Czech University of Life Sciences Prague

Faculty of Economics and Management

Management Department

Master Thesis

Perceptions of sustainable consumption constellation components

Author:

Jan Staňura

Supervisors:

drs. Ynte van Dam

ing. Lenka Vorlíčková

Co-reader:

dr. Ivo van der Lans

The author declares that the text and work presented in this Master thesis are original and that no sources other than those mentioned in the text and its references have been used in creating the Master thesis.

Acknowledgments

It was a journey full of struggles to make this work what it is now; however, I never doubted that it would come to a successful end. That does not mean that I am so confident. It means that I had partners that made it possible for me to believe that everything would turn out right in the end.

This way I would like to thank my supervisors drs. Ynte van Dam and ing. Lenka Vorlíčková for making this thesis an extraordinary experience. I want to thank my co-reader dr. Ivo van der Lans for being helpful when Ynte and I needed it. I wish to express my gratitude to dr.Černý for his support. Last but not least, special thanks go to my family including my fiancée Hana for always being there for me.

Table of Contents

List of Tables and Figures

Vnímání složek trvale udržitelného spotřebního koše

Souhrn

Tato diplomová práce se zabývala rozdíly ve vnímání mezi skupinou spotřebitelů trvale udržitelných potravinových výrobků (takzvaná ‚in-skupina') a skupinou, která tyto výrobky nespotřebovává (takzvaná ‚out-skupina'). Toto rozdělení je založeno na teorii sociální identity. Předmětem vnímání byly složky, respektive jednotlivé potravinové výrobky, považované respondenty za typické pro holandskou trvale udržitelnou večeři. Souhrn těchto výrobků lze označit za spotřební koš. Vnímání tohoto spotřebního koše bylo rozděleno do čtyř konstruktů: prototypikalita, centralita, odlišnost a identifikace. Konstrukt prototypikality vyjadřoval míru, do jaké lze daný předmět považovat za prototyp příslušné kategorie. Centralita měřila důležitost výrobku pro trvale udržitelný životní styl. Konstrukt odlišnosti se zabýval mírou, do jaké jmenované výrobky vyčnívaly mezi ostatními z kategorie trvale udržitelných potravinových výrobků. Identifikace vyjadřovala míru ztotožnění se jmenovanými výrobky. Tuto práci lze vnímat jako první krok k určení prototypického spotřebního koše trvale udržitelných potravin tak, jak jej vnímají obě skupiny. Tento poznatek může dále být použit k upravení marketingové komunikace se spotřebiteli za účelem zvýšení spotřeby trvale udržitelných potravinových výrobků.

Klíčová slova: spotřební koš, sociální identita, in-skupina, out-skupina, prototypikalita, centralita, odlišnost, identifikace

Perceptions of sustainable consumption constellation components

Summary

This work researched differences in perceptions between the group of self-declared sustainable consumers ('in-group') and the group of self-declared non-sustainable consumers ('out-group'). The division of the in- and out-group was based on social identity theory. The objects of the perceptions were food products considered typical by the respondents for a Dutch sustainable evening meal. The set of sustainable food products can be depicted as a consumption constellation. The perceptions were divided among four constructs: prototypicality, centrality, distinctiveness and identification. Prototypicality expressed representativeness of a given category (sustainable evening meal). Centrality measured importance of the elicited food products with regard to sustainable lifestyle. Distinctiveness consisted of a measure of how much the elicited items stood out within the category of sustainable food products. Identification expressed how strongly the respondents related to the elicited items. This work can be seen as the first step towards identifying a prototypical sustainable consumption constellation as seen by the in- and by the out-group. This can subsequently be used to improve marketing communication and increase consumption of sustainable foodstuffs.

Keywords: consumption constellation, social identity, in-group, out-group, prototypicality, centrality, distinctiveness, identification

1. Introduction

In 1972, the Club of Rome published a report "The Limits to Growth", which showed disturbing consequences of a rapidly growing world population and its ever-increasing use of limited resources. In addition to this, a number of environmental issues in the 1980s and 1990s – such as climate change and ozone depletion – brought attention to sustainability and sustainable development.

It might seem that enough time has passed for this area of research to 'settle down', agree on the basic definitions, and embark on the scientific quest to grasp this domain. However, some researchers point out that sustainability and related concepts still mean many things to many people (Cairncross, 1991; cf. Owens, 2003; Johnston, 2007; Vos, 2007). If the scientific world is not unified, it comes as no surprise that neither is the general public.

As for consumption constellations, which represent sets of related products, these express people's identities and lifestyles. This makes them a crucial element both on personal (expressing oneself, making inferences about others) and market levels (marketing; e.g. matching the right consumption constellation to the right group of consumers).

There has been considerable amount of research regarding a variety of issues pertaining to the area of sustainability; nonetheless, the area of consumption constellations in relation to sustainability remains under-explored to say the least. This might be denoted as a problem, yet at the same time an opportunity to add another piece into the complex mosaic of science and create another stepping stone in relation to the communication with consumers (i.e. increasing consumption of sustainable foodstuffs).

Presenting an object to a group of people can elicit as many various perceptions as there are individuals in the group. This discrepancy in perceptions is due to the fact that people *code* and *decode* objects differently. It might seem arduous, basically impossible, to research in this area. However, this work insists that research in this direction is possible and maintains that the example about as many perceptions as there are individuals can happen but it is rather exaggerated. A proof can be found for example in market segmentation which demonstrates that there are patterns in perception. This work maintains that inquiry into what items typically form a consumption constellation of a sustainable evening meal and perceptions of these items with regard to their centrality, distinctiveness, and identification (with the items) could provide insight into how the assumed groups differ in their perceptions; in other words: how these groups differ with respect to their coding and decoding and consequent distinct views of prototypical items in their constellations. In this case, the assumed groups are 'involved' consumers (sustainable consumers) and 'not involved' consumers (non-sustainable consumers). In addition to this, perceptions of sustainability with regard to the sustainable products and the reasons for not buying sustainable foodstuffs will be elicited.

This study is based on symbolic interactionism and social identity theory. Symbolic interactionism maintains that the self is inherently social and that an individual's relation to reality is mediated by symbolic environment. Social identity theory considers the self as consisting of a number of identities, with the social identity theory centered on group-based identities. The social identity theory asserts that an individual's identity is expressed and constructed via products relevant for this identity. Hence, an identity can

be seen as being represented by a set of related products – a consumption constellation. Since there are many directions in which to approach this topic, subsequently, the focus of this work will be delineated.

2. Thesis objectives and Methodology

2.1 Research objective and Aims

With regard to sustainability and related concepts, studies have focused on a number of issues such as perceptions of sustainable activities (McDonald, 2006), perceptions and preferences of organic as opposed to conventionally produced foods (Yiridoe et al., 2005), organic share in produce purchases (Durham, 2007), environmental segmentation alternatives (Straughan and Roberts, 1999), development of sustainable products and services (Maxwell and van der Vorst, 2003), influence of environmental labels on products (D'Souza et al., 2006), life cycle approaches to sustainable consumption (Hertwich, 2005) and others. Nonetheless, consumption constellations have been neglected, particularly in the domain of related perceptions. This study can be seen as a first step towards identifying sustainable consumption constellations as perceived by the groups of sustainable and non-sustainable consumers. Consequently, communication can be adapted accordingly so that the consumption of sustainable foodstuffs is increased.

The research objective was to investigate how perceptions of the prototypical consumption constellation components of a sustainable evening meal differ between groups of sustainable and non-sustainable consumers. Specifically, this work intended to find out what these differences are with regard to centrality, distinctiveness, and identification with the elicited items. These differences in perceptions can be interpreted as differences in coding and decoding. Furthermore, this work wanted to inquire into what makes the elicited foodstuffs sustainable and what are the reasons why consumers do not buy sustainable foodstuffs.

2.2 Methodology

This work used a quasi-experimental design combining aspects of a survey design (questionnaire) and of an experiment (two pre-defined groups but no control group). Convenience sampling was combined with snowball technique in order to increase sample size. A face-to-face check list was used to elicit sustainable food items which were consequently rated on three constructs: centrality, distinctiveness and identification. Subsequently, sustainable identity scale followed in order to distinguish sustainable and non-sustainable consumers. Both the check list and the sustainability scale were developed based on the literature review. The analysis compared the group of self-declared sustainable consumers with the group of self-declared non-sustainable consumers. The statistical measures consisted of t-tests, analyses of variance, cross tabulations, Chi-square tests and adjusted residuals. All statistical procedures were carried out using statistical program SPSS. For greater detail consult section 3.4 Methods and procedure.

2.3 Research questions

It had to be clear what this thesis wanted to address. Because of this, research questions pinpointing concrete aspects of the thesis objective had to be specified.

1. What is the difference between the elicited number of items of the prototypical sustainable evening meal between the in-group (sustainable consumers) and the out-group (non-sustainable consumers)?
2. What is the difference between the amount of consensus that the members of the in- and out-group hold with regard to the prototypical consumption constellation components of a sustainable evening meal perceived by the in- and out-group?
3. What is the difference in perceived centrality of the items of a prototypical sustainable evening meal between the in- and out-group?
4. What is the difference in perceived distinctiveness of the items of a prototypical sustainable evening meal between the in- and out-group?
5. What is the difference between identification with the elicited items of a prototypical sustainable evening meal between the in- and out-group?
6. What is the relationship between identification with the elicited sustainable products and sustainable identity?

3. Literature review

The goal of this literature review is to shed light on the domain of consumption constellation research and explain how consumption constellations relate to symbolic interactionism and the social identity theory.

3.1 Consumption constellation

Consumption constellation[1] can be seen as a collection of symbolically-related products, i.e. not functionally-related, with some kind of a shared meaning (cf. Englis et al., 2001; Hogg, 1994; Solomon, 1988 and 1991). The characteristic that the consumption constellation's components are symbolically-related is called *symbolic complementarity*. As Solomon (1991, p.3) puts it: "Here, a set of two or more consumption items together transmits some message that each product, singly, does not." For example, buying Fair Trade coffee does not say much – possibly it is only because it tastes good. However, when bought together with Fair Trade postcards and a sticker out of which 30% of its price is donated to charity, it all sums up to a whole transmitting a message that the buyer cares about people who are less fortunate.

Each product's value is to a certain extent dependent on what it adds to the whole and how it fits in with the remaining items. Douglas and Isherwood (1979, pp.72-73) conclude to say that: "...all goods carry meaning, but none by itself...The meaning is in the relations between all the goods, just as music is the relations marked out by the sounds and not in any one note". This way the Fair Trade coffee, postcard and charity sticker create a stronger message that the products – if bought separately – would not.

Research regarding product interdependencies hasn't attracted much attention in the past; however, people involved in marketing have intuitively attempted to use cross-category product relationships to their advantage and capitalize on consumers' perceptions of which products go together.

One branch of research where cross-category associations can be considered a cornerstone is psychographic research. There are two examples worth noting. In the first study, carried out by Tigert, Lathrope and Bleeg (1971), the authors found out that frequent customers of Kentucky Fried Chicken were also heavy users of eye make-up, nail polish, soft drinks, gum and TV dinners. The second study by Solomon and Buchanan (1991) studied the so-called „Yuppie" lifestyle stereotype. Based on the general perceptions of such lifestyle category, Burberry trenchcoat, Rolex watch, Gucci loafers, white wine and brie, BMW, playing squash, and eating pasta with pesto were associated with it. Naturally, some of these attributes (be it products or activities) demonstrated stronger links, some weaker.

The aforementioned two examples are illustrations of how particular consumption constellations are linked to corresponding lifestyles and also the other way around: how particular lifestyles are linked to probable consumption constellations. In order for this link to be established, consumption objects have to be 'ordered' according to their relevance. Hence, the link to categorization.

---

[1] The most frequent term used among researchers is that of a *consumption constellation*; however, other depictions are possible: *specific basket of goods* (Nicosia and Mayer, 1976), *consumption basket* (Choi, 1984), *market basket* (Boztug, 2008), *consumption set* (Lee, 1983), *set of goods* (Douglas and Isherwood, 1979), and *product bundle* (Spiller, 1997)

3.1.1 Categorization

Categorization is omni-present in consumer behavior: it affects the comprehension and assimilation of product information (Sujan and Bettman, 1989; Sujan and Dekleva, 1987;) and consequently product evaluations (Meyers-Levy and Tybout, 1989). Furthermore, it has been found to influence the formation of consideration sets (Nedungadi, 1990) and the specific choice of items from these consideration sets (Lynch et al., 1988).

A key construct of categorization is similarity. Perceptions of similarity are often assumed to have a primary influence on category representations (Ratneshwar et al., 2001; Tversky, 1977).

Three main components playing a role in categorization can be distinguished: Product, Person, and Situation. Focusing solely on the Product, *taxonomic* categorization is derived. Taxonomic classification could be considered the most straightforward one as the categories within this system are formed by naturally occurring relationships between objects and their characteristics. This way e.g. clothing, appliances, food can be distinguished. Obviously, such denominations can be further aggregated or broken down, for example: products → appliances → domestic appliances → refrigerators.

The two remaining 'apexes' - Person and Situation – can be considered pertaining under a more genereal *Goal-derived* class. In both cases, the most important thing is the desired *end-state.* However, in 'Person' categorization, such end-state is value-driven, whereas in 'Situation' categorization it is function-driven.

The influence of both individual (personal) and situational goals on similarity judgments (thus on categorization) has been explored by Ratneshwar et al. (2001). According to their results, individual as well as situational goals increase perceived similarity of goal-corresponding products; nonetheless, Ratneshwar et al. (2001) did find slightly stronger influence of the situational part. This means that decision-making is to a high degree context-dependent (cf. Gutman, 1982; Ratneshwar and Shocker, 1991). The products a consumer considers will change significantly from one situation to another: for example, having high status acquaintances for dinner will evoke quite distinct choices as opposed to having friends for a barbecue. Still, personal goals are to a certain extent permanently dominant: e.g. being a vegetarian will stay constant no matter what the situation (naturally, 'normal' circumstances, not extreme, are considered).

Even though, the taxonomic- and goal-derived categorizations may seem completely distinct, the distinction is not always precise and the two can overlap. An important factor is the (un)familiarity with a consumption situation. Unfamiliarity can activate multiple goals and consequently a number of consideration sets. Familiarity works in the opposite direction, narrowing the potential choices down (Felcher, 2001).

Consequently, sustainable products can be considered according to all three 'apexes'. They can be viewed as a hierarchical category of its own based on the taxonomic classification, e.g. products → sustainable products → organic food → bio-ketchup. Sustainable products may also be categorized based on the particular situation such as when a person wants to indulge his or her friends because of being aware that they like such things so that he/she buys a bottle of fair trade wine; however, thoroughly spontaneous occasions should not be discarded, such as when a person goes shopping, sees that the street or the shop is completely full, takes an alternative route which reminds that individual of a shop selling organic food etc. Based on the third – 'Person apex' – the fair trade wine example can be used again but this time from a different

perspective: an individual considers him- or herself being a conscious consumer and buys fair trade (or organic) wine because such action is congruent with his/her self-conception. Perceived yet from a slightly distinct view, such individual might be buying this type of wine solely to make an impression on others. This links to the next section of inferences and subsequently to lifestyles as the previously described effort is based on the fact that people make inferences about others but at the same time they are aware (even if subconsciously) that inferences are made about them. Thus, they act in accord by creating a lifestyle – be it authentic or fake.

3.1.2 Inferences

Apart from satisfying physiological needs, people use goods for communication with others and to make sense of what is going on around them (Douglas and Isherwood, 1979). This communication between people via goods is carried out by inference-making. Generally speaking, people make inferences about others from the cues that are available to them (Brunswik, 1955; Karelaia, 2008). In the domain of consumer behavior, individuals make these assumptions about others based on the choices of consumption objects. In fact, Belk (1982, p.5) considers this inference-making as "one of the strongest and most culturally universal phenomena inspired by consumer behavior".

The manner in which we perceive other consumers' choices affects our own consumption choices. When we see people that we know with products we don't know, we automatically evaluate these products based on what we know about our acquaintances. Vice versa, when we see consumers unknown to us with products we are familiar with, we project the traits related to the products on the people in question (Belk, 1980).

One of the most popular domains in this regard is clothing. Based on a number of studies, clothing affects inferences about personality (Hamid, 1972), status (Rosencranz, 1962), demographic and lifestyle characteristics (Gibbons, 1969), attractiveness (Hamid, 1972; Holman, 1980), and even attitudes concerning social issues (Triandis et al., 1966). A common sense assumption demonstrated to be valid has materialized in the observation that people behave differently toward others with regard to the clothing they are wearing (Bickman, 1971; Wise, 1974).

Naturally, clothing hasn't been the only domain that attracted attention. Other products have been observed to affect inferences, including cosmetics (Belk, 1978), personal care products (Calder and Burnkrant, 1977), eyeglasses (Hamid, 1972), choice of cigarettes (Belk, 1981), books, magazines, leisure products and activities (Porter, 1967). Also the choice of beauty services (Belk, 1978; Swami et al., 2008), cleanliness of the household (Harris, 2005) and its interior (Wilson, 2000) have been demonstrated to affect other people's impressions.

A number of studies have also focused on effects of food and restaurant choices concerning person perception (Anderson, 1978; Belk, 1978, Vartanian, 2007).

The overview is not exhaustive; generally speaking, anything that can serve as a carrier of meaning about the consumer might be added into this list (Mick, 1986 and 2004). The core of all these categories is that they all provide the consumer with a tremendous variety of choices. Without this variety, there would be little distinctive information mediated by consumption choice. Apart from variety of choice, cost, decision-involvement, uniqueness of choice and noticeability are important determinants with regard to impression-formation (Belk, 1982).

Consumers are purchasing particular products and services or they are engaging in specific activities that are congruent with their self-conception. By doing this, they are transmitting a message about what they are like, what they want to become, or what they would like others to think they are like. In other words, the consumers are making a statement about their current or "possible selves" (Markus and Nurius, 1986). Whatever the individual goals are, it's the unique consumption constellation that enables the expression of various aspects of the self, of the consumer's identities, of an individual's lifestyle. Hence, we bridge to the next section – of lifestyles.

3.1.3 Lifestyles

Lifestyle refers to a pattern of consumption expressing a person's choices of how he or she spends time and money. In many cases it also refers to the attitudes and values related to these behavioral patterns. One's lifestyle mirrors the way a person chooses to allocate income; however, it doesn't solely represent the manner in which discretionary income is allocated. It can be seen as a statement about who one is in society and who one is not. This serves as a basis for the lifestyle marketing perspective which is very well aware of the fact that we sort both ourselves and each other into groups depending on the things we/they like to do, how we/they like to spend our/their leisure time and how we/they decide to spend disposable income (Solomon et al., 2004).

Levy (1964, pp.223-224) states that "a consumer's personality can be seen as a peculiar total of the products he consumes" and concludes that "...marketers do not just sell isolated items that can be interpreted as symbols; rather, they sell pieces of a larger symbol – the consumer's lifestyle. Marketing is then a process of providing customers with parts of a potential mosaic from which they, as artists of their own lifestyles, can pick and choose to develop the composition that for the time may seem the best."

Previous research regarding consumption constellations strongly suggests that functionally dissimilar yet symbolically related products are used cognitively by consumers to jointly define a lifestyle, that a high degree of consensus often exists across perceivers with regard to the (assumed) contents of these consumption constellation structures and that these perceived connections often can easily be retrieved by the consumers (and thus easily elicited by the researchers) (Englis, 2001; Englis and Solomon, 1995; Solomon and Buchanan, 1991).

By electing products, consumers are enabled to communicate their present self-view but also how they would like to be perceived by others. This way they express their affiliation with a positively valued, or aspirational, cultural category (a reference group, wished-for-lifestyle, etc.) or at the same time show their contempt by discarding other product clusters related to a negatively valued, or avoidance, cultural category. Therefore, a particular product can be perceived as being positioned *within* an aspirational group's consumption constellation and *against* an avoidance group's consumption constellation (Cocanougher and Bruce, 1971; Englis, 1996).

Research suggests that at least for products defining an aspirational lifestyle, consumption constellations exist as constructs in memory (Englis, 2001). This way products perceived to be related to distinct lifestyle groups develop symbolic dimension, insofar as the consumers agree that particular products seem to match, to „go together", and mutually define a lifestyle category (Englis and Solomon, 1995; Douglas and Isherwood, 1979). Consumption constellations associated with aspirational reference groups tend to be richer and more elaborated in content than those associated with avoidance groups which tend to be less accurate and more stereotyped. People

leading a particular lifestyle will have even more precise, but at the same time quite varied, knowledge of what is to be considered part of their lifestyle (compared to aspirational reference groups). It can be assumed that they will give greater emphasis to processes related to such lifestyle as opposed to material possessions. In this sense, products can be perceived in terms of their *prototypicality*[2] and *centrality.*[3] Inquiry into perceptions of a particular lifestyle, should demonstrate the following results: people having such lifestyle should consider a greater variety of possessions relevant to this lifestyle as compared to people who aspire to or avoid such lifestyle and hence demonstrate lower consensus in terms of the perceived prototypicality of lifestyle-relevant possessions; similarly, people leading a particular lifestyle should emphasize lifestyle-relevant processes and give less emphasis to products, therefore assigning less centrality to products as opposed to people aspiring to or avoiding such lifestyle (cf. Solomon, 1988). This results in a hypothesis:

Sustainable consumers should assign lower centrality to sustainable foodstuffs as compared to non-sustainable consumers.

A considerable number of studies support the notion that person categories are employed as a form of cognitive organization (see e.g. Kinder et al., 1980; Macrae and Bodenhausen, 2001; Taylor, 1978). The archetypal characteristics of people who belong to different social categories form an integrated image, prototype, or stereotype. Nonetheless, some attributes will be linked more strongly to the construct in question, others will form a weaker bond. Furthermore, the perceiver may evaluate such cognitive structure in such a way that he or she might want to generate this social stereotype by acquiring the aforementioned attributes (aspirational lifestyle) or reject these (avoidance lifestyle category) (Englis, 2001).

However, as Englis admits himself, relatively little is known about the cognitive mechanisms underlying these knowledge structures. One of the assumptions essential for this research declares that consumption constellations represent associative networks in memory. Based on this presumption, presentation of a cue that contains a subset of elements taken from a particular (known) consumption constellation should activate other elements of the network. Therefore, asking a person about a sustainability-related product should trigger more components from the same category.

3.1.4 Summary

Goods, and particularly sets of goods, have the capability to communicate. This communication of messages and meanings is enabled via categorization and inference-making, which can be perceived as a coding/decoding process. Products can be perceived in terms of prototypicality and centrality. People having a particular lifestyle should demonstrate lower consensus in terms of perceived prototypicality of lifestyle-relevant possessions as opposed to people aspiring to or avoiding such lifestyle; similarly, people leading a particular lifestyle should emphasize lifestyle-relevant processes and give less emphasis to products, therefore assigning less centrality to products as opposed to people aspiring to or avoiding such lifestyle. An individual's lifestyle can be seen as one's expression of what he or she is or wants to become. This

---

[2] Prototypicality can be seen as a relative measure of how much a product is considered to be a representative of its category (cf. Veryzer and Hutchinson, 1998)

[3] Centrality can be defined as a relative measure expressing how essential the product is in relation to one's lifestyle (cf. Sedikides and Skowronski, 1993; Verplanken and Holland, 2002)

expression of a particular lifestyle takes place via consumption constellations which are congruent with the person's self-conception. This leads to the second part of this literature review: to self-conception.

3.2 Self-conception

Self-conception is a crucial concept for us as we are influencing our environment with how we perceive ourselves (or how we want others to perceive us) and at the same time the environment affects us with its feedback (Kinch, 1963). Based on our self-concept[4], we will seek or avoid products that we see as being (in)congruent with our self-conception. Consequently, the group of consumption objects that we accumulate, makes a statement about how we perceive both ourselves and the corresponding consumption constellations. In the end, our self-conception is demonstrated in the lifestyle that we have which in turn is constructed and expressed via consumption constellations.

There seem to be four major approaches to understanding self-conception: 1. single dimension studies in which self-conception is viewed simply as overall self-esteem or perceptions of a specific ability, 2. studies using open-ended questions such as „Who are you?" or „Who am I?", 3. research that focuses on self-process without recognition of an underlying structure, and 4. works that make explicit assumptions concerning the structure of self-conception. None of these approaches is free from flaws; however, the last one has brought the most promising results (Hoelter, 1985).

One of the theories pertaining to the aforementioned works making explicit assumptions about the structure of self-conception is the Social identity theory. It is this theory that will be used to demonstrate the connection between self-conception and sustainable consumption constellations. At first, however, *symbolic interactionism* will be discussed as it forms the basis of the Social identity theory.

3.2.1 Symbolic interactionism

Even though there seem to be variations in perspective, generally speaking, it can be stated that symbolic interactionism focuses on the social nature of the self and its importance for the individual's interaction patterns. Expressed in a coarse-fibred manner, it can be said that the individual's conception of himself emerges from social interaction and, in turn, guides or influences the behavior of that individual (Kinch, 1963).

For symbolic interactionists, humans can be perceived as pragmatic actors who must constantly adjust their behavior to that of other actors. People are able to adjust to these actions because they are capable of *interpreting* them. In other words, symbolic interactionism assumes that people interpret actions of others rather than immediately and solely react to them. Based on this assumption, it can be inferred that there has to be some kind of encoding and decoding with regard to meaning, with regard to symbols (hence a link to semiology). In fact, like most semioticians, symbolic interactionists view human minds as fundamentally dependent on shared symbols. According to both, meaning is negotiated and constructed through intra-personal and inter-personal discourse. Therefore the essence of meaning is inherently social. Mick (1986) quotes Gallant and Kleinman (1983) that this meaning construction is "a social procedure for

---

[4] Kinch (1963) described *self-concept* as an „organization of qualities that the individual attributes to himself"

defining objects[5] to achieve a practical effect". Thus, an individual's relation to reality can be perceived as being mediated by the symbolic environment. What is this ever-present *symbol* then? It can be seen as some kind of a stimulus with learned meaning and value (Solomon, 1983). Consequently, a person's reaction to the symbol is determined by the interpreted meaning (Jeon, 2004; Stryker, 2008).

Thus, if a person has been brought up learning that 'sustainable' is good, he or she will behave accordingly simply due to the fact that sustainable products have acquired a positive meaning and the status of a positive symbol. To give another example, if a person has friends who tend to buy sustainable products, then – even if they have never discussed it – the chances of incorporating the belief that 'sustainable' is good into one's perceptions increase. Consequently, there is a much higher chance that the person adapts his consumer behavior accordingly.

In conclusion, symbolic interactionism explains the development of symbols and how they are manipulated. This, together with the claim that the self is inherently social and reflexive, forms a basis for the Social identity theory. In this theory symbols (products, consumption constellations) are perceived and worked with according to group memberships. Since this work intends to research differences between the 'involved' sustainable consumers and 'not-involved' non-sustainable consumers, the Social identity provides the necessary theory to explain the characteristics of the two groups.

3.2.2 Social identity theory

Social identity theory considers the self being reflexive, meaning that it can take itself as an object and categorize, classify, or name itself in particular ways in relation to other social categories or classifications. This process is called *self-categorization.* The process of self-categorization enables an identity to be formed.

Identity is related to self-concept and self-reflection (Baumeister, 1987). It incorporates beliefs about who we are as well as who we hope to be or become. Therefore, one way how identity can be perceived is that it's a tool to find one's place in the world. Furthermore, identity should be treated as a complex and multidimensional construct with motivational and behavioral implications. Having a particular *social identity* means identifying with a specific group, thinking and behaving similarly to the group's members.

Identity theorists perceive the self as consisting of a number of identities (Burke and Stets, 2000). Thus, a person can identify him- or herself as a tennis-player, a parent, a manager, a sustainable consumer etc. depending on the context (i.e. belonging to or identifying with the group of tennis-players, parents, managers, sustainable consumers etc.). All of these identities are formed and expressed via corresponding consumption constellations, e.g. a tennis racket, tennis shoes, tennis balls and related products form and express the tennis-player identity. The total of all identities (and thus the total of all 'personal' consumption constellations) sum up and express a person's lifestyle.

---

[5] Gottdiener (1985) claims that social meaning is attached to and communicated by commodities

Taking on identities

In Social identity theory, strong evidence exists that group identification influences the view of the self as prototypical in the group. It has also been found that individuals who identify with a group feel a strong attraction to the group as a whole, independent of their respective attachments within the group (Hogg and Hardie, 1992).

Researchers have encountered a common-sense relationship: *in-group*[6] identification leads to stronger commitment to the group and virtually no desire to leave the group even if the group's status is low (Ellemers et al., 1997).

Members using a group label to describe themselves are very likely to participate in the group's culture and distinguish themselves from the out-group in their behavior (Ethier and Deaux, 1994). It is plausible to assume that the in-group members are likely to have a more thorough knowledge of what is relevant – both process- and product-wise – with regard to a particular issue than the out-group which is likely to demonstrate a rather simplified and stereotypical point of view. This implies two hypotheses:

The in-group (sustainable consumers) should demonstrate a more varied and numerous answer with regard to a sustainable evening meal as opposed to the out-group (non-sustainable consumers) which should elicit a less profound answer.

As the in-group demonstrates a more varied and numerous answer, the group members will agree less with each other in terms of what can be considered as typical consumption constellation components of a sustainable evening meal. The out-group should demonstrate higher consensus on this matter because its views are rather simplified (less profound).

With group-based identities, the actor need not interact with group members (Burke and Stets, 2000).

Person identities

Person (personal) identity in Social identity theory is considered to be the lowest level of self-categorization. Via person identity, people perceive themselves as being unique. This way, their individual goals and motives become salient and people act accordingly. It is assumed that people shift between personal and social levels of identity (Tamir and Nadler, 2007). Whether the person or the social identity is dominant is context-dependent (Burke and Stets, 2000).

Identity activation and salience

The notion that an individual's social self-schema (the sum total of his or her social identities) forms a unique knowledge structure in memory (Markus, 1977) is widely accepted. The researchers also agree that it plays an important role in behavior. However, the process itself by which particular identities become activated is less well understood. It has been assumed that a variety of social, contextual, and individual differences can activate specific social identities within one's social self-schema. It follows that solely the presence of a particular social identity within an individual's

---

[6] Group that a person identifies with; an *out-group* is a „contrast group" from which an individual disassociates

social self-schema does not necessarily lead to enhanced information processing relevant for this identity. Such increased cognitive processing specific for the identity occurs when the particular identity becomes active within the individual's social self-schema. Only after the identity-activation takes place, it becomes probable that the person is likely to be affected by the so-called *identity salience* - a condition typical by increased sensitivity to identity-relevant stimuli. Thus, making a particular social identity salient can influence perceptions, behavior, and performance (Forehand, 2002). To give a concrete example, an experiment with Asian-American women was carried out (Shih et al., 1999). When their ethnic identity was activated (Asians are generally perceived to do well in math), their math test scores improved. On the contrary, when their gender identity was activated, their scores were worse. Thus, identity salience can affect person's performance (cf. Cheryan and Bodenhausen, 2000).

Identity salience takes place when a person categorizes himself or herself according to identity-oriented criteria. This self-categorization, many times a spontaneous and unconscious process, provides the individual with a measure of relative similarity or dissimilarity to others (Eiser et al., 2001; Stapel and Koomen, 2000). Interestingly enough, people have the capability to self-categorize on the basis of any of a number of social identities. Momentary identity salience is influenced by a variety of factors including stimulus cues, social context, and individual differences (Forehand, 2002).

Among the stimulus cues found to have an impact on identity salience we can encounter visual images and words (Chatman and von Hippel, 2001; Forehand et al., 2001), reference group symbols (Cialdini et al., 1976), symbols linked to out-groups (Wilder and Shapiro, 1984) and out-group members (Marques et al., 1988).

With regard to the social context as a factor, group membership is assumed to affect the individual's identity salience when such membership is somehow distinctive (McGuire et al., 1978).

Individual differences represent the third branch of factors affecting identity salience. Out of these, *strength of identification* stands out as one of the most significant ones. Strength of identification with an identity has been demonstrated to affect the probability that consumers will acquire identity relevant products and the response of consumers to actors in advertising congruent with the salient identity (Hirschman, 1981; Deshpandé et al., 1986). Individuals who feel a strong bond to a group have been found to be more likely to behave in a manner consistent with the group's norms as opposed to individuals who didn't identify with the group that strongly (Madrigal, 2001). The significance of strength of identification has been shown to be valid across a variety of groups such as Asian-Americans (Ellis et al., 1985), individuals of Jewish origin (Hirschman, 1981), African-Americans (Williams and Qualls, 1989, in Forehand, 2002), and Hispanics (Deshpandé et al., 1986; Saenz and Aguirre, 1991).

Social identity theory considers social identities to be hierarchical. The theory works with *superordinate* (e.g. "European")*, intermediate* (e.g. "Spanish")*, and subordinate* (e.g. "Sevillano") levels (Turner et al., 1987, in Burke and Stets, 2000; Klein, 2005). An identity becomes activated/salient on a particular level based on *accessibility* and *fit*. *Accessibility* expresses the individual's characteristics; it represents the readiness of a given category to turn into active state. *Fit* describes the situation or more specifically: it 'makes' a connection between the person's expectations and the situation; it says whether these match or not (Hornsey, 2008).

3.2.3 Distinctiveness

Research has demonstrated that people diverge in order to avoid signaling undesired identities. However, people do not only seek to distinguish themselves from others - they want to signal an identity that will be understood by others, particularly significant others (Berger and Heath, 2008). Different individuals may differ more in specific domains they consider personally important (Campbell, 1986); nonetheless, people do tend to diverge in domains that most people see as identity relevant, particularly when such products are seen as symbolic, rather than functional (cf. Berger and Heath, 2007) and generally speaking, people are prone to diverge more from groups they see as being dissimilar from themselves (Berger and Heath, 2008).

This consumer-diverging is closely related to group distinctiveness, which is defined as the perceived difference or dissimilarity between one's own group and another group on a relevant dimension of comparison (Jetten et al., 2001).

The notion that people strive for positive distinctiveness from out-groups represents one of the cornerstones of social identity theory. People are often motivated to achieve a positive social identity (and avoid a negative social identity) and use a number of strategies to do so, among them decreasing affiliations with groups that do not manifest positive associations (Jackson et al., 1996), evaluating the in-group more positively (Jackson et al., 1996), and avoiding products associated with negatively viewed social identities (Tepper, 1994).

Two kinds of out-groups can be distinguished: general out-groups and dissociative groups. Dissociative groups are out-groups people are motivated to avoid being associated with such as 'I am not a wrestling fan and I wish to avoid being associated with that group'. General out-groups are more or less indifferent about the issue at question. The underlying assumption is that it is necessary to differentiate dissociative reference groups from out-groups (in other words, narrow down the kind of out-group) because there are many out-groups that people are not concerned about: for example, 'I am not a violin player, but that group does not have any behavioral or motivational implications for me'[7]. This line of research posits that the mechanism underlying dissociative influence is self-presentation concerns and proves that consumers show a greater tendency to avoid products associated with dissociative reference groups than with out-groups, more generally (White and Dahl, 2007).

It is this work's assumption that consumers feeling a greater connection to sustainable products will feel more identified with the group of sustainable consumers. The other way around: consumers not feeling any connection to sustainable products belong either to a general out-group or to a dissociative reference group. The more neutral they will be, the more it can be assumed that they belong to a general out-group. The more opposed they will be to sustainable products, the more they will be part of the dissociative out-group. This leads to a hypothesis:

There is a positive relationship between identifying oneself with sustainable foodstuffs and identifying oneself as a sustainable consumer.

---

[7] A possible interpretation here might also be that the perceived distinctiveness can be so large that members and non-members do not actively try to maintain or enhance it in any way – this is called *reflective distinctiveness* (Jetten et al., 2004).

3.2.4 Identity signaling

Consumers' identities are expressed and constructed via products (Belk, 1988; Escalas and Bettman, 2005; Kleine et al, 1992). In other words, these products can serve as signals of corresponding identities. People tend to express identity in the same domains that others use to infer identity. Research has shown that the consumers exhibit high consensus regarding these domains and that people infer identity from product choices that are publicly visible and made from a large choice set and take time or effort to make (Belk, 1981). The particular identity that is inferred depends on the set of people who own or buy the same (or very similar) consumption constellation (Berger and Heath, 2007). For example, a Marlboro man look-alike will probably like the outdoors, fishing and hunting, based on the way he is clothed and because he smokes Marlboro; videlicet, because of how he is dressed and what he smokes, it can be assumed that he is trying to emulate the typical American rugged cowboy style, he is conservative and patriotic (or possibly that is at least what he wants the others to think).

Theoretically, any product can be used for identity signaling; however, some domains are used more than others (Belk, 1981) simply because some products communicate their users' characteristics more easily (Escalas and Bettman, 2005). 'Less used' domains can serve to signal identities, but these are less likely to be noticed and correctly decoded by others. Still, these domains can facilitate interaction with other members of a relevant in-group.

It is this work's assumption that sustainable foodstuffs belong to the domains important for identity signaling and inferring. This results in a hypothesis:

Identification with sustainable foodstuffs will be considerably stronger for the in-group as compared to the out-group.

Within the set of sustainable foodstuffs, some products are more and some less likely to be bought by non-sustainable consumers. The items that are least or less likely to be bought by non-sustainable consumers can be assumed to be *distinct* from the other items of the sustainable consumption constellation.

It is likely that the perceived overall distinctiveness of the elicited items will be similar for the in- and out-group: both groups will rate relatively high distinctiveness because non-sustainable consumers are not likely to buy sustainable foodstuffs as they do not have a developed sustainable identity and thus they do not signal it via sustainable foodstuffs. This leads us to another hypothesis:

Both groups will rate distinctiveness of the elicited sustainable foodstuffs similarly.

3.2.5 Sustainable identity

Self-conception can be broken down to the various identities that it is comprised of. Analogously, each identity can be further disentangled into various dimensions. Sustainable identity can have for example the following dimensions: concern about conventional agricultural practices, food safety, human health, animal welfare, and the environment (cf. Yiridoe, 2005). Evidently, having a sustainable identity does not necessarily involve all of the aforementioned, nor it is limited solely to this list. People express and construct their own identities which can have the same core but not essentially the same dimensions. Part of this sustainable identity expression and formation can be also eating in a sustainable way. This involves buying food produced in a sustainable way or (also) preparing the meals in a sustainable way. In relation to the

topic of this study, the focus is on food products. It is likely that organically produced food and fair trade products will be elicited the most. A study distinguishing the following organic food categories: cereals, cereal products, potatoes, vegetables, vegetable products, wine, beer, bread, dairy products, meat, eggs, fruits, nuts, and oil seeds was carried out (Woese at al., 1997). Apart from the categories just mentioned, fair trade also offers tea, coffee, juices, chocolate, honey, spices and herbs, and sugar.[8] Thus, the expression or formation of sustainable identity in relation to food will happen along products from these categories. However, forming and expressing a sustainable identity is not an easy process due to constraints the consumers are facing.

Constraints are obstacles that the consumer must overcome in order to achieve his/her goal. Two types of constraints can be distinguished: objective and subjective. Objective constraints prevent the performing of an act (e.g. time scarcity, lack of opportunity, absence of others etc.), subjective constraints prevent the preference for a particular behavioral alternative (Tanner, 1999).

In the case of obtaining sustainable products, the relevant constraints would be e.g. increased price of such products, low accessibility with regard to shopping facilities, or simply lack of alternatives that the consumer would consider and buy.

3.2.3 Summary

Self-conception is quite an important concept: via self-conception, people influence their environment and at the same time the environment affects them with its feedback. The theoretical platform which has been used to embark into the complexities of self-conception is represented by symbolic interactionism. The focus of symbolic interactionism is on social nature of the self and its importance for the individual's interaction patterns. This is also the stand-point which the Social identity theory uses to develop its own theoretical framework – that people are inherently social and construct their identities interacting with others. Social identity theory assumes that the self is comprised of a number of identities with each of these having its own particular resources that construct it. According to the Social identity theory, an identity has to be activated in order to affect behavior. Products serve as signals of corresponding identities. People tend to express identity in the same domains that others use to infer identity. People diverge in order to avoid signaling undesired identities but they do not only seek to distinguish themselves from others - they want to signal an identity that will be understood by others. The mechanism underlying dissociative influence is self-presentation concerns. Consumers show a greater tendency to avoid products associated with dissociative reference groups than with out-groups, more generally. When groups are perceived as being fundamentally different, no further action is taking place to distinguish the groups – this is called reflective distinctiveness. Sustainable identity can be formed and expressed via sustainable food products. Constraints exist that can aggravate the expression and formation of sustainable identity.

---

[8] http://www.fairtrade.net/by_products0.html

4. Research design

4.1 General model

The general model is based on the literature review. The graphical representation is below this section (Figure 1).

Goods are grouped into consumption constellations based on individual criteria via personal categorization (lower part of Figure 1). On the products level, people are learning meanings and values through social interaction[9] and media and subsequently develop the ability to manipulate products and sets of products and create symbols. In other words, products and consumption constellations are coded and decoded based on the learned meanings and values. This is in fact the cornerstone of this study – that people (groups) code and decode differently. Goods can be perceived as (not) prototypical and (not) central with regard to a particular lifestyle or (not) distinctive with regard to sustainable identity (middle part of Figure 1). This does not mean that two completely different concepts are combined as in the end, sustainable identity is expressed in a person's lifestyle. It is the coding and decoding that affects the way how products are perceived. Self conception is the resultant force of a number of identities that an individual has (upper part of Figure 1). Each active identity has a particular set of goods (consumption constellation) that express and construct it. Consequently, the total of identities (and their respective products or consumption constellations) results in the lifestyle that a person has. This is the level, where self-expression takes place. The reasons there are bi-directional arrows in the model (see upper part of Figure 1) are as follows: when a person obtains a new identity, he/she acquires a relevant set of products which influences the self-conception and consequently the lifestyle. The other way around, when self-conception changes, it can influence the lifestyle a person has which results in identity creation/discard. The whole scheme is framed within social context by definition.

---

[9] Basic symbolic interactionism premise
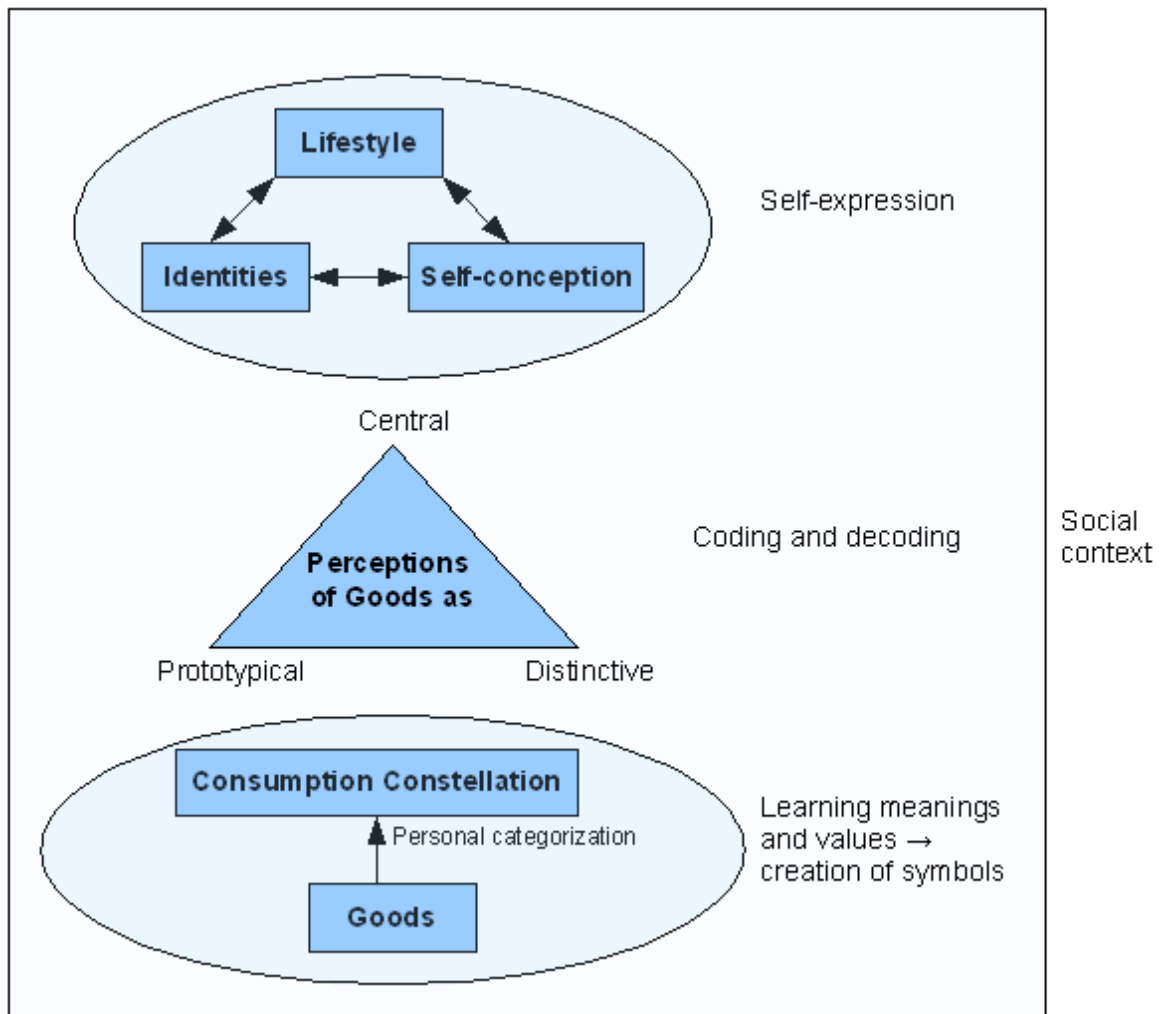
Figure 1: General model

4.2 Research model

Self-declared sustainable consumers are grouped into the so-called in-group based on the results of the sustainable identity scale. Self-declared non-sustainable consumers are grouped into the so-called out-group (upper part of Figure 2).

The core of this work is represented by the differences in perceptions between the in- and the out-group. The objects of these perceptions are prototypical[10] consumption constellation components (middle part of Figure 2); specifically, the components of a sustainable evening meal elicited by the respondents (members of the in- and out-groups).

These perceptions are to be researched along three constructs: centrality, distinctiveness and identification (lower part of Figure 2).

The relation to the general model is as follows: sustainable consumers have a sustainable identity affecting their self-conception and their general lifestyle (upper parts of the models); non-sustainable consumers do not have sustainable identity

---

[10] Firstly, the respondents were asked to elicit typical food products of a sustainable evening meal; subsequently, 10% cut-off rate (elicited items had to be mentioned at least by 10% of each group's respondents) was applied as used by Solomon (1988) to pass from typical to prototypical items

developed and it can be said that their self-conception and related constructs are affected by the lack of this sustainable identity. Hence, both groups' perceptions are affected: the in-group's perceptions are affected by having the sustainable identity; the out-group's perceptions are affected by not having the sustainable identity. This leads to differences in the groups' perceptions. These differences in perceptions can be interpreted as differences in coding and decoding as described in the general model. Hypotheses related to the research model are mentioned in the following section.
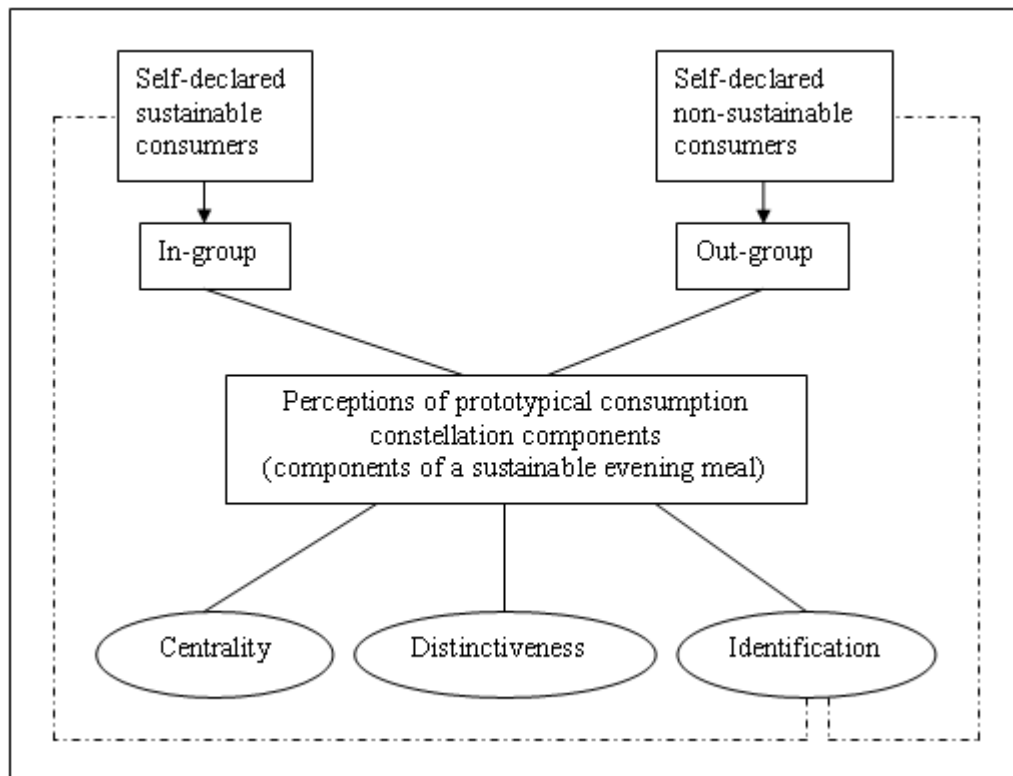
Figure 2: Research model

4.3 Hypotheses

H1: The in-group will elicit more items for the typical sustainable evening meal as compared to the out-group.

H2: In-group will show lower consensus in terms of what products can be considered being typical for a sustainable evening meal as compared to the out-group.

H3: In-group will rate centrality of the prototypical sustainable evening meal items to sustainable lifestyle lower as compared to the out-group.

H4: Perceived distinctiveness of the prototypical sustainable food products will be similar for both the in- and the out-group.

H5: Identification with the prototypical components of a sustainable evening meal will be higher for the in-group as compared to the out-group.

H6: Consumers feeling stronger sustainable identity will demonstrate higher identification with sustainable food products.

4.4 Method and Procedure

The domain of an evening meal has been chosen despite the fact that it combines both functional and symbolic complementarity. It is assumed that the symbolic complementarity in this case dominates due to the fact that sustainable products go beyond simple functionality and communicate more than what is their immediate use.

This work used a quasi-experimental design with aspects of a survey and an experiment design. Data collection has been carried out via a face-to-face check list which is attached in the Appendix (Appendix 1). The first question asked the respondents to elicit typical food items for a sustainable evening meal. When the respondent replied with a category, such as vegetables, it was specified that concrete items were needed. When the respondent asked about what 'sustainable' means, a definition of 'good for the people, planet and profit' was given. If any respondent was not clear about the concept after this statement, it has been stated that no further definition can be given and that it is *their* opinion of what is sustainable that is important. The second question inquired into the reasons of why the respondents considered the elicited items as sustainable. The third question inquired into the perceived centrality of the elicited items making the respondents rate on a 7-item Likert scale (value of 1 = lowest centrality, 4 = neutral, 7 = maximum centrality). The fourth question was intended to determine distinctiveness of the elicited items asking the respondents to answer how likely it was that a non-sustainable consumer would buy the elicited sustainable item (Likert scale; 1 = highest distinctiveness, 4 = neutral, 7 = lowest distinctiveness). In addition to this question, the respondents were asked to provide reasons what were the reasons for the non-sustainable consumer not buying the food items. The fifth question inquired into how much were the elicited items suitable for the respondent meaning how much they could relate or identify with the sustainable food item as opposed to its non-sustainable counterpart (Likert scale; 1 = lowest suitability/identification, 4 = neutral, 7 = highest suitability/identification). Subsequently, the respondents were asked to rate a set of statements related to their identification as sustainable consumers (Likert scale; 1 = total disagreement with the statement, 4 = neutral, 7 = total agreement). This scale consisted of statements based on the works of Ozcaglar-Toulouse et al. (2006), Sparks and Shepherd (1992) and Stone and Crisp (2007).

The sample consisted of Wageningen university students forming a convenience sample. This was based on the assumption that the differences in perceptions of the in-group and of the out-group should hold on every aggregate level of society, be it students, hand-workers, or managers. A big advantage of this sample was its approachability. The in- and out groups had to be controlled for. As there is a Wageningen neighborhood known for its positive approach towards sustainability issues – Droevendaal – it has been decided to control for the in-group in searching for the respondents there. The out-group was comparatively harder to control for and it was decided to search for students preferably of economic and management orientation as it is assumed that these students are more likely to be indifferent or even in opposition towards sustainability issues. Students of other specializations were accepted as respondents as long as their specialization was not directly connected to environment studies. Respondents who demonstrated (in their responses) being very sustainable or very non-sustainable were asked to provide contacts for other people who might have a similar point of view; thus, the 'snow-ball technique' has been used providing exactly 1/6 from the total amount of

respondents (totalling 60). Hence, convenience sampling was mixed with snow-ball sampling in order to increase the sample size.

Respondents were approached in the same manner with one difference: the potential out-group respondents were first asked about what studies they were involved in. If their specialization was not directly connected to environment studies, the purpose of the research was introduced and subsequently they were asked whether they were willing to participate. If their specialization was somehow connected to environment, they were thanked for their answer and no interview has taken place. Respondents in Droevendaal were asked whether they were willing to participate straight away.

5. Analysis and Results

In total, 64 face-to-face interviews were carried out resulting in 30 respondents assigned to the in-group and 30 respondents to the out-group. Four check lists were not included into the analysis due to untrustworthy rating:

1. Assigning the same value in the Likert scales for all elicited items for centrality, distinctiveness, and suitability - 3 respondents
2. Assigning the value of 4 (Indifferent/Neutral) to all statements in the final part of the check list – 1 respondent

The in-group consisted of 15 males and 15 females, the out-group was formed by 14 males and 16 females; thus, making the gender representation balanced.

The average age of the in-group was 24.67 for the in-group and 24.87 for the out-group. There was a 10% cut-off rate used for analysis of hypotheses 3 to 6 so that only items that were mentioned at least 3x by the group members entered the analysis. This was to prevent bias of the results (solely one or two ratings are not representative and can affect the results negatively). The same cut-off rate was used by Solomon (1988).

Hypotheses 3 to 6 were also analyzed when split into categories. One split was according to the taxonomic membership of the elicited items; potatoes were coded into a category of its own: firstly because they were the item mentioned the most, which would affect the mean of the 'Vegetables and vegetable products' category, and secondly because potatoes take a special place in Dutch diet (for category composition see Appendix 5). Second split was based on the item's probable use in the meal (see Appendix 6 for composition of categories).

5.1 Hypothesis 1: Number of elicited sustainable food products

The in-group will elicit more items for the typical sustainable evening meal as compared to the out-group.

The first hypothesis was based on the assumption derived from the Social identity theory that the in-group is more knowledgeable as compared to the out-group. As a consequence, members of the in-group were expected to elicit consumption constellations consisting of higher numbers of items than the members of the out-group. The hypothesis was tested using an independent samples t-test.

There were 393 items elicited in total with the in-group eliciting 257 items and the out-group eliciting 136 items and thus averaging 8.57 items per respondent for the in-group and 4.53 per respondent for the out-group making this difference significant:

$t (46.456) = - 6.444; p < 0.001$

Thus, the **first hypothesis was confirmed** and the in-group did elicit significantly more items as compared to the out-group.

5.2 Hypothesis 2: Index of consensus

In-group will show lower consensus in terms of what products can be considered being typical for a sustainable evening meal as compared to the out-group.

Hypothesis 2 originated in Social identity theory which posits that out-groups tend to have a rather stereotypical view of what is typical of a particular consumption constellation related to a specific lifestyle or a group in general and thus the out-groups demonstrate higher measures of cohesiveness (consensus).

The hypothesis was tested using an index of consensus developed to match the characteristics of this work (see Appendix 4). This index measured the amount of consensus within the groups of what are typical food items for a sustainable evening meal. Contrary to the expectation, the index of consensus was higher for the in-group I_{in} = 0.1562 (= 15.62%) than for the out-group: I_{out} = 0.1081 (= 10.81%) and thus demonstrating that the in-group showed greater consensus of what are the typical food items for a sustainable evening meal. The index does not allow for calculation of conventional significance tests. However, even if statistical significance between the two index values could not be calculated, it is clear that the index of consensus is higher for the in-group and thus, the **second hypothesis had to be rejected.**

5.3 Hypothesis 3: Centrality

In-group will rate centrality of prototypical sustainable evening meal items to sustainable lifestyle lower as compared to the out-group.

Hypothesis 3 had its grounds in the assumption that the in-group will have passed the stage of assigning increased importance to products (material possessions) and will be in the stage of assigning relatively more importance to processes. The out-group on the other hand will not have sufficient knowledge of the processes and thus will assign higher importance (centrality) to the products/possessions.

The hypothesis was tested using one-way ANOVA.

The in-group averaged 5.19 whereas the out-group averaged 5.74 with regard to how important the respondents perceived the elicited food items to be (7-item Likert scale). This was statistically significant:

F (1, 312) = 13.912; p < 0.001 and thus the **third hypothesis** that the out-group will assign higher centrality to the elicited items **was confirmed.**

Centrality according to taxonomic categories

The results (Table 1) have shown that the only category where the means are statistically significant is the category of Vegetables and vegetable products. This category contains most items and thus it is plausible that it was this category that made the difference between the group statistically significant overall.

Potatoes demonstrated to be quite similar in their perceived centrality rating along with Fruit and fruit products for both groups.

Table 1: Centrality according to taxonomic categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Potatoes	In	23	10.65%	5.87	0.920	F (1, 38) = 0.206; p = 0.652
	Out	17	17.35%	6.00	0.866	
Vegetables and vegetable products	In	116	53.70%	5.28	1.198	F (1, 165) = 6.397; p = 0.012
	Out	51	52.04%	5.76	1.031	
Dairy	In	28	12.96%	4.61	1.370	F (1, 31) = 2.240; p = 0.145
	Out	5	5.10%	5.60	1.342	
Meat	In	15	6.94%	5.00	1.690	F (1, 26) = 1.585; p = 0.219
	Out	13	13.27%	5.69	1.109	
Fruit and fruit products	In	10	4.62%	5.40	1.350	F (1, 14) = 0.113; p = 0.741
	Out	6	6.12%	5.17	1.329	
Grain and grain products	In	15	6.94%	4.80	1.146	F (1, 19) = 2.057; p = 0.168
	Out	6	6.12%	5.67	1.506	
Total	In	216	100.00%	5.19	1.285	F (1, 312) = 13.912; p < 0.001
	Out	98	100.00%	5.74	1.068	

Centrality according to functionality (use in meal courses)

Only the categories of Side dish and Main dish proved to be significantly different in their perceived centrality (Table 2); however, these two categories contain more items together than the remaining categories. It is plausible that these two categories have affected the overall difference in centrality means so that it became statistically significant.

Table 2: Centrality according to functional categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Salad	In	55	25.46%	5.22	1.243	F (1, 74) = 2.133; p = 0.148
	Out	21	21.43%	5.67	1.065	
Side dish	In	95	43.98%	5.39	1.133	F (1, 138) = 5.177; p = 0.024
	Out	45	45.92%	5.84	1.043	
Main dish	In	36	16.67%	4.86	1.588	F (1, 55) = 5.990; p = 0.018
	Out	21	21.43%	5.81	1.030	
Dessert	In	16	7.40%	5.06	1.482	F (1, 17) = 0.088; p = 0.770
	Out	3	3.06%	5.33	1.155	
Drinks	In	14	6.48%	4.71	1.204	F (1, 20) = 1.358; p = 0.258
	Out	8	8.16%	5.38	1.408	
Total	In	216	100.00%	5.19	1.285	F (1, 312) = 13.912; p < 0.001
	Out	98	100.00%	5.74	1.068	

5.4 Hypothesis 4: Distinctiveness

Perceived distinctiveness of the prototypical sustainable food products will be similar for both the in- and the out-group.

Hypothesis 4 stems from the fact that consumers' identities are expressed and constructed via products (consumption constellations). Hence, both the in-group and the out-group should perceive sustainable foodstuffs as likely not to be bought by non-sustainable consumers as they have no motive to express an identity they do not have developed.

The hypothesis was tested using one-way ANOVA.

The in-group averaged 2.98 and the out-group averaged 3.02 with regard to how likely it is that a non-sustainable consumer would buy the elicited sustainable products (7-item Likert scale).

The in-group assigned slightly lower probability than the out-group; however, this difference did not prove to be statistically significant:

$F (1, 312) = 0.054; p = 0.817$

This **result confirms the fourth hypothesis** that both the in- and the out-group would assign similar distinctiveness with regard to the elicited items.

Distinctiveness according to taxonomic categories

Split into categories has not shown any divergence from the overall result that the perceived distinctiveness is similar in both groups. The categories of Vegetables and vegetable products and of Meat were perceived as more similar in their distinctiveness than the remaining categories (Table 3).

Table 3: Distinctiveness according to taxonomic categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Potatoes	In	23	10.65%	2.70	1.649	F (1, 38) = 1.325; p = 0.257
	Out	17	17.35%	3.29	1.608	
Vegetables and vegetable products	In	116	53.70%	3.18	1.678	F (1, 165) = 0.022; p = 0.883
	Out	51	52.04%	3.14	1.228	
Dairy	In	28	12.96%	2.68	1.588	F (1, 31) = 1.408; p = 0.244
	Out	5	5.10%	3.60	1.673	
Meat	In	15	6.94%	2.53	1.506	F (1, 26) = 0.020; p = 0.889
	Out	13	13.27%	2.46	1.127	
Fruit and fruit products	In	10	4.62%	3.40	1.838	F (1, 14) = 0.711; p = 0.413
	Out	6	6.12%	2.67	1.366	
Grain and grain products	In	15	6.94%	2.73	1.580	F (1, 19) = 1.186; p = 0.290
	Out	6	6.12%	2.00	0.632	
Total	In	216	100.00%	2.98	1.632	F (1, 312) = 0.054; p = 0.817
	Out	98	100.00%	3.02	1.331	

Distinctiveness according to functionality (use in meal courses)

The categories of Side dish and Dessert were perceived as more similar in terms of their distinctiveness than the remaining categories. No divergence from the overall results was detected (Table 4).

Table 4: Distinctiveness according to functional categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Salad	In	55	25.46%	2.95	1.545	F (1, 74) = 1.387; p = 0.243
	Out	21	21.43%	3.38	1.117	
Side dish	In	95	43.98%	3.08	1.724	F (1, 138) = 0.058; p = 0.810
	Out	45	45.92%	3.16	1.429	
Main dish	In	36	16.67%	2.61	1.379	F (1, 55) = 0.645; p = 0.425
	Out	21	21.43%	2.33	1.017	
Dessert	In	16	7.40%	3.19	1.834	F (1, 17) = 0.027; p = 0.872
	Out	3	3.06%	3.00	1.732	
Drinks	In	14	6.48%	3.07	1.774	F (1, 20) = 0.005; p = 0.944
	Out	8	8.16%	3.13	1.553	
Total	In	216	100.00%	2.98	1.632	F (1, 312) = 0.054; p = 0.817
	Out	98	100.00%	3.02	1.331	

5.5 Hypothesis 5: Identification

Identification with the prototypical components of a sustainable evening meal will be higher for the in-group as compared to the out-group.

Hypothesis 5 represents a basic premise distinguishing the in-group and the out-group. If the in-group did not score higher on identification with sustainable foodstuffs than the out-group, the whole distinction between the in- and the out-group would be at stake to say the least.

The hypothesis was tested using one-way ANOVA. The in-group averaged 5.81, the out-group averaged 3.05 (7-item Likert scale) with the difference being statistically significant:

F (1, 312) = 452.379; p < 0.001

This proves that the in-group members are more strongly related to sustainable food alternatives than the out-group members and thus the **fifth hypothesis was accepted.**

Identification according to taxonomic categories

The difference proved to be statistically significant for all categories except for the category of Grain and grain products (Table 5). Looking at the category's standard deviation, it is comparatively higher than the standard deviation of the other categories. When the outliers where identified and deselected from the analysis, the result showed significant result also for this category:
$F (1, 17) = 29.236; p < 0.001$

Table 5: Identification according to taxonomic categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Potatoes	In	23	10.65%	5.83	0.937	$F (1, 38) = 65.483; p < 0.001$
	Out	17	17.35%	3.00	1.275	
Vegetables and vegetable products	In	116	53.70%	5.72	1.018	$F (1, 165) = 215.273; p < 0.001$
	Out	51	52.04%	3.12	1.143	
Dairy	In	28	12.96%	6.18	0.863	$F (1, 31) = 65.535; p < 0.001$
	Out	5	5.10%	2.80	0.837	
Meat	In	15	6.94%	5.93	0.799	$F (1, 26) = 0.020; p < 0.001$
	Out	13	13.27%	2.69	1.109	
Fruit and fruit products	In	10	4.62%	6.00	0.816	$F (1, 14) = 0.711; p < 0.001$
	Out	6	6.12%	2.67	0.516	
Grain and grain products	In	15	6.94%	5.13	0.834	$F (1, 19) = 1.186; p = 0.121$
	Out	6	6.12%	4.00	2.449	
Total	In	216	100.00%	5.81	0.977	$F (1, 312) = 452.379; p < 0.001$
	Out	98	100.00%	3.05	1.238	

Identification according to functionality (use in meal courses)

No divergence from the overall result was detected (Table 6) and all categories demonstrated to be statistically significant.

Table 6: Identification according to functional categories

Categories	Group	Count	Product percentage	Mean	Standard deviation	F-test
Salad	In	55	25.46%	5.67	1.019	$F (1, 74) = 71.465; p < 0.001$
	Out	21	21.43%	3.43	1.076	
Side dish	In	95	43.98%	5.65	0.998	$F (1, 138) = 160.130; p < 0.001$
	Out	45	45.92%	3.11	1.318	
Main dish	In	36	16.67%	6.17	0.811	$F (1, 55) = 141.869; p < 0.001$
	Out	21	21.43%	2.71	1.384	
Dessert	In	16	7.40%	6.25	0.775	$F (1, 17) = 57.047; p < 0.001$
	Out	3	3.06%	2.67	0.577	
Drinks	In	14	6.48%	6.00	0.961	$F (1, 20) = 69.384; p < 0.001$
	Out	8	8.16%	2.75	0.707	
Total	In	216	100.00%	5.81	0.977	$F (1, 312) = 452.379; p < 0.001$
	Out	98	100.00%	3.05	1.238	

5.6 Hypothesis 6: Relation between Identification as a sustainable consumer and Identification with sustainable food products

Consumers feeling stronger sustainable identity will demonstrate higher identification with sustainable products.

Hypothesis 6 stems from the common-sense assumption that the more a person considers him- or herself a sustainable consumer, the stronger should be his/her identification with the elicited sustainable foodstuffs and the other way around: a person not identifying him- or herself as a sustainable consumer should feel comparatively less identified with sustainable foodstuffs. It is logical that cases when respondents feel positively identified with sustainable foodstuffs, yet do not consider themselves as sustainable consumers, will occur. This might be due to the fact that there are some constraints that inhibit the consumer to act in a sustainable way or the respondents judge themselves in a strict manner. However, the relationship expressed in the hypothesis should hold overall.

The hypothesis was tested for correlation between the variables. First, the average score of the individual respondent's ratings of identification was calculated (from items that passed the 10% cut-off value) and second, the average score of the sustainable identity scale was calculated using all statements except for g) which measured a different construct. Subsequently, correlation between the variables was measured.

The correlation proved to be strong:

$R = 0.878$; $p < 0.01$

$R^2 = 0.771$

Thus, the positive relation between the variables exists and the **sixth hypothesis was accepted.**

5.7 Factor and Reliability analysis of Sustainable identity scale

Factor analysis of the sustainable identity scale showed one factor explaining 80.638% of the total variance (Appendix 10).

All the statements together had Cronbach's alfa equal to 0,973 which can be considered rather high.

The statements intended to measure sustainable identity on the personal - statements a), b) and h) - and group levels - statements c) to f) (penultimate part of Appendix 1). Furthermore, the sustainable identity scale was supposed to measure ethical issues – statements i), j) and k).

5.8 Extra statement measuring group distinctiveness

The statement g) "Sustainable consumers are different from other consumers" was not included into the factor and reliability analyses since it was not related to the remaining items. However, it provides insight into how the two groups perceive sustainable consumers. The in-group averaged 6.07 and the out-group 6.10 meaning that both groups perceive the sustainable consumers to be strongly different from the 'regular' consumers (i.e. non-sustainable). The difference between the groups' ratings was not statistically significant:

$t(58) = 0,191; p = 0,849$

This points out to 'reflective distinctiveness' which is a state when the two groups are perceived different from each other to such an extent that no effort on either side is taking place to distinguish the groups from each other further. However, this would require distinct data for a more thorough analysis to be carried out.

5.9 Correlations between Centrality, Distinctiveness and Identification

The correlation between centrality and distinctiveness was weak (Pearson's $r = 0.106$) and so was the relation between distinctiveness and identification (Pearson's $r = 0.130$). The relationship between centrality and identification was nearly zero (Pearson's $r = -0.048$), thus there was almost no effect (Table 7).

Table 7: Correlations between centrality, distinctiveness and identification

		Centrality	Distinctiveness	Identification
Centrality	Pearson Correlation	1	0.106	-0.048
	Sig. (2-tailed)		0.060	0.396
	N	314	314	314
Distinctiveness	Pearson Correlation	0.106	1	0.130(*)
	Sig. (2-tailed)	0.060		0.021
	N	314	314	314
Identification	Pearson Correlation	-0.048	0.130(*)	1
	Sig. (2-tailed)	0,396	0.021	
	N	314	314	314

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

When broken down to groups, the relationships improved in some cases; however, the effects still remained relatively weak. In case of the in-group (Appendix 13), the relationship between centrality and distinctiveness remained the same (Pearsons's $r = 0,106$); in case of the out-group (Appendix 14), the relation was also nearly the same (Pearsons's $r = 0,105$). Centrality and identification demonstrated weak to medium effect for the in-group (Pearsons's $r = 0,207$) and weak effect for the out-group (Pearsons's $r = 0,127$). Distinctiveness and identification formed a bond demonstrating an effect ranging between weak and medium for the in-group (Pearsons's $r = 0,198$) and a bond demonstrating strong medium effect for the out-group (Pearsons's $r = 0,281$).

5.10 Perceptions of sustainability of the elicited items

Cross tabulation with adjusted residuals was used to compare the two groups. The in-group elicited relatively more reasons/characteristics than the out-group. The in-group elicited 'local' and 'seasonal' comparatively more times than the out-group, but only 'seasonal' was statistically significant (absolute value of adjusted residual equal to 2,2). The only other feature elicited significantly more by the in-group as compared to the out-group was 'grow it yourself' (absolute value of adjusted residual equal to 2,2).

Plants being sustainable because they are close to nature was elicited comparatively more by the out-group than the in-group. This reason also proved to be statistically significant (absolute value of adjusted residual equal to 2,6).

Association between the variables was analyzed using the Chi-square test calculated with the Monte Carlo method (confidence level: 99%, number of samples: 10 000):

$\chi^2 (20) = 34,046$; p = 0,009

Thus, an association between the group and the reason given seems to exist.

Goodman and Kruskal's Tau was used to determine the direction of the association.

The reason for sustainability considered dependent resulted in $\tau = 0,009$; p = 0,097 and therefore not being significant. The group being dependent gave the result of $\tau = 0,188$; p = 0,009. In other words, when a reason is given, there is good probability that it can be assigned to a group (in or out) correctly.

Table 8: Reasons given for the product being sustainable

Reasons	In	Out	Total
No chemicals	14	14	28
Local	19	8	27
Animal welfare	11	12	23
Healthy	5	7	12
Fair trade	6	6	12
Meat alternative	7	5	12
Low input	6	5	11
Seasonal	9	1	10
Plant (close to nature)	1	7	8
Easily produced	4	4	8
Nutritive	4	2	6
Grow-it-yourself	6	0	6
Accessible	2	2	4
Easily stored	4	0	4
Higher standards	0	2	2
Easy preparation (low E used)	2	0	2
Not GMO	2	0	2
Better quality	0	1	1
Expensive	0	1	1
Environmentally friendly packaging	0	1	1
Good for the soil	1	0	1
Total	**103**	**78**	**181**

5.11 Reasons for not buying sustainable foodstuffs

Cross tabulation with adjusted residuals was used to compare the two groups. No statistically significant difference has been determined for any of the reasons elicited. Association between the variables was analyzed using the Chi-square test calculated with the Monte Carlo method (confidence level: 99%, number of samples: 10 000):

$\chi^2 (11) = 14,220; p = 0,218$

The result was not statistically significant and thus, an association between the group and the reason given could not be detected.

Table 9: Reasons for not buying sustainable foodstuffs

Reason	Number of responses given		
	In	Out	Total
Price	27	28	55
Lack of knowledge	16	13	29
Indifference	8	6	14
Availability	6	6	12
Lack of trust	4	7	11
Aesthetics	4	1	5
Habit hard to change	2	3	5
Do not think it's better	2	4	6
Image of a hippie	3	0	3
Sustainability not valued	3	0	3
Convenient NOT to buy sustainable foodstuffs	3	0	3
Advantages of consuming in a sustainable way not made explicit enough	2	0	2
Total	80	68	148

6. Limitations and Recommendations for future research

The biggest limitation of this work was the check list. This is due to the fact that it was many times arduous for the respondents to fill it out. Firstly, the respondents had to think of the typical food products for a sustainable evening meal. Even though this might seem simple, many times it proved rather difficult for the respondents. Secondly, the respondents had to provide reasons for their answers; hence, making the check list tiring for them.

Another limitation was time; nonetheless, this is very likely the case with most studies.

This work can be seen as a first step to identifying the prototypical consumption constellation consisting of sustainable food products perceived by the sustainable and non-sustainable consumers. Subsequently, this could serve as a basis for adapted marketing communication targeting both groups accordingly and hence increasing consumption of sustainable foodstuffs. The next study could for example let the respondents create a sustainable evening meal from a predetermined list made out of the items elicited in this study. Another possibility could be to let the respondents rank-order food products from a predetermined categories list in relation to how prototypically sustainable these items are.

The fact that not all categories showed statistically significant differences with regard to centrality could also serve as a starting point for a more thorough study on this topic.

In addition to this, it could be researched how the sustainable consumers are perceived (apart from being distinct from other consumers).

7. Conclusions

This work has focused on determining differences in perceptions between the so-called in-group (self-declared sustainable consumers) and the so-called out-group (self-declared non-sustainable consumers). The objects of these perceptions were food products considered by the respondents to be typical for a sustainable evening meal.

The results have shown that the in-group has a more profound knowledge about sustainable foodstuffs than the out-group. This was proved by the fact that the in-group elicited higher numbers of sustainable food products than the out-group. However, an alternative explanation might be valid: the in-group elicited higher numbers of sustainable foodstuffs simply because it is a topic that is interesting for the group. Hence, the in-group respondents were more motivated in their answers. Nonetheless, it was not in the scope of this work to determine whether the out-group elicited lower numbers of sustainable foodstuffs because the respondents were less motivated or because they do not have such a profound knowledge as the in-group has.

According to the results, the in-group identified more strongly with sustainable food products than the out-group. In addition to this, there was a strong correlation between identification with sustainable food products and identification as a sustainable consumer.

Contrary to the expectations, the in-group showed higher consensus in terms of what is typical for a sustainable evening meal. An explanation comes at hand: the group of sustainable consumers is more knowledgeable than that of non-sustainable consumers and the consumption constellation of a typical sustainable evening meal is limited;

hence, the members of the in-group agree more with each other.

The in-group considered sustainable foodstuffs less central to sustainable lifestyle as compared to the out-group. It is this work's interpretation that the in-group members assign more centrality to processes as opposed to products when compared to the out-group members who assign more centrality to products as they lack knowledge about relevant processes. When split into taxonomic and functional categories (for composition of categories see Appendices 5 and 6), centrality was not significantly different for all categories; however, in total, the categories that showed statistically significant differences were the most numerous. The fact that not all categories scored equally on centrality might serve as a starting point for finding out what are the reasons for these differences. However, it is probable that if the sample was larger, the categories that did not demonstrate statistically significant differences could become different in a statistically significant manner.

Both the in-group and the out-group scored very similarly with regard to distinctiveness of the sustainable food products. This might be due to the fact that non-sustainable consumers do not have sustainable identity to be expressed which is acknowledged (perhaps not on a conscious level) by both groups. In other words, being or not being a sustainable consumer in the end is based on self-expression. With regard to perceived distinctiveness between the groups of sustainable and non-sustainable consumers, it resulted strong enough to be considered 'reflective distinctiveness' which is a state when the two groups are viewed as being so different that no extra effort on each side takes place to distinguish them further.

It was expected that correlations between centrality and identification, centrality and distinctiveness and between distinctiveness and identification would show in the results. The relationship between centrality and identification was expected as it seemed logical that the more a person considers a sustainable product important (central) for sustainable lifestyle, the more he or she should identify with it (given that the person is a sustainable consumer). This direction was not expected to hold for the group of non-sustainable consumers. The relation between centrality and distinctiveness was expected due to the assumption that the less likely it is that a particular sustainable product will be bought by a non-sustainable consumer, the more central for a sustainable lifestyle it should be. The relationship between distinctiveness and identification was expected because the less likely it is that a particular sustainable product will be bought by a non-sustainable consumer, the more likely it will be a distinctive feature of a sustainable lifestyle, thus of sustainable identity, and hence the stronger identification will be demonstrated by the sustainable consumers. The relationships were weak when both groups were analyzed together and improved when the groups were separated. The in-group demonstrated weak-to-medium effects for centrality-identification and distinctiveness-identification relationships. The out-group showed a medium effect for distinctiveness-identification correlation. Thus, the relationships did not show intensity that was expected apart from the distinctiveness-identification relation for the out-group. Looking at the relationships overall, the relatively weak relationships might be explained by the fact that the researched products are from the food category; meaning that it is "only" food and – even though important – no particular strong relationships can be drawn between the constructs researched in relation to it.

With regard to reasons elicited as distinguishing the food products as sustainable, the in-group provided more characteristics than the out-group. However, both groups provided to-the-point and sophisticated reasons. This was probably due to the fact that the sample

consisted of students of the Wageningen University where the general knowledge about sustainability is rather high. An association between the group and the reason given seems to exist. The direction of the association is as follows: when a reason is given, there is good probability that it can be assigned to a group (in or out) correctly.

The reasons given for why people do not buy sustainable food products were dominated by price, lack of knowledge, and indifference. The in-group elicited more reasons than the out-group and a greater variety of them.

In conclusion, it was confirmed that differences in perceptions between the in-group and the out-group do exist (apart from perceptions of distinctiveness which were in line with the assumptions).

8. References

Baumeister, R. F. (1987). "How the self became a problem: A psychological review of historical research." Journal of personality and social psychology **52**(1): 163-176.

Belk, R. W. (1978). "Assessing the Effects of Visible Consumption on Impression Formation." Advances in Consumer Research **5**: 39-47.

Belk, R. W. (1981). "Determinants of Consumption Cue Utilization in Impression Formation: An Association Derivation and Experimental Verification." Advances in Consumer Research **8**: 170-175.

Belk, R. W. (1988). "Possessions and the Extended Self." The Journal of Consumer Research **15**(2): 139-168.

Belk, R. W., K. D. Bahn, et al. (1982). "Developmental recognition of consumption symbolism." Journal of Consumer Research **9**(JUNE): 4-17.

Bickman, L. (1971). "The effect of social status on the honesty of others." The Journal of social psychology **85**.

Biernat, M., T. Vescio, et al. (1996). "Selective Self-Stereotyping." Journal of Personality & Social Psychology **71**(6): 1194-1209.

Boztug, Y. and T. Reutterer (2008). "A combined approach for segment-specific market basket analysis." European Journal of Operational Research **187**(1): 294-312.

Brewer, M. B. (1991). "The Social Self: On Being the Same and Different at the Same Time." Personality and Social Psychology Bulletin **17**: 475-482.

Brunswik, E. (1955). "Representative Design and Probabilistic Theory in a Functional Psychology." Psychological Review **62**(3): 193-217.

Burke, P. J. (1991). "Identity Processes and Social Stress." American Sociological Review **56**(6): 836-849.

Cairncross, F. (1991). Costing the earth. London, Economist Books.

Calder, B. J. and R. E. Burnkrant (1977). "Interpersonal Influence on Consumer Behavior: An Attribution Theory Approach." The Journal of Consumer Research **4**(1): 29-38.

Cialdini, R. B. (1976). "Basking in reflected glory: Three (football) field studies." Journal of personality and social psychology **34**(3): 366-375.

Cocanougher, A. B. and G. D. Bruce (1971). "Socially Distant Reference Groups and Consumer Aspirations." Journal of Marketing Research **8**(3): 379-381.

Corfman, K. P. (1991). "Comparability and Comparison Levels Used in Choices among Consumer Products." Journal of Marketing Research **28**(3): 368-374.

Deshpande, R., W. D. Hoyer, et al. (1986). "The Intensity of Ethnic Affiliation: A Study of the Sociology of Hispanic Consumption." The Journal of Consumer Research **13**(2): 214-220.

Douglas, M. (1979). The world of goods : towards an anthropology of consumption. London, Lane.

D'Souza, C., M. Taghian, et al. (2006). "An empirical study on the influence of environmental labels on consumers." Corporate Communications **11**(2): 162-173.

Durham, C. A. (2007). "The impact of environmental and health motivations on the organic share of produce purchases." Agricultural and Resource Economics Review **36**(2): 304-320.

Eiser, J. R., S. Pahl, et al. (2001). "Optimism, Pessimism, and the Direction of Self-Other Comparisons." Journal of Experimental Social Psychology **37**(1): 77-84.

Ellemers, N., R. Spears, et al. (1997). "Sticking Together or Falling Apart: In-Group Identification as a Psychological Determinant of Group Commitment Versus Individual Mobility." Journal of Personality and Social Psychology Bulletin **72**: 617-626.

Ellis, S., J. McCullough, et al. (1985). "Cultural values and behavior: Chineseness within geographic boundaries." Advances in Consumer Research **12**: 126-128.

Englis, B. G. and M. R. Solomon (1995). "To be and not to be: lifestyle imagery, reference groups, and the clustering of America." Journal of Advertising **24**(1): 13-28.

Englis, B. G. and M. R. Solomon (1996). "Using consumption constellations to develop integrated communications strategies." Journal of Business Research **37**(3): 183-191.

Englis, B. G., M. R. Solomon, et al. (2001). "Response Latency Verification of Consumption Constellations: Implications for advertising strategy." Journal of Advertising **30**(1): 29-39.

Escalas, J. E. and J. R. Bettman (2005). "Self-construal, reference groups, and brand meaning." Journal of Consumer Research **32**(3): 378-389.

Ethier, K. A. and K. Deaux (1994). "Negotiating social identity when contexts change: Maintaining identification and responding to threat." Journal of personality and social psychology **67**(2): 243-251.

Felcher, E. M., P. Malaviya, et al. (2001). The role of taxonomic and goal-derived product categorization in, within, and across category judgments. **18: 865-887.**

Forehand, M. R. and R. Deshpande (2001). "What we see makes us who we are: Priming ethnic self-awareness and advertising response." Journal of Marketing Research **38**(3): 336-348.

Forehand, M. R., R. Deshpandé, et al. (2002). "Identity salience and the influence of differential activation of the social self-schema on advertising response." Journal of Applied Psychology **87**(6): 1086-1099.

Gibbons, K. (1969). "Communication aspects of women's clothes and their relation to fashionability." British Journal of Social and Clinical Psychology **8**: 301-312.

Gutman, J. (1982). "A Means-End Chain Model Based on Consumer Categorization Processes." The Journal of Marketing **46**(2): 60-72.

Hamid, P. N. (1972). "Some effects of dress cues on observational accuracy, a perceptual estimate, and impression formation." The Journal of social psychology **86**: 279-289.

Harris, P. B. and D. Sachau (2005). "Is cleanliness next to godliness? The role of housekeeping in impression formation." Environment and Behavior **37**(1): 81-101.

Hertwich, E. G. (2005). "Life cycle approaches to sustainable consumption: A critical review." Environmental Science and Technology **39**(13): 4673-4684.

Hirschman, E. C. (1981). "American Jewish Ethnicity: Its Relationship to Some Selected Aspects of Consumer Behavior." The Journal of Marketing **45**(3): 102-110.

Hoelter, J. W. (1985). "The Structure of Self-Conception: Conceptualization and Measurement." Journal of Personality and Social Psychology **49**(5): 1392-1407.

Hogg, M. and P. Michel (1994). Consumer and consumption constellations: Towards a syntagmatic approach to market structure Proceedings of the European Marketing Academy Conference, Maastricht.

Hogg, M. A. and E. A. Hardie (1992). "Prototypicality, Conformity and Depersonalized Attraction: A Self-Categorization Analysis of Group Cohesiveness." British Journal of Social Psychology **31**: 41-56.

Hogg, M. K. (1998). "Anti-constellations: Conceptualization and Content." European Advances in Consumer Research **3**: 44-49.

Holman, R. H. (1980). "Clothing as Communication: An Empirical Investigation." Advances in Consumer Research Volume **7**: 372-377.

Hornsey, M. J. (2008). "Social identity theory and self-categorization theory: A historical review." Social and Personality Psychology Compass **2-11**: 204-222.

Chatman, C. M. and W. von Hippel (2001). "Attributional Mediation of In-Group Bias." Journal of Experimental Social Psychology **37**(3): 267-272.

Cheryan, S. and G. V. Bodenhausen (2000). "When Positive Stereotypes Threaten Intellectual Performance: The Psychological Hazards of "Model Minority" Status." Psychological Science **11**(5): 399-402.

Choi, J. J. (1984). "Consumption Basket, Exchange Risk, and Asset Demand." The Journal of Financial and Quantitative Analysis **19**(3): 287-298.

Jackson, L. A., L. A. Sullivan, et al. (1996). "Achieving Positive Social Identity: Social Mobility, Social Creativity, and Permeability of Group Boundaries." Journal of Personality and Social Psychology **70**(2): 241-254.

Jeon, Y. H. (2004). "The application of grounded theory and symbolic interactionism." Scandinavian Journal of Caring Sciences **18**(3): 249-256.

Johnston, P., M. Everard, et al. (2007). "Reclaiming the definition of sustainability." Environmental Science and Pollution Research **14**(1): 60-66.

Karelaia, N. and R. M. Hogarth (2008). "Determinants of Linear Judgment: A Meta-Analysis of Lens Model Studies." Psychological Bulletin **134**(3): 404-426.

Kinder, D. R., M. D. Peters, et al. (1980). "Presidential prototypes
" Political behavior **2**(4): 315 -337.

Kinch, J. W. (1963). "A Formalized Theory of the Self-Concept." The American Journal of Sociology **68**(4): 481-486.

Klein, O., R. Spears, et al. (2007). "Social identity performance: Extending the strategic side of SIDE." Personality and Social Psychology Review **11**(1): 28-45.

Kleine III, R. E., S. S. Kleine, et al. (1992). "Mundane everyday consumption and the self: A conceptual orientation and prospects for consumer research." Advances in Consumer Research **19**: 411-415.

Lee, M. L. and T.-W. Hu (1983). "Socioeconomic factors and consumption theories." Mathematical Social Sciences **5**(1): 17-32.

Levy, S. J. and D. W. Rook (1964). Symbolism and Lifestyle. Brands, Consumers, Symbols and Research**: 217-224.

Lynch, J. G., Jr., H. Marmorstein, et al. (1988). "Choices from Sets Including Remembered Brands: Use of Recalled Attributes and Prior Overall Evaluations." The Journal of Consumer Research **15**(2): 169-184.

Madrigal, R. (2001). Social identity effects in a belief-attitude-intentions hierarchy: Implications for corporate sponsorship. **18:** 145-165.

Markus, H. (1977). "Self-schemata and processing information about the self." Journal of personality and social psychology **35**(2): 63-78.

Markus, H. and P. Nurius (1986). "Possible selves." American Psychologist **41**(9): 954-969.

Marques, J. M. (1988). "Context effects on intergroup discrimination: in-group bias as a function of experimenter's provenance." The British journal of social psychology **27**(4): 301.

Maxwell, D. and R. Van der Vorst (2003). "Developing sustainable products and services." Journal of Cleaner Production **11**(8 SPEC.): 883-895.

McDonald, S. and C. J. Oates (2006). "Sustainability: Consumer perceptions and marketing strategies." Business Strategy and the Environment **15**(3): 157-170.

McGuire, W. J., C. V. McGuire, et al. (1978). "Salience of ethnicity in the spontaneous self-concept as a function of one's ethnic distinctiveness in the social environment." Journal of personality and social psychology **36**(5): 511-520.

Meadows, D. H. (1972) The limits of growth: A Report for the Club of Rome's Project on the Predicament of Mankind. www.clubofrome.org/docs/limits.rtf

Mervis, C. B. and E. Rosch (1981). "Categorization of Natural Objects." Annual Review of Psychology **32**: 89-115.

Meyers-Levy, J. and A. M. Tybout (1989). "Schema Congruity as a Basis for Product Evaluation." The Journal of Consumer Research **16**(1): 39-54.

Mick, D. G. (1986). "Consumer Research and Semiotics: Exploring the Morphology of Signs, Symbols, and Significance." The Journal of Consumer Research **13**(2): 196-213.

Mick, D. G., J. E. Burroughs, et al. (2004). "Pursuing the meaning of meaning in the commercial world: An international review of marketing and consumer research founded on semiotics." Semiotica 152(1-4): 1-74.

Nagel, J. (1994). "Constructing Ethnicity: Creating and Recreating Ethnic Identity and Culture." Social Problems 41(1): 152-176.

Nedungadi, P. (1990). "Recall and Consumer Consideration Sets: Influencing Choice without Altering Brand Evaluations." The Journal of Consumer Research 17(3): 263-276.

Nicosia, F. M. and R. N. Mayer (1976). "Toward a sociology of consumption." Journal of Consumer Research 3(September): 65-75.

Owens, S. (2003). "Is there a meaningful definition of sustainability?" Plant Genetic Resources: Characterisation and Utilisation 1(1): 5-9.

Ozcaglar-Toulouse, N., E. Shiu, et al. (2006). "In search of fair trade: ethical consumer decision making in France." International Journal of Consumer Studies 30(5): 502-514.

Porter, J. N. J. (1967). "Consumption Patterns of Professors and Businessmen : A Pilot Study of Conspicuous Consumption and Status." Sociological Inquiry 37(2): 255-266.

Ratneshwar, S., L. W. Barsalou, et al. (2001). "Goal-Derived Categories: The Role of Personal and Situational Goals in Category Representations." Journal of Consumer Psychology 10(3): 147-157.

Ratneshwar, S. and A. D. Shocker (1991). "Substitution in Use and the Role of Usage Context in Product Category Structures." Journal of Marketing Research 28(3): 281-295.

Rosencranz, M. L. (1962). "Clothing Symbolism." The journal of home economics 54(1): 18-22.

Saenz, R. (1991). "The Dynamics of Mexican Ethnic Identity." Ethnic groups 9(1): 17-32.

Shih, M., T. L. Pittinsky, et al. (1999). "Stereotype Susceptibility: Identity Salience and Shifts in Quantitative Performance." Psychological Science 10(1): 80-83.

Solomon, M. R. (1983). "The role of products as social stimuli: A symbolic interactionism perspective." The Journal of consumer research 10(DECEMBER): 319-329.

Solomon, M. R. (1988). "Mapping Product Constellations: A Social Categorization Approach to Symbolic Consumption." Psychology & Marketing **5**(3): 233-258.

Solomon, M. R. (1994). "The big picture: Product complementarity and integrated communications." Journal of advertising research **34**(1): 57-63.

Solomon, M. R., G. Bamossy, et al. (2004). Consumer Behavior: A European Perspective, Prentice Hall.

Solomon, M. R. and B. Buchanan (1991). "A role-theoretic approach to product symbolism: Mapping a consumption constellation." Journal of Business Research **22**(2): 95-109.

Sparks, P. and R. Shepherd (1992). "Self-Identity and the Theory of Planned Behavior: Assesing the Role of Identification with "Green Consumerism"." Social Psychology Quarterly **55**(4).

Spiller, P. T. and B. A. Zelner (1997). "Product Complementarities, Capabilities and Governance: A Dynamic Transaction Cost Perspective." Industrial and Corporate Change **6**(3): 561-594.

Stapel, D. A. and W. Koomen (2000). "Distinctness of others, mutability of selves: Their impact on self-evaluations." Journal of Personality and Social Psychology **79**(6): 1068-1087.

Stets, J. E. (1995). "Role Identities and Person Identities: Gender Identity, Mastery Identity, and Controlling One's Partner." Sociological Perspectives **38**(2): 129-150.

Stets, J. E. and P. J. Burke (2000). "Identity Theory and Social Identity Theory." Social Psychology Quarterly **63**(3): 224-237.

Stone, C. H. and R. J. Crisp (2007). "Superordinate and subgroup identification as predictors of intergroup evaluation in common ingroup contexts." Group Processes and Intergroup Relations **10**(4): 493-513.

Straughan, R. D. and J. A. Roberts (1999). "Environmental segmentation alternatives: A look at green consumer behavior in the new millennium." Journal of Consumer Marketing **16**(6): 558-575.

Stryker, S. (2008). From Mead to a structural symbolic interactionism and beyond. Annual Review of Sociology. **34:** 15-31.

Stryker, S. and R. T. Serpe (1994). "Identity Salience and Psychological Centrality: Equivalent, Overlapping, or Complementary Concepts?" Social Psychology Quarterly **57**(1): 16-35.

Sujan, M. and J. R. Bettman (1989). "The Effects of Brand Positioning Strategies on Consumers' Brand and Category Perceptions: Some Insights from Schema Research." Journal of Marketing Research **26**(4): 454-467.

Sujan, M. and C. Dekleva (1987). "Product Categorization and Inference Making: Some Implications for Comparative Advertising." The Journal of Consumer Research **14**(3): 372-378.

Swami, V., A. Furnham, et al. (2008). The influence of skin tone, hair length, and hair colour on ratings of women's physical attractiveness, health and fertility. **49:** 429-437.

Swan, J. E. and L. J. Combs (1976). "Product Performance and Consumer Satisfaction: A New Concept." The Journal of Marketing **40**(2): 25-33.

Tamir, Y. and A. Nadler (2007). "The role of personality in social identity: Effects of field-dependence and context on reactions to threat to group distinctiveness." Journal of Personality **75**(5): 927-954.

Taylor, S. E., S. T. Fiske, et al. (1978). "Categorical and Contextual Bases of Person Memory and Stereotyping." Journal of Personality and Social Psychology **36**(7): 778-793.

Tepper, K. (1994). "The Role of Labeling Processes in Elderly Consumers' Responses to Age Segmentation Cues." The Journal of Consumer Research **20**(4): 503-519.

Thornton, G. R. (1944). "The effect of wearing glasses upon judgments of personality traits of persons seen briefly." Journal of applied psychology **28**(3): 203 -207.

Tigert, D. J. (1971). "The fast food franchise: Psychographic and demographic segmentation analysis." Journal of retailing **47**(SPRING): 81-90.

Triandis, H. C., W. D. Loh, et al. (1966). "Race, status, quality of spoken English, and opinions about civil rights as determinants of interpersonal attitudes." Journal of personality and social psychology **3**(4): 468-472.

Tversky, A. (1977). "Features of similarity." Psychological review **84**(4): 327-352.

Vos, R. O. (2007). "Defining sustainability: A conceptual orientation." Journal of Chemical Technology and Biotechnology **82**(4): 334-339.

White, K. and D. W. Dahl (2007). "Are all out-groups created equal? The influence of consumer identity and dissociative reference groups on consumer preferences." Journal of Consumer Research.

Wilder, D. A. and P. N. Shapiro (1984). "Role of out-group cues in determining social identity." Journal of Personality and Social Psychology **47**(2): 342-348.

Wilson, M. A. and N. E. Mackenzie (2000). "Social Attributions based on Domestic Interiors." Journal of Environmental Psychology **20**(4): 343-354.

Wise, G. L. (1974). "Differential Pricing and Treatment by New-Car Salesman: The Effect of the Prospect's Race, Sex, and Dress." The Journal of Business **47**(2): 218-230.

Yiridoe, E. K., S. Bonti-Ankomah, et al. (2005). "Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: A review and update of the literature." Renewable Agriculture and Food Systems **20**(4): 193-205.

9. Appendix

Appendix 1

Check list

Dear participant, this check list is part of a thesis research carried out for the Wageningen University. It will take approximately 15 minutes. Any information provided is confidential. There are no right or wrong answers.

1. What food items do you consider typical for a Dutch sustainable evening meal? Please indicate concrete products (not categories) into the first column labeled "Concrete products". You do not have to fill out all the cells. When you have to think hard about the next item, please continue to the next question.

Concrete products	Why sustainable?	How essential is the item in relation to Sustainable lifestyle? 1 = least essential; 7 = most essential	How likely is it that a non-sustainable consumer would by this product? 1 = least likely; 7 = most likely	This product suits me well: 1 = it absolutely does NOT suit me; 7 = it suits me very well
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

2. Can you describe what makes these food items sustainable? One or two key words are a sufficient answer.

3. Please rate the elicited items from the first column on a scale from 1 to 7 with regard to how essential (important) you consider them in relation to sustainable lifestyle. When you rate with the value of 1, it means that you consider the item as least essential. Assigning the value of 7 means that you consider the item being most essential to sustainable lifestyle.

4. Please indicate how likely it is for a non-sustainable consumer to buy the elicited items on a scale from 1 to 7. Value of 1 signifies that the non-sustainable consumer is least likely to buy such product, value of 7 means that the consumer is most likely to buy such product. For example, imagine a situation when a non-sustainable consumer walks into a shop and sees normal variant of the product you have elicited and right next to it a sustainable alternative of the same product. How likely is it that this non-sustainable consumer will buy the sustainable alternative?

5. Please rate how much the elicited items suit you as compared to the products' non-sustainable alternatives – assigning the value of 1 means that the product does not suit you at all and that you prefer the 'normal' alternative, assigning the value of 7 signifies that the products suit you very well and that you prefer the sustainable alternative.

6. Please indicate what might be the reasons why consumers do not purchase sustainable food products.

7. In the following part, you are kindly requested to indicate whether you agree with the following statements. The scale stays the same, ranging from 1 (completely disagree) to 7 (completely agree).

Statement	Totally Disagree	Mostly Disagree	Slightly Disagree	Neutral	Slightly Agree	Mostly Agree	Totally Agree
	1	2	3	4	5	6	7
a) I think of myself as of a sustainable consumer.							
b) I think of myself as of someone who is very concerned with sustainability issues.							
c) I identify myself with the group of sustainable consumers.							
d) I feel strong ties to the group of sustainable consumers.							
e) I feel a sense of solidarity with sustainable consumers.							
f) I fit in well with other members of the group of sustainable consumers.							

g) Sustainable consumers are different from other consumers.							
h) Sustainable consumers are different from me.							
i) I prefer to buy socially responsible products (mindful of environment, energy spending, people from developing countries).							
j) I pay attention to the production method (environmentally friendly, fair labor conditions) of the products I buy.							
k) I pay attention to ethical labels (Fair Trade, Max Havelaar, Bio, Eko) on the products.							

8. Please indicate your gender:

Male		Female	

9. Please indicate your age: _____

Thank you for your participation.

Appendix 2

Elicited products

In	Product	Count		Out	Product	Count
	Potatoes	23			Potatoes	17
	Carrots	17			Rice	9
	Rice	11			Salad	8
	Milk	11			Soya	8
	Eggs	9			Carrots	7
	Salad	8			Beans	7
	Beef	8			Chicken	7
	Tomatoes	8			Beef	6
	Cheese	8			Tomatoes	6
	Broccoli	8			Milk	5
	Beans	7			Apples	3
	Chicken	7			Pasta	3
	Apples	7			Cabbage	3
	Pasta	7			Bread	3
	Cabbage	7			Juice	3
	Yoghurt	6			Beet root	3
	Cucumber	6			Eggs	2
	Peas	6			Cheese	2
	Bread	5			Yoghurt	2
	Onions	5			Cucumber	2
	Courgette	5			Onions	2
	Lentils	4			Courgette	2
	Pumpkins	4			Lentils	2
	Tofu	4			Pumpkins	2
	Spinach	4			Tofu	2
	Pepper	3			Pepper	2
	Coffee	3			Coffee	2
	Pears	3			Wine	2
	Butter	3			Water	2
	Leek	3			Fish	2
	Herbs	3			Buck wheat	2
	Curly kale	3			Broccoli	1
	Juice	2			Peas	1
	Wine	2			Spinach	1
	Strawberries	2			Strawberries	1
	Mushrooms	2			Mushrooms	1
	Cauliflower	2			Cauliflower	1
	Pork	2			Honey	1
	Nuts	2			Maise	1
	Brussel sprout	2			Total	136

In

Product	Count
Tea	2
Beet root	1
Water	1
Fish	1
Wheat	1
Celery	1
Parsley	1
Ice-cream	1
Garlic	1
Flour	1
Sun flower seeds	1
Ketchup	1
Pastinak	1
Tempeh	1
Oats	1
Asparagus	1
Bananas	1
Rhubarb	1
Kus-kus	1
Aubergine	1
Tzukini	1
Chocolate	1
Winter purslane	1
Corn salad	1
Total	257

Appendix 3

Elicited items after 10% cut-off

In-group

Products	Number of responses	Percentage (within the group)
Potatoes	23	76.67%
Carrots	17	56.67%
Rice	11	36.67%
Milk	11	36.67%
Eggs	9	30.00%
Cheese	8	26.67%
Salad	8	26.67%
Beef	8	26.67%
Broccoli	8	26.67%
Tomatoes	8	26.67%
Apples	7	23.33%
Beans	7	23.33%
Chicken	7	23.33%
Pasta	7	23.33%
Cabbage	7	23.33%
Peas	6	20.00%
Yoghurt	6	20.00%
Cucumber	6	20.00%
Bread	5	16.67%
Onions	5	16.67%
Courgette	5	16.67%
Lentils	4	13.33%
Pumpkins	4	13.33%
Spinach	4	13.33%
Tofu	4	13.33%
Pears	3	10.00%
Butter	3	10.00%
Leek	3	10.00%
Herbs	3	10.00%
Pepper	3	10.00%
Curly kale	3	10.00%
Coffee	3	10.00%

Out-group

Products	Number of responses	Percentage (within the group)
Potatoes	17	56.67%
Rice	9	30.00%
Salad	8	26.67%
Soya	8	26.67%
Carrots	7	23.33%
Beans	7	23.33%
Chicken	7	23.33%
Beef	6	20.00%
Tomatoes	6	20.00%
Milk	5	16.67%
Apples	3	10.00%
Pasta	3	10.00%
Cabbage	3	10.00%
Bread	3	10.00%
Juice	3	10.00%
Beet root	3	10.00%

Appendix 4

Index of consensus

Observed:

$$[\textstyle\sum_i (r_i * (r_i - 1)/2)]:[(n*(n-1)/2)* (\textstyle\sum r_i)/n]$$

Random:

$$[\textstyle\sum_i (r_i * (r_i - 1)/2)]:[(n*(n-1)/2)* (\textstyle\sum r_i)/n] \text{ where } r_i = (\textstyle\sum p_j)/k$$

Adjusted:

$$I = (I_{observed} - I_{random}):(1-I_{random})$$

r_i = number of times a product was mentioned
n = number of respondents
k = total number of products
p_j = number of products mentioned by respondent "j"
$\sum p_j = \sum r_i$
$[\sum_i (r_i * (r_i - 1)/2)]$ = number of consistent pairs
$[(n*(n-1)/2)* (\sum r_i)/n]$ = maximum number of consistent pairs given marginals
$(\sum p_j)/k$ = expected frequencies under uniform distribution across products

In-group
$I_{observed}$ = 0.2439
I_{random} = 0.1040
$I_{adjusted}$ = 0.1562

Out-group:
$I_{observed}$ = 0.1846
I_{random} = 0.0858
$I_{adjusted}$ = 0.1081

Appendix 5

Membership in taxonomic categories

1. **Potatoes**
2. **Vegetables and vegetable products:**
   - Carrots
   - Rice
   - Salad
   - Broccoli
   - Tomatoes
   - Beans
   - Cabbage
   - Peas
   - Cucumber
   - Onions
   - Courgette
   - Lentils
   - Pumpkins
   - Spinach
   - Tofu
   - Leek
   - Herbs
   - Pepper
   - Curly kale
   - Soya
   - Beet root
3. **Milk and milk products:**
   - Milk
   - Cheese
   - Yoghurt
   - Butter
4. **Grain and grain products**
   - Bread
   - Pasta
   - Coffee
5. **Fruit and fruit products**
   - Apples
   - Pears
   - Juice
6. **Meat**
   - Beef
   - Chicken
7. **Eggs**

Membership in functional categories

1. **Main dish**
   - Cheese
   - Eggs
   - Beef
   - Chicken
   - Tofu
   - Soya
2. **Side dish**
   - Potatoes
   - Rice
   - Beans
   - Broccoli
   - Peas
   - Pasta
   - Cabbage
   - Bread
   - Lentils
   - Pumpkins
   - Spinach
   - Butter
   - Leek
   - Curly kale
   - Beet root
3. **Salad**
   - Carrots
   - Salad
   - Tomatoes
   - Cucumber
   - Onions
   - Courgette
   - Herbs
   - Pepper
4. **Dessert**
   - Apples
   - Pears
   - Yoghurt
5. **Drinks**
   - Milk
   - Juice
   - Coffee

Appendix 7

Sustainable food products ordered according to their centrality means (after 10% cut-off)

	In-group	
Product	**Centrality mean**	**Standard deviation**
Pumpkins	6.25	0.500
Potatoes	5.87	0.920
Onions	5.80	0.837
Courgette	5.80	0.447
Beans	5.71	1.380
Pears	5.67	1.155
Curly kale	5.67	1.528
Carrots	5.65	1.057
Cabbage	5.43	1.134
Apples	5.29	1.496
Broccoli	5.25	1.389
Tomatoes	5.25	1.282
Lentils	5.25	0.957
Peas	5.20	1.506
Bread	5.20	1.095
Chicken	5.14	1.574
Rice	5.00	1.054
Spinach	5.00	1.155
Tofu	5.00	0.816
Butter	5.00	1.000
Coffee	5.00	2.000
Eggs	4.89	1.616
Beef	4.88	1.885
Cucumber	4.67	1.211
Leek	4.67	1.528
Herbs	4.67	2.309
Pepper	4.67	1.155
Milk	4.64	1.027
Cheese	4.50	1.852
Yoghurt	4.50	1.643
Pasta	4.43	0.787
Salad	4.38	1.408

	Out-group	
Product	**Centrality mean**	**Standard deviation**
Bread	6.67	0.577
Salad	6.25	0.886
Potatoes	6.00	0.866
Soya	6.00	0.926
Beans	6.00	0.816
Cabbage	6.00	1.000
Chicken	5.86	0.900
Rice	5.67	1.225
Milk	5.60	1.342
Beef	5.50	1.378
Tomatoes	5.50	0.548
Apples	5.33	1.155
Beet root	5.33	1.528
Carrots	5.14	1.345
Juice	5.00	1.732
Pasta	4.67	1.528

Appendix 8

Sustainable food products ordered according to their distinctiveness means (after 10% cut-off)

In-group

Product	Distinctiveness mean	Standard deviation
Butter	1.67	0.577
Pepper	1.67	0.577
Spinach	1.75	0.500
Courgette	1.80	0.447
Tofu	2.00	1.414
Beef	2.38	1.768
Cheese	2.38	1.188
Pasta	2.57	1.272
Broccoli	2.63	1.061
Herbs	2.67	1.155
Potatoes	2.70	1.608
Chicken	2.71	1.254
Bread	2.80	2.049
Yoghurt	2.83	1.941
Tomatoes	2.88	1,553
Rice	3.00	1.944
Coffee	3.00	2.000
Cucumber	3.00	1.673
Leek	3.00	1.000
Salad	3.00	1,852
Milk	3.09	1.814
Apples	3.14	1.864
Eggs	3.22	1.302
Carrots	3.35	1.656
Beans	3.57	2.149
Onions	3.60	1.517
Peas	3.67	1.633
Cabbage	3.71	2.059
Pumpkins	3.75	1.708
Pears	4.00	2.000
Lentils	4.50	2.082
Curly kale	5.67	1.528

Out-group

Product	Distinctiveness mean	Standard deviation
Bread	1.67	0.577
Soya	2.13	0.835
Beef	2.33	1.506
Juice	2.33	1.155
Pasta	2.33	0.577
Tomatoes	2.50	0.548
Chicken	2.57	0.787
Rice	3.00	1.225
Apples	3.00	1.732
Potatoes	3.29	1.649
Salad	3.50	0.926
Beans	3.57	1.134
Milk	3.60	1.673
Cabbage	3.67	2.082
Beet root	3.67	1.528
Carrots	4.00	1.291

Appendix 9

Sustainable food products ordered according to their identification means

In-group				Out-group		
Product	**Identification mean**	**Standard deviation**		**Product**	**Identification mean**	**Standard deviation**
Yoghurt	6.67	0.516		Bread	5.33	2.887
Pumpkins	6.50	0.577		Carrots	3.57	1.134
Spinach	6.50	1.000		Tomatoes	3.50	1.517
Eggs	6.44	0.882		Cabbage	3.33	0.577
Cheese	6.38	0.744		Salad	3.25	0.707
Lentils	6.25	0.957		Beans	3.14	1.069
Courgette	6.20	1.095		Potatoes	3.00	1.275
Carrots	6.12	0.993		Rice	2.89	0.601
Milk	6.09	0.944		Beef	2.83	1.169
Apples	6.00	0.816		Milk	2.80	0.837
Cabbage	6.00	1.291		Soya	2.75	1.832
Chicken	6.00	0.816		Apples	2.67	0.577
Pears	6.00	1.000		Juice	2.67	0.577
Tofu	6.00	0.816		Pasta	2.67	1.155
Beef	5.88	0.835		Chicken	2.57	1.134
Beans	5.86	1.215		Beet root	2.33	1.155
Potatoes	5.83	0.937				
Salad	5.75	0.707				
Coffee	5.67	1.155				
Curly kale	5.67	1.528				
Herbs	5.67	1.528				
Peas	5.67	0.816				
Onions	5.40	1.140				
Broccoli	5.38	1.061				
Cucumber	5.33	0.816				
Rice	5.30	0.949				
Bread	5.20	0.837				
Tomatoes	5.13	0.991				
Butter	5.00	0.000				
Leek	5.00	0.000				
Pasta	4.86	0.690				
Pepper	4.67	0.577				

Appendix 10

Factor analysis of sustainable identity scale components

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.064	80.638	80.638	8.064	80.638	80.638
2	.492	4.917	85.554			
3	.423	4.225	89.780			
4	.334	3.339	93.119			
5	.182	1.819	94.937			
6	.174	1.743	96.680			
7	.152	1.524	98.204			
8	.106	1.064	99.269			
9	.041	.406	99.674			
10	.033	.326	100.000			

Extraction Method: Principal Component Analysis.

Appendix 11

Factor analysis of sustainable identity scale components

Component Matrix[a]

	Component
	1
I prefer to buy socially responsible products.	0.952
I think of myself as of a sustainable consumer.	0.936
I pay attention to the production method of the products I buy.	0.932
I identify myself with the group of sustainable consumers.	0.925
I feel strong ties to the group of sustainable consumers.	0.907
I fit in well with other members of the group of sustainable consumers.	0.907
I think of myself as of someone who is very concerned with sustainability issues.	0.905
I pay attention to ethical labels on the products.	0.883
Sustainable consumers are different from me.	0.820
I feel a sense of solidarity with the group of sustainable consumers.	0.799

Extraction Method: Principal Component Analysis.
[a] 1 components extracted.

Appendix 12

Reliability analysis of sustainable identity scale components

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I think of myself as of a sustainable consumer.	36.1667	199.023	0.920	0.968
I think of myself as of someone who is very concerned with sustainability issues.	35.3833	197.698	0.882	0.970
I identify myself with the group of sustainable consumers.	36.3333	193.650	0.904	0.969
I feel strong ties to the group of sustainable consumers.	36.2833	200,851	0.884	0.969
I feel a sense of solidarity with the group of sustainable consumers.	35.3667	205.897	0.759	0.974
I fit in well with other members of the group of sustainable consumers.	36.3167	202.152	0.883	0.970
I prefer to buy socially responsible products.	35.5833	192.552	0.939	0.967
I pay attention to the production method of the products I buy.	35.8333	196.819	0.915	0.968
I pay attention to ethical labels on the products.	35.1833	201.068	0.855	0.970
Sustainable consumers are different from me.	36.3500	211.791	0.780	0.973

Appendix 13

Correlations between centrality, distinctiveness and identification for the in-group

Correlations

		Centrality	Distinctive ness	Identification
Centrality	Pearson Correlation	1	0.106	0.207(**)
	Sig. (2-tailed)		0.119	0.002
	N	216	216	216
Distinctiveness	Pearson Correlation	0.106	1	0.198(**)
	Sig. (2-tailed)	0.119		0.003
	N	216	216	216
Identification	Pearson Correlation	0.207(**)	0.198(**)	1
	Sig. (2-tailed)	0.002	0.003	
	N	216	216	216

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

Appendix 14

Correlations between centrality, distinctiveness and identification for the out-group

Correlations

		Centrality	Distinctive ness	Identification
Centrality	Pearson Correlation	1	0.105	0.127
	Sig. (2-tailed)		0.303	0.213
	N	98	98	98
Distinctiveness	Pearson Correlation	0.105	1	0.281(**)
	Sig. (2-tailed)	0.303		0.005
	N	98	98	98
Identification	Pearson Correlation	0.127	0.281(**)	1
	Sig. (2-tailed)	0.213	0.005	
	N	98	98	98

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