Key values of Chinese consumers buying sustainable goods: the case of Green Food in Fuzhou

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This research identifies the key individual values guiding the choice of Chinese customers for Green Food. The work builds on literature on sustainable consumption and the role of values in explaining consumers' buying behaviour. A questionnaire on values and buying behaviour was administered to customers who buy Green Food in Fuzhou, China. The results indicated that the well-being and health of the respondents and their closest relations were the most important reasons for buying Green Food. Concern for the planet and intergenerational solidarity was less important for most respondents. Lifestyle considerations did not seem to play a role. In the promotion of Green Food the main focus should be on health benefits; only a limited group will be responsive to arguments in favour of the Earth's natural environment. The present study was limited to a specific city in China and to buyers of Green Food. Future research should consider replication in other cities and the inclusion of non-buyers. Nevertheless, this study offered some insights into the rapidly expanding market for Green Food in China. In contrast to mature economies such as the European Union and USA, Chinese consumers are more concerned for personal and family health and less for the environment at large. An unexpected result is that buying motives from existing literature should be reviewed in the light of research on value orientation.

Keywords: food consumption, Green Food, sustainable consumption, values

Kernwaarden van Chinees consumenten voor het kopen van duurzame producten: in dit geval Green Food in Fuzhou.

Dit onderzoek identificeert de belangrijkste individuele waarden die invloed hebben op de keuze voor Green Food van Chinees klanten. Dit onderzoek borduurt voort op bestaande literatuur over duurzame consumptie en de rol van waarden die het koopgedrag van consumenten verklaren. Er is een enquête gehouden om zo de waarden en het koopgedrag van klanten te registeren die reeds Green Food kopen in Fuzhou (China). Het welzijn en de gezondheid van de respondenten en hun naasten vormen de belangrijkste reden voor het kopen van Green Food. De bezorgdheid om de planeet en volgende generaties is minder belangrijk voor de meeste respondenten. Lifestyle overwegingen lijken helemaal geen rol te spelen. Bij het promoten van Green Food zou de nadruk moet liggen op de voordelen voor de gezondheid, slechts een beperkte groep consumenten zal reageren op argumenten ten gunste van de duurzaamheid van de aarde en haar natuurlijke omgeving. Deze studie is beperkt tot een bepaalde stad in China en tot kopers van Green Food. Replicatieonderzoeken zouden andere steden moeten overwegen net als het betrekken van niet-kopers. Bij het promoten van Green Food zou de nadruk moet liggen op de voordelen voor de gezondheid, slechts een beperkte groep consumenten zal reageren op argumenten ten gunste van de duurzaamheid van de aarde en haar natuurlijke omgeving. Toch dit onderzoek biedt een aantal inzichten in de snel groeiende markt voor Green Food in China. In tegenstelling tot consumenten van volwassen economieën zoals de Europese Unie en de VSA, maakt de Chinees consument zich meer zorgen over zijn persoonlijke gezondheid en die van zijn familie, en minder over het milieu. Een onverwacht resultaat is dat de aankoop motieven vermeld in bestaande literatuur, herzien zullen moeten worden in het kader van onderzoek met betrekking tot waardeoriëntatie.

Trefwoorden: consumentenwaarden, duurzame consumptie, Green Food, voedselconsumptie

摘要： 中国人购买可持续产品时的核心价值导向—以福州的绿色食品为例

本研究甄别了中国消费者购买绿色食品时，起核心导向作用的个体价值。那些关于永续性消费以及价值观的作用在消费者购买行为中的体现的文献是本文的研究基础。我们向购买绿色食品的福州居民发放有关价值观和消费行为的调查问卷。调查对象自身及其近亲的身体健康状况是其购买绿色食品的主要原因。关心所居住的地球环境以及代际间的团结稳定对于大多数调查者来说并不重要。对于生活方式的思考更是无足轻重。在推广绿色食品的过程中，应将重点放在对健康福利的宣传上；毕竟，关心地球的自然生态环境只是少数人的责任。本研究仅仅局限于中国的某个特定城市，只关注购买绿色食品的人。以后的研究应当考虑覆盖其他城市，并且把那些未购买绿色食品的人也列入调查对象之中。本研究对于如何在中国迅速推广绿色食品市场提供了一些启发。相较于欧盟和美国这些成熟的经济体，中国消费者一般更关心自身和家人的健康而非自然环境。一个意外的发现是，如果想从现有文献中梳理出消费者的购买动机，最好按照对价值导向的研究这一方向来进行。

关键词：食品消费，可持续消费，价值观，绿色食品

Introduction

Since 2001, China's economy has grown noticeably fast. However, this rapid economic growth has not been matched by a rigorous policy towards social development and environmental protection. A substantial increase of pollution and resource degradation is evident in many areas, including agriculture. Sixty percent of all arable land is degraded due to pollution, erosion and drought (IISD, 1999; Sun and Xia, 2002). To counteract this trend, China's government started to promote sustainable agriculture (Nijkamp and Vindigni, 2002).

In this context, the Green Food program (1990) is an important government initiative. The term Green Food refers to quality food 'produced and processed by a specific model under the principles of sustainable development and certified by a particular organization on the basis of special standards and permitted to be sold with the Green Food logo and trademark' (CCICE, 1996: 8; see also Lin, 2002; Liu, 2003). Green Food is thus a certified trademark, positioned between conventionally produced food and organic food. The Green Food program goal was to reach a market share of 95% for Green Food in 2010 (IISD, 1999; Lin, 2002; Liu, 2003), but the market share of Green Food in 2008 was 8%. Apparently, Chinese consumers have not yet embraced Green Food (Paull, 2008).

The main objective of this research was to gain insight into the value orientation of consumers buying Green Food in Fuzhou, China. The paper starts by reviewing relevant literature as an introduction to the methodology. Next, the design of the quantitative study is discussed and the results are analysed. Finally, limitations of the study, recommendations and future research possibilities are presented.

Literature review

Green Food
In China, three food categories carry an environmental certification. Green Food and Hazard-free Food are certified to Chinese standards and Organic Food is certified to international standards (Paull, 2008). For the production of Green Food limited amounts of pesticides and synthetic fertilisers are allowed, as opposed to no chemicals at all for Organic Food. The yield per hectare of Green Food is higher than for organic food and the price for the consumer lower, but still 10–50% higher than the price of conventionally grown food (Liu, 2003; Paull, 2008). It has been argued that while consumers of organic food are objectively aware of the higher price, their subjective price perception is different from that of ordinary consumers. To organic food consumers the higher price is a proxy for quality (Cicia et al., 2002). It has also been repeatedly suggested that pro-environmental values influence the choice for organic and local food (e.g. Vindigni et al., 2002; Jackson, 2005; DEFRA, 2008).

The role of values in explaining (sustainable) consumer behaviour
Values are usually defined as an enduring belief that a certain end state is personally or socially preferable to another one (Rokeach, 1972; Schwartz, 1992). As such, though abstract, values serve as 'a guiding principle for the selection or evaluation of behaviour, people and events' (de Groot, 2008: 10). Although values influence behaviour only indirectly, they are considered important predictors of consumers' behaviour because they are less susceptible of change than other motivational factors (Rokeach, 1972; Bredahl et al., 1998; Shafer et al., 2001; Jayawardhena, 2004; Solomon, 2004).

Sustainable consumption or sustainable purchasing behaviour refers to decisions that consider, in addition to the natural environment, also 'fair trade issues and animal rights issues…or other ethical or political–ideological issues' (Wagner, 1997: 26). As already stated, considerations based on moral or other firmly held values are considered to be strongly related to the choice for sustainable consumption (Vindigni et al., 2002 Jackson, 2005; Lindenberg and Steg, 2007; DEFRA, 2008). Several authors contend that individual human beings develop their moral judgement through life (Kohlberg. 1981; Gilligan. 1982; Wilber, 2000). It has also been shown that different people might put a different weight on the same value (Rokeach, 1973; Schwartz, 1992; Rawwas et al., 1995).

On the basis of the seminal work by Rokeach and Schwarz, two main value orientations have been proposed: egoistic and altruistic values (e.g. Cialdini, 1991; Batson and Powell, 2003). Recent research, though, has theoretically argued (e.g. Stern, 2000; Cavagnaro and Curiel, 2006) and empirically proven (De Groot and Steg, 2007, 2008; de Groot, 2008) the existence of a third, biospheric value orientation that focuses on the ecosystem as a whole. Biospheric values are considered the firmest basis for pro-environmental behaviour.

The general point that can be made on the basis of this literature is that people motivated by egoistic values see, for example, personal health as a value *per se,* disregarding the interests of other people or the natural environment as a whole. People motivated by altruistic values will in their judgment consider the consequences of their actions for the health of their children or other family members (as noted by Makatouni, 2002). Finally, individuals motivated by biospheric values will include other human beings and living creatures in their considerations.

In the next section, these three value orientations are used to review motivators for the purchase of Green Food individuated by previous research.

Value orientations in sustainable consumption

The concern for personal health is a strong motivator for purchasing 'green' products (Fotopoulos and Krystallis, 2002; Zhang and Zhen, 2003). Consumers want food that is safe, i.e. free from pesticides, nutritious and high quality (Harper and Makatouni, 2002). Zhang and Zhen (2003) argue that the most important reason for purchasing Green Food for almost half of Beijing respondents was that it contains less harmful substances, whereas 13.6% of respondents considered Green Food to be more nutritious than conventional food.

In the USA and EU, consumers are willing to spend time and money on products associated with a certain lifestyle because it enhances their identity as individual human beings (Nijmeijer et al., 2004). Food is considered to be one of these products. Personal well-being, self-esteem, and relaxation are regarded as elements in the lifestyle construct (Makatouni, 2002).

In summary, the first set of possible reasons to buy Green Food relates to a concern for *personal* health (safe; nutritious and quality food) and *individual* lifestyle (relaxation; modernity and self-esteem) and is connected with an egoistic value orientation. It is hereafter referred to as 'Care for me' (Cavagnaro and Curiel, 2006).

H1: The 'Care for me' value orientation is positively correlated with the purchase of Green Food.

Research has shown that consumers' attitude towards a product is influenced by the needs of all family members (Levy and Weitz, 2004) and that secure, warm relationships with others influence a person's decision to consider ecological factors when making a purchase (Laroche et al., 2001). Moreover, research shows that consumers are interested in organic food for the benefit of their family members (Baker et al. 2004) and, in particular, their children (Davies et al., 1995; Strong, 1998; Baker et al., 2004). Family values are very strong in China (Michailova and Worm, 2003) and Chinese customers have a heightened sense of environmental concern for their home country (Ip, 2003).

The second set of possible reasons to buy Green Food relates to a concern for the health of family members, the country's natural environment and the wish to be a good citizen, and it is connected with an altruistic value orientation. It is referred to hereafter as 'Care for me and you' (Cavagnaro and Curiel, 2006).

H2: The 'Care for me and you' value orientation is positively correlated with the purchase of Green Food.

According to Makatouni (2002), consumers of organic products express more concern about the impact of agriculture on Earth's natural environment than buyers of non-organic products. Chinese consumers, especially the younger ones, are increasingly aware of environmental issues (Lo and Leung, 2000) and show a growing desire to maintain or improve the environment for future generations (Chan and Cui, 2004). Sriram and Forman (1993) found that purchase of organic food is part of an environmentally conscious lifestyle, implying that consumers value environmental protection and are willing to demonstrate this in their daily activities.

These reasons for buying Green Food are not expressed in terms of the people nearest to the consumer or his country, but as a concern for the natural environment as a whole, for future generations and the future of the Earth. This third set of reasons is connected to a biocentric value orientation and is referred to as 'Care for all' (Cavagnaro and Curiel, 2006). These reasons are hypothesised to be the strongest motivators for Green Food choice.

H3: The 'Care for all' value orientation is positively correlated with the purchase of Green Food and more strongly so than the previous values.

H4: Tenure as a Green Food buyer is positively correlated with items connected with all three value orientations, and strongest with 'Care for all'.

H5: Share of wallet of the Green Food buyer is positively correlated with items connected with all three value orientations, and strongest with 'Care for all'.

H6: The price perception of Green Food is negatively correlated with items connected with all three value orientations, and strongest with 'Care for all'.

To test the relative strengths of the three value orientations, a last hypothesis was formulated representing an ethical dilemma:

H7: Avoiding a hypothetical healthy but environmentally harmful food is positively correlated with the 'Care for all' value orientation, and not or negatively correlated with 'Care for me' and 'Care for me and you'.

In testing the hypotheses, the reasons to buy Green Food connected with each of the three value orientations stand proxy for the values concerned.

Aim and methodology

The aim of the study was to identify the key individual values of Chinese consumers of Green Food. This section provides information on the questionnaire design, sampling, data collection and data analysis.

Questionnaire design

The questionnaire utilises (when possible) items from previous research on sustainable consumption and connects these items to the three value orientations discussed above (Figure 1).

Non-buyers of Green Food were excluded from the research, by asking in the first question whether respondents buy Green Food. The main body of the questionnaire consists of 12 items, each geared to one of the values shown in Figure 1. The items measure only the *professed attitude* of

the consumers and provide the data to test hypotheses 1 to 3. To measure (reported) purchase of Green Foods, three extra items were added to the questionnaire:

Item 13: When did you start buying Green Food? (tenure as a Green Food purchaser)
Item 14: Which percentage of your food purchases consists of Green Food? (share of wallet)
Item 15: How do you perceive the price level of Green Food as compared to conventional food? (price perception)

Items 13 and 14 test hypotheses 4 and 5, respectively; item 15 tests hypothesis 6.

An ethical dilemma was designed to check the relative strength of the three value orientations: 'If a healthy, unpolluted food (designated as 'product A') would exist that makes heavy demands on the soil and would ultimately deplete it, would the respondent buy it?'*(item 16).* If the three value orientations truly reflect three different stages of moral development, not buying product A should be positively correlated with 'Care for all', and be not or negatively correlated with the other two orientations (hypothesis 7).

Though records are mixed, the choice for sustainable consumption has been related to demographic variables and socioeconomic status (Diamantopoulos et al., 2003; McGoldrick and Freestone, 2007). For example, in the Netherlands the typical consumer of organic food is a highly educated, affluent woman with children (Borghuis et al., 2005). Items were therefore added on age (*item 17),* gender (*item 18*), educational level (*item 19*) and monthly income (*item 20*).

For items 1–12 and 16, a five-point Likert scale was used: from 1 (strongly disagree) to 5 (strongly agree). Item 13 (on tenure) ranged from 5 (a tenure of 10 years or over) to 1 (a tenure of less than one year). Item 14 (on share of wallet)

ranged from 5 (a full user) to 1 (a very light user). Item 15 (on price perception) ranged from 5 (the highest price perception) to 1 (the lowest price perception). Items 17, 19 and 20 were on age, education and income.

The questionnaire was developed in English, translated into Chinese and piloted with 25 respondents. No significant changes were needed. From the pilot study, the minimum sample size for a confidence interval of 95% was calculated at $n = 201$.

Sampling, data collection and analysis
The research was performed in Fuzhou, the capital city of Fujian province, in south-eastern China. The Fujian population totals 5.75 million with an urban population of 1.43 million (TravelChinaGuide.com, 2005). Questionnaires were distributed to Green Food buyers only at Fuzhou University campus and two major companies. Questionnaires were completed in the presence of the researcher until 300 questionnaires were reached. Data were collected during six weeks, from the beginning of September until the middle of October 2005.

The variables were coded in SPSS 11.5 (SPSS, Chicago, USA). Correlations between items were tested using Pearson correlation coefficient. For comparison of gender differences (measuring level: nominal) the independent sample *t*-test was applied.

Results

Descriptive statistics
In the sample, women were overrepresented (56.7%) and people over 60 years old were underrepresented (2.7%). Women were younger than men ($F = 10.977$; $p < 0.001$) and had a significantly lower income ($F = 39.185$; $p < 0.000$). Income and age were positively correlated (0.257; $p < 0.000$).
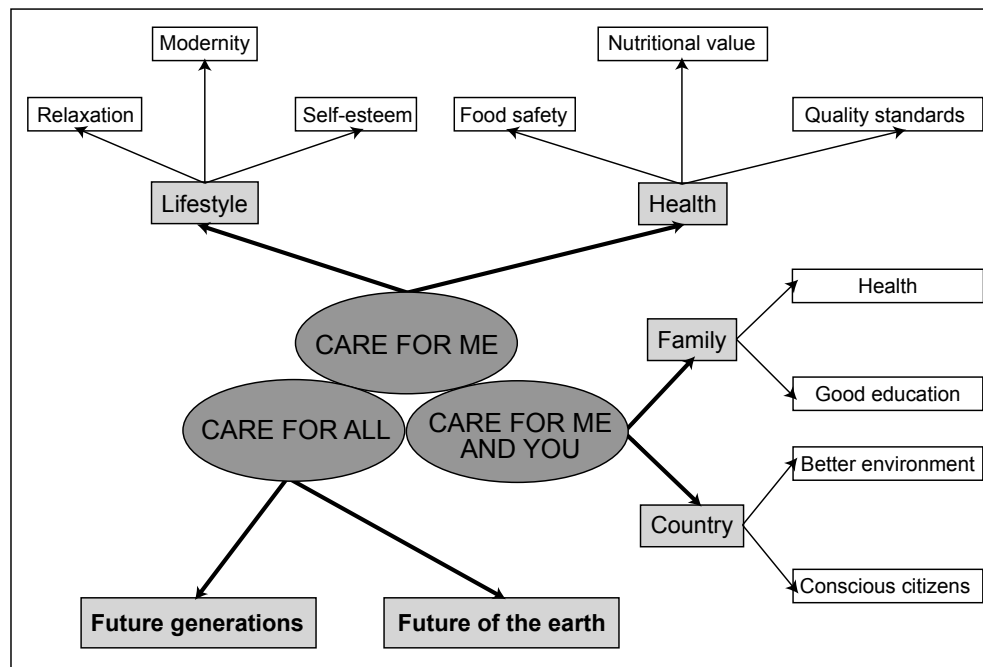

Figure 1: Questionnaire structure as derived from the three levels of values

Younger people had a significantly higher level of education (–0.384; $p < 0.000$).

Table 1 gives the descriptive statistics for the items 1–12. Results have been ordered starting with the highest average. The table gives an indication how respondents value Green Food.

Respondents are positive and unanimous about health-related characteristics of Green Food, its educational value and the general concern for future generations. The lowest scores are on items related to the lifestyle component of 'Care for me'. In the high scores, all three value orientations are represented.

Tables 2–4 present the descriptive statistics about Green Food buying behaviour. In the questionnaire, three elements of actual Green Food buying behaviour were included:
• When did you start buying Green Food? (Tenure as a Green Food purchaser, Table 2). Loyalty to Green Food is considerable. The tenure as a Green Food buyer peaks in the period of 2–5 years ago (about 2001 and 2002). This might reflect the SARS epidemic that induced consumers to reconsider the food production system and to switch partially to Green Food. The slow start of Green Food in the mid-1990s is reflected in the low percentage of long tenure.
• Which percentage of your food purchases consists of Green Food? (Share of wallet, Table 3). No respondent bought exclusively Green Food. Most respondents fall in the light users category: they buy only a selection of Green Food products.
• How do you perceive the price of Green Food as compared to ordinary food? (Price perception, Table 4). No respondents perceive the price of Green Food as lower than that of ordinary food; Green Food is bought in spite of its higher price.

Table 5 shows how respondents answered the ethical dilemma: 'If a healthy, unpolluted food would exist that makes heavy demands on the soil and would ultimately deplete it,

would the respondent buy it?' (*item 16*). A large group shows a neutral attitude towards this product, whereas a considerable minority will buy the product for their own benefit in spite of its long-term effects. A somewhat larger minority is willing to refrain from buying this product.

Hypotheses testing
In the first round of analysis, the three value orientations were tested for inner consistency using Cronbach's alpha. The results did not reveal any strong inner consistency: the Cronbach's alpha was 0.456, 0.365 and 0.183 for 'Care for me', 'Care for me and you' and 'Care for all', respectively. Interestingly, buying motives nos. 1 and 2 (Me) give a Cronbach's alpha of 0.619 with buying motive no. 8 ('Care for me and you'). This indicates that, with the possible exception of the first three health-related 'Care for me' items (Cronbach's alpha: 0.633), the buying motives identified from the literature cannot be assigned to one particular value orientation. A possible explanation is that they are too broadly formulated and were, therefore, interpreted by respondents differently. As a consequence, the hypotheses cannot be tested as proposed. Instead, each of the 12 buying motives will be correlated with the reported buying behaviour.

In the second round of analysis, the mutual correlations between the three elements of the buying behaviour (tenure, share of wallet and price perception) have been explored, with the following results:
• the Pearson correlation coefficient between tenure and share of wallet is 0.282 ($p < 0.001$), which indicates that respondents with a long tenure as Green Food buyers are also heavy or medium users;
• the Pearson correlation coefficient between share of wallet and price perception is –0,147 ($p < 0.001$), which indicates that heavy or medium users have a relatively favourable price perception;

Table 1: Respondents' perception of Green Food

Green food...	Value orientation	Mean response	SD	Respondents who agree or strongly agree (%)
Is less polluted, not harmful	Me	4.19	0.500	95.3
Is good for family members' health	You and me	4.15	0.682	83.3
Is good for future generations	All	4.14	0.605	87.7
Sets a good example for my child	You and me	3.98	0.720	73.0
Contains more and better nutrients	Me	3.88	0.768	66.4
Makes me think of environment	You and me	3.85	0.728	67.0
Improves environment of our country	You and me	3.80	0.637	68.0
Is produced according to strict quality standards	Me	3.70	0.598	64.0
Stimulates environmental awareness	Me	3.61	0.621	57.6
Reduces pollution of the world	All	3.53	0.563	51.6
Is a modern way of eating and drinking	Me	3.42	0.682	44.3
Is safe and gives me a relaxed feeling	Me	3.24	0.677	35.0

Table 2: Tenure as a Green Food buyer

Percentage of the respondents that started buying Green Food				
10 years ago	5–10 years ago	2–5 years ago	Last year	This year
7.3	22.0	50.3	16.7	3.7

Table 3: Share of wallet for Green Food

Percentage of the respondents with the indicated share of Green Food in their food purchases			
80–100% Complete user	50–80% Heavy user	30–50% Medium user	10–30% Light user
0	3.7	26.0	52.0

• price perception and tenure as a Green Food buyer are uncorrelated.

In the third round of analysis, the correlations between the items 1–12 and the three elements of the buying behaviour were explored; results are shown in Table 6.

Out of the egoistic motives (originally: Hypothesis 1, Care for me), the health-related motives are significantly correlated with Green Food buying. The lifestyle-related motives are uncorrelated or negatively correlated: respondents for item 5 have negative feelings about the high price of Green Food, even if they are Green Food buyers.

Out of the altruistic motives (originally: Hypothesis 2, Care for me and you), the family-related motives are significantly correlated with Green Food buying, but this is hardly the case for patriotic motives. The in-group orientation prevails.

Table 4: Price perception of Green Food

Percentage of respondents who perceive the price of Green Food, as compared to ordinary food, as:				
Mostly more expensive	Sometimes more expensive	Nearly identical	Some products cheaper	Most products cheaper
74.7	21.3	4.0	0	0

Table 5: Response to ethical dilemma (item 16)

Will absolutely not buy it	Will not buy it	Neutral	Will buy it	Will absolutely buy it
4.7	28.7	45.0	21.7	0

The two biocentric motives (originally: Hypothesis 3, Care for all) show a negative significant correlation with tenure as a Green Food buyer, which means that buyers who started recently buying Green Food seem motivated by biocentric considerations. There is no correlation with the share of wallet. Respondents for item 12 are willing to accept the high price of Green Food.

In short, the Green Food buyers are mainly motivated by egoistic and altruistic or, better, in-group motives. Therefore, the initial hypotheses 4–6 are only partially supported.

These findings are further reinforced by the results of the Ethical Dilemma (item 16). In Table 7, the correlations between the 12 buying motives and the ethical dilemma are presented. Only two items, both about concern for the environment at large, were correlated with not buying product A. Respondents scoring high on egoistic and in-group oriented items would buy A in spite of its environmental damage. Hypothesis 7, therefore, is supported.

Table 8 presents the influence of the demographic/socioeconomic variables on purchasing behaviour and the ethical dilemma. Age is positively correlated both with tenure and share of wallet. Income is positively correlated with all three buying behaviour items and with not buying product A. Educational level is significantly correlated with not buying product A, and negatively correlated with tenure.

Discussion

Based on previous research (Lo and Leung, 2000; Makatouni, 2002; Borghuis et al., 2005; Voedingscentrum, 2005; de Groot, 2008) we hypothesised a strong influence of biocentric (Care for all) motives on consumers' choice of Green

Table 6: Pearson correlation coefficients among items 1–12 and the elements of buying behaviour. Only significant correlations are shown. Significance (two-tailed) is specified in parentheses. The item nos. 6 and 10 were not correlated with any of the elements of the buying behaviour

Value orientation	Item no.	Item content	Element of buying behaviour		
			Tenure	Share of wallet	Price perception
Me	1	Less polluted, not harmful		0.189** (0.001)	−0.212** (0.000)
	2	More and better nutrients	0.201** (0.000)	0.303** (0.000)	−0.180** (0.002)
	3	Strict quality standards		0.137* (0.018)	
	4	Safe; gives relaxed feeling	0.240** (0.000)		
	5	Modern way of eating and drinking			0.174** (0.003)
	6	Self-esteem by thinking of environment			
Me and you	7	Good for family members' health		0.118* (0.042)	
	8	A good example for my child	0.216** (0.000)	0.259** (0.000)	−0.147** (0.011)
	9	Improves environment of country		0.211** (0.000)	
	10	Environment-conscious citizens			
All	11	Reduces pollution of the world	−0.157** (0.006)		
	12	Good for future generations	−0.140* (0.015)		−0.124* (0.032)

* Significant at 0.05 level, ** significant at 0.01 level

Food. This is hardly supported by the present research. On the contrary, egoistic and in-group oriented motives are the strongest drivers for buying Green Food. Biocentric motives are uncorrelated or negatively correlated with all the elements of Green Food buying behaviour (Table 6). The above conclusion is further supported by the results of the ethical dilemma showing that respondents pose their own health and well-being above the interests of environment and future generations (Tables 5 and 7). The group of consumers primarily interested in the natural environment as a whole and intergenerational solidarity is limited, even in this highly educated sample of Green Food users.

The low scores of many respondents on 'Care for all' contrast with results from mature economies, such as the Netherlands and the USA (Borghuis et al., 2005; Voedingscentrum, 2005), where the professed importance of personal health and the natural environment among organic food buyers was almost the same. The present findings are more in line with those of Zhang and Zhen (2003) and Ip (2003) from China, and Fotopoulos and Krystallis (2002) who found that personal well-being was the strongest motivator in organic food purchasing behaviour. However, from the present research, well-being should be understood as a concern for health, not in terms of lifestyle. Further, diachronic analysis will be needed to find out if this difference with Europe and the USA is a constant and distinguishing factor of the Chinese consumer, or should be ascribed to the differences between emerging and mature economies.

The strong family orientation of Chinese society (Michailova and Worm, 2003) is partially supported by this study. Altruistic motives in favour of the in-group are significantly correlated with the share of wallet (Table 6). However, the present research does not support Zhang and Zhen (2003) who identified patriotism as a driving force for environment-friendly actions.

Intriguingly, the interest for future generations is strong whereas the reported concern for the world population is weak. A possible explanation is that implicitly the respondents took the reference to 'future generations' as a reference to their own offspring, actually bringing this 'Care for all' buying motive into the 'Care for me and you' value orientation. The point here is that motivators individuated by previous research proved too broadly formulated to fit in one of the three value orientations. In any case, results from this study only partially support the findings by Makatouni (2002) and Chan and Cui (2004).

Likewise, the finding of Lo and Leung (2000) that younger people use Green Food because of environmental concern is

not supported by this study. It is, on the contrary, the older respondent who buys much Green Food and has done so for a long period. According to the present study, the educational level has the highest impact on Green Food choices. Income is positively correlated with the buying behaviour variables. Considering the high price of this food, this is not surprising.

Social desirability is a risk in all types of social research except observation of behaviour. No explicit checks against social desirability have been performed in the present research. However, as the respondents indicate that they choose Green Food mainly from egoistic, health-related motives, it is unlikely that social desirability will have played a serious role.

The finding of Lo and Leung (2000) that younger people use Green Food because of environmental concern is somewhat supported by this study: there is a negative significant correlation with tenure as a Green Food buyer, which means that buyers who started recently buying Green Food seem motivated by biocentric considerations. However, it is the older respondent who buys much Green Food and has done so for a long period.

Conclusion

The present research demonstrates that values influence Fuzhou consumers' decision to buy environment-friendly food. In comparison with Western respondents, respondents in Fuzhou

Table 8: Connections between purchasing behaviour plus the ethical dilemma and socioeconomic variables. For Age, Income and Education, Pearson correlation coefficients are given; for Gender the *F*-value is provided. Significance (two-tailed for Pearson coefficients) is specified in parentheses

Buying behaviour/ ethical dilemma	Demographic/socioeconomic variable			
	Age	Gender	Income	Education
Tenure (item 13)	0.451** (0.000)	ns	0.196** (0.004)	−0.167** (0.004)
Share of wallet (item 14)	0.354** (0.000)	$F = 11.477*$ (0.001)	0.417** (0.000)	ns
Price perception (item 15)	ns	ns	0.277** (0.000)	ns
Not buying product A (item 16)	ns	ns	0.185** (0.001)	0.374** (0.000)

ns = Non-significant, ** = significant at 0.001 level, * = significant at 0.005 level

Table 7: Pearson correlation coefficients between item 16 'will not buy product A' and the 12 items. All possible correlations were explored; only the significant correlations are shown. A positive correlation indicates respondents scoring high on the item **will** buy A; a negative correlation indicates respondents **will not** buy A

Item no.	Pearson correlation coefficient	Significance (two-tailed)
1 Green Food is less polluted, it will not cause harmful effects on my body	0.134*	0.002
2. Green Food contains more and better nutrients than conventionally produced foods	0.139*	0.016
6. Using Green Food gives me self-esteem because I do something good for the environment.	−0.132*	0.023
7. Green Food is good for my family members' health	0.153**	0.008
8. Buying Green Food sets a good example for my child/children to maintain a healthy eating habit	0.307**	0.000
10. Green Food stimulates the environmental awareness of the citizens	0.224**	0.000
11. Green Food production helps to reduce pollution of the world	−0.226**	0.000

* Significant at 0.005 level, ** significant at 0.001 level

are more motivated by self-interest and the interest of their direct relations, and less by a concern for the future of the Earth as a whole. Moreover, from this study it may be concluded that (on the 'Care for me' and 'Care for me and you' level) health is considered more important than lifestyle or patriotism.

The present study has several limitations. The motivators connected with the three value orientations are not internally consistent. Further research is needed to better specify the motivators and unequivocally connect them with one of the three value orientations. Moreover, the sample was not completely representative for the Fuzhou population. This is probably because of the exclusion of non-buyers from the sample. From international research it is known that organic food buyers have similar demographic characteristics to the sample of this study (see e.g. Borghuis et al., 2005). Generalisation on an international level is therefore still possible. In replication studies, the demographic characteristics of non-users and their most important reason for not buying Green Food should be registered.

The present study yields practical recommendations for enhancing the consumption of Green Food in China: in marketing communication, focus should be on pollution and the perceived health advantages of Green Food, whereas arguments based on lifestyle, patriotism, or concern for the world as a whole should be downplayed.

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