13,54	9,992	,652	,484	,762
FCQ27 Is high in protein	14,23	10,228	,507	,320	,794
FCQ29 Keeps me healthy	13,07	11,035	,547	,327	,787
FCQ30 Is good for my skin/teeth/hair/nails etc.	14,03	9,789	,531	,318	,791

Reliability Statistics Mood

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,848	,849	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ13 Cheers me up	11,71	13,413	,612	,412	,827
FCQ16 Helps me cope with stress	12,74	11,831	,669	,493	,815
FCQ24 Keeps me awake/alert	12,52	12,929	,518	,357	,846
FCQ26 Helps me relax	12,57	12,248	,705	,510	,808
FCQ31 Makes me feel good	11,78	13,744	,543	,351	,838
FCQ34 Helps me to cope with life	12,83	11,962	,756	,598	,798

Reliability Statistics Convenience

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,828	,828	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ1 Is easy to prepare	10,87	6,934	,660	,457	,783
FCQ11 Is easily available in shops and supermarkets	10,70	7,284	,610	,401	,798
FCQ15 Can be cooked very simply	10,93	6,707	,717	,552	,766
FCQ28 Takes no time to prepare	11,61	6,704	,632	,452	,792
FCQ35 Can be bought in shops close to where I live or work	10,75	7,611	,509	,284	,825

Reliability Statistics Sensory Appeal

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,691	,698	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ4 Tastes good	8,73	3,504	,423	,190	,670
FCQ14 Smells nice	9,32	2,345	,623	,391	,519
FCQ18 Has a pleasant texture	9,60	2,714	,432	,210	,660
FCQ25 Looks nice	9,80	2,730	,469	,256	,631

Reliability Statistics Natural content

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,842	,843	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ2 Contains no additives	5,35	2,797	,732	,559	,759
FCQ5 Contains natural ingredients	4,77	3,519	,641	,414	,844
FCQ23 Contains no artificial ingredients	5,32	2,834	,763	,591	,725

Correlations

		FCQ2 Contains no additives	FCQ23 Contains no artificial ingredients
FCQ2 Contains no additives	Pearson Correlation	1	,734**
	Sig. (2-tailed)		,000
	N	130	129
FCQ23 Contains no artificial ingredients	Pearson Correlation	,734**	1
	Sig. (2-tailed)	,000	
	N	129	130

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability Statistics Price

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,715	,715	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ6 Is not expensive	6,01	1,786	,661	,493	,475
FCQ12 Is good value for money	5,86	2,250	,370	,143	,806
FCQ36 Is cheap	6,24	1,583	,601	,472	,538

Correlations

		FCQ6 Is not expensive	FCQ36 Is cheap
FCQ6 Is not expensive	Pearson Correlation	1	,683**
	Sig. (2-tailed)		,000
	N	130	127
FCQ36 Is cheap	Pearson Correlation	,683**	1
	Sig. (2-tailed)	,000	
	N	127	127

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability Statistics Weight control

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,884	,886	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ3 Is low in calories	4,63	3,298	,788	,621	,826
FCQ7 Is low in fat	4,39	3,442	,775	,603	,838
FCQ17 Helps me control my weight	4,55	2,999	,771	,595	,845

Reliability Statistics Familiarity

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,673	,673	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ8 Is familiar	4,02	2,357	,418	,187	,662
FCQ21 Is like the food I ate when I was a child	4,21	2,153	,479	,259	,586
FCQ33 Is what I usually eat	3,95	2,077	,562	,320	,475

Reliability Statistics Ethical concern

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,767	,770	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FCQ19 Is packaged in an environmentally friendly way	3,89	2,552	,619	,387	,665
FCQ20 Comes from countries I approve of politically	4,55	2,943	,606	,370	,687
FCQ32 Has the country of origin clearly marked	4,15	2,598	,583	,340	,709

Intentions of choosing organic: Component Matrix[a]

	Component
	1
Organic1 When going for dinner I look for restaurants offering organic products	,914
Organic2 When going for dinner I choose restaurants offering organic products	,920
Organic3 When I am in a restaurant I look for organic products on the menu	,946
Organic4 When I am in a restaurant I choose organic products instead of regular products	,934
Organic5 When I am in a restaurant, I am willing to pay more for organic products instead of regular products	,848

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reliability Statistics Intentions of choosing organic products in restaurants

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,948	,950	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Organic1 When going for dinner I look for restaurants offering organic products	-2,30	31,974	,858	,796	,937
Organic2 When going for dinner I choose restaurants offering organic products	-2,21	32,609	,868	,814	,936
Organic3 When I am in a restaurant I look for organic products on the menu	-2,54	29,636	,913	,866	,927
Organic4 When I am in a restaurant I choose organic products instead of regular products	-2,53	29,731	,895	,848	,930
Organic5 When I am in a restaurant, I am willing to pay more for organic products instead of regular products	-2,95	31,494	,775	,615	,952

Reliability Statistics Intentions of choosing organic products in restaurants after dropping item 5

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,952	,953	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Organic1 When going for dinner I look for restaurants offering organic products	-2,12	18,718	,863	,790	,943
Organic2 When going for dinner I choose restaurants offering organic products	-2,03	19,101	,886	,814	,938
Organic3 When I am in a restaurant I look for organic products on the menu	-2,36	17,035	,909	,861	,929
Organic4 When I am in a restaurant I choose organic products instead of regular products	-2,35	17,143	,887	,841	,937

Regression calculations

Model Summary regression General personality traits-Food involvement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,409[a]	,167	,126	,65553	,167	4,086	5	102	,002

a. Predictors: (Constant), TIPI_Openness_to_experiences, TIPI_Agreeableness, TIPI_Conscientiousness, TIPI_Emotional_stability, TIPI_Extraversion

Correlations General personality traits-Food involvement

		FIS Index	TIPI Extraversion	TIPI Agreeableness	TIPI Conscientiousness	TIPI Emotional stability	TIPI Openness to experiences
Pearson Correlation	FIS_Index	1,000	,207	,071	,192	,157	,280
Sig. (1-tailed)	FIS_Index		,016	,234	,023	,052	,002
N	FIS_Index	108	108	108	108	108	108

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	,667	,122		5,451	,000		
TIPI_Extraversion	,079	,055	,138	1,435	,154	,883	1,133
TIPI_Agreeableness	,027	,089	,028	,301	,764	,976	1,024
TIPI_Conscientiousness	,126	,060	,194	2,109	,037	,965	1,036
TIPI_Emotional_stability	,099	,058	,159	1,704	,091	,944	1,059
TIPI_Openness_to_experiences	,203	,074	,266	2,736	,007	,867	1,153

a. Dependent Variable: FIS_Index

Model Summary regression General personality traits -Food neophobia

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,309[a]	,096	,053	,77440	,096	2,239	5	106	,056

a. Predictors: (Constant), TIPI_Openness_to_experiences, TIPI_Agreeableness, TIPI_Conscientiousness, TIPI_Emotional_stability, TIPI_Extraversion

Correlations General personality traits -Food neophobia

		FNS_Index	TIPI Extraversion	TIPI Agreeableness	TIPI Conscientiousness	TIPI Emotional stability	TIPI Openness to experiences
Pearson Correlation	FNS_Index	1,000	-,031	,028	,007	-,085	-,273
Sig. (1-tailed)	FNS_Index		,374	,386	,472	,186	,002
N	FNS_Index	112	112	112	112	112	112

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-,842	,138		-6,116	,000		
TIPI_Extraversion	,045	,063	,071	,717	,475	,875	1,142
TIPI_Agreeableness	,073	,104	,066	,700	,486	,961	1,040
TIPI_Conscientiousness	,006	,069	,008	,087	,931	,947	1,055
TIPI_Emotional_stability	-,086	,066	-,123	-1,300	,197	,947	1,056
TIPI_Openness_to_experiences	-,269	,085	-,312	-3,165	,002	,877	1,140

a. Dependent Variable: FNS_Index

Model Summary regression Food-related traits- Food choice motive Health

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,388[a]	,150	,135	,59893	,150	9,550	2	108	,000

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations Food-related traits- Food choice motive Health

		FCQ Health	FIS Index	FNS Index
Pearson Correlation	FCQ_Health	1,000	,336	,027
Sig. (1-tailed)	FCQ_Health		,000	,389
N	FCQ_Health	111	111	111

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2,491	,116		21,397	,000		
FIS_Index	,399	,092	,429	4,360	,000	,811	1,233
FNS_Index	,168	,077	,214	2,170	,032	,811	1,233

a. Dependent Variable: FCQ_Health

Model Summary regression Food-related traits- Food choice motive Mood

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,333[a]	,111	,094	,67977	,111	6,658	2	107	,002

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Mood	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Mood	1,000	,285	,030
Sig. (1-tailed)	FCQ_Mood		,001	,379
N	FCQ_Mood	110	110	110

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2,212	,134		16,536	,000		
FIS_Index	,376	,104	,368	3,634	,000	,810	1,235
FNS_Index	,165	,088	,190	1,879	,063	,810	1,235

a. Dependent Variable: FCQ_Mood

Model Summary regression Food-related traits- Food choice motive Convenience

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,258[a]	,067	,050	,63674	,067	3,891	2	109	,023

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Convenience	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Convenience	1,000	-,188	,242
Sig. (1-tailed)	FCQ_Convenience		,024	,005
N	FCQ_Convenience	112	112	112

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,014	,123		24,515	,000		
	FIS_Index	-,095	,096	-,101	-,980	,329	,806	1,241
	FNS_Index	,158	,082	,197	1,913	,058	,806	1,241

a. Dependent Variable: FCQ_Convenience

Model Summary regression Food-related traits- Food choice motive Sensory appeal

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,432[a]	,187	,172	,49135	,187	12,857	2	112	,000

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Sensory_appeal	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Sensory_appeal	1,000	,396	-,011
Sig. (1-tailed)	FCQ_Sensory_appeal		,000	,454
N	FCQ_Sensory_appeal	115	115	115

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,837	,094		30,114	,000		
	FIS_Index	,372	,073	,477	5,069	,000	,819	1,221
	FNS_Index	,128	,063	,192	2,039	,044	,819	1,221

a. Dependent Variable: FCQ_Sensory_appeal

Model Summary regression Food-related traits- Food choice motive Natural content

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,398[a]	,158	,143	,88729	,158	10,541	2	112	,000

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Natural_content	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Natural_content	1,000	,341	,040
Sig. (1-tailed)	FCQ_Natural_content		,000	,337
N	FCQ_Natural_content	115	115	115

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,984	,172		11,569	,000		
	FIS_Index	,609	,133	,439	4,569	,000	,816	1,226
	FNS_Index	,268	,113	,228	2,376	,019	,816	1,226

a. Dependent Variable: FCQ_Natural_content

Model Summary regression Food-related traits- Food choice motive Price

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,308[a]	,095	,078	,72614	,095	5,764	2	110	,004

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Price	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Price	1,000	-,206	,294
Sig. (1-tailed)	FCQ_Price		,014	,001
N	FCQ_Price	113	113	113

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,302	,144		22,929	,000		
	FIS_Index	-,111	,110	-,101	-1,008	,316	,825	1,212
	FNS_Index	,238	,094	,252	2,524	,013	,825	1,212

a. Dependent Variable: FCQ_Price

Model Summary regression Food-related traits- Food choice motive Weight control

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,177[a]	,031	,014	,87641	,031	1,835	2	113	,164

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Weight_control	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Weight_control	1,000	,014	,154
Sig. (1-tailed)	FCQ_Weight_control		,442	,050
N	FCQ_Weight_control	116	116	116

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,389	,168		14,241	,000		
	FIS_Index	,125	,131	,098	,957	,341	,814	1,228
	FNS_Index	,213	,111	,196	1,910	,059	,814	1,228

a. Dependent Variable: FCQ_Weight_control

Model Summary regression Food-related traits- Food choice motive Familiarity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,328[a]	,108	,091	,65500	,108	6,639	2	110	,002

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Familiarity	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Familiarity	1,000	,001	,293
Sig. (1-tailed)	FCQ_Familiarity		,496	,001
N	FCQ_Familiarity	113	113	113

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,170	,126		17,175	,000		
	FIS_Index	,167	,102	,166	1,648	,102	,798	1,253
	FNS_Index	,308	,084	,367	3,644	,000	,798	1,253

a. Dependent Variable: FCQ_Familiarity

Model Summary regression Food-related traits- Food choice motive Ethical concern

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,239[a]	,057	,040	,77648	,057	3,333	2	110	,039

a. Predictors: (Constant), FNS_Index, FIS_Index

Correlations

		FCQ_Ethics	FIS_Index	FNS_Index
Pearson Correlation	FCQ_Ethics	1,000	,209	,012
Sig. (1-tailed)	FCQ_Ethics		,013	,449
N	FCQ_Ethics	113	113	113

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1,891	,149		12,661	,000		
FIS_Index	,302	,117	,265	2,578	,011	,809	1,236
FNS_Index	,125	,100	,128	1,246	,215	,809	1,236

a. Dependent Variable: FCQ_Ethics

Model Summary regression Food choice motives-Intentions of choosing organic products in restaurants

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,706[a]	,498	,453	1,05250	,498	11,129	9	101	,000

a. Predictors: (Constant), FCQ_Ethics, FCQ_Convenience, FCQ_Sensory_appeal, FCQ_Health, FCQ_Weight_control, FCQ_Price, FCQ_Familiarity, FCQ_Natural_content, FCQ_Mood

Correlations

		Organic intentions	FCQ Health	FCQ Mood	FCQ Convenience	FCQ Sensory appeal	FCQ Natural content	FCQ Price	FCQ Weight control	FCQ Familiarity	FCQ Ethical concern
Pearson Correlation	Organic intentions	1,000	,460	,192	-,195	,122	,496	-,118	-,002	-,030	,545
Sig. (1-tailed)	Organic intentions		,000	,021	,020	,102	,000	,110	,491	,376	,000
N	Organic intentions	111	111	111	111	111	111	111	111	111	111

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2,997	,817		-3,668	,000		
	FCQ_Health	,668	,229	,284	2,911	,004	,522	1,918
	FCQ_Mood	,135	,211	,066	,637	,525	,469	2,132
	FCQ_Convenience	,040	,237	,019	,167	,867	,394	2,541
	FCQ_Sensory_appeal	-,097	,252	-,037	-,386	,700	,549	1,821
	FCQ_Natural_content	,349	,144	,237	2,425	,017	,519	1,928
	FCQ_Price	-,184	,164	-,101	-1,124	,263	,616	1,625
	FCQ_Weight_control	-,350	,136	-,223	-2,577	,011	,661	1,512
	FCQ_Familiarity	-,394	,196	-,192	-2,009	,047	,546	1,832
	FCQ_Ethics	,762	,153	,416	4,989	,000	,714	1,400

a. Dependent Variable: Organic_index