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An attribute prioritization-based segmentation of the Chinese consumer market for fruit juice



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ABSTRACT

Despite the enormous opportunity that the Chinese market provides for exporting companies in the food and beverage industry, little research has considered Chinese consumer decision making processes surrounding these products. This study provides an empirical investigation into how Chinese consumers prioritize extrinsic product attributes (brand, nutrition content claim, ingredient label, shelf-life, price, and manufacturing country) when making their fruit juice purchase decisions. The study illustrates that consumer decision making processes are culturally embedded by presenting a comparison of the study's findings with the more prevalent Western-based literature on consumer decision making processes.

A choice-based conjoint survey was administered to 645 Chinese participants in Hangzhou, China using the internet-based software 1000Minds. Three consumer segments were identified through cluster analysis: Health Conscious, Premium Product, and Long Product Shelf-life. The Health Conscious segment wants natural and nutritious fruit juices that have a well-known brand. The Premium Product segment is willing to pay higher prices for imported fruit juices. Compared to the other two segments, the Long Product Shelf-life segment prefers lower priced and extended shelf-life fruit juices that are more convenient to store and consume. While the three clusters were similar in their preferences for the fruit juice attributes and levels, they differed in the rank order of the attributes. These findings highlight the importance of how extrinsic product attributes are traded off by Chinese consumers when making their fruit juice purchase decisions.

The identification of these Chinese consumer segments provides juice manufacturers better knowledge on the market opportunities in China and strategic guidance for effective positioning, packaging, labeling, and pricing of fruit juices. This attribute prioritization-based segmentation for the Chinese consumer market is novel and thus provides strong implications for the fruit juice industry. In addition, this paper also makes a novel academic contribution to the Chinese consumer decision making literature on food and beverage products.

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1. Introduction

With 1.35 billion inhabitants and a gross domestic product of 8.3 trillion U.S. dollars (Statista, 2013), China offers tremendous opportunities for food and beverage exporting countries to develop value-added products that satisfy Chinese consumers' needs. However, despite the vast potential of the Chinese market, there is still little research on Chinese consumer behavior. One area of research that remains relatively unexplored is Chinese cultural influences on individual consumer decision making processes. This research gap is particularly pertinent in the context of food and drink purchase decision making. For example, while there is

substantial literature on consumer's use of trade-offs in making purchase decisions, this literature is almost exclusively Western-based.

There has been valuable research published on the product attributes that consumers seek when making fruit juice purchase decisions (Bonilla, 2010; Lee, Lusk, Miroso, & Oey, 2014; Sorenson & Bogue, 2005). However, limited information is available regarding which product attributes Chinese consumers prioritize when purchasing fruit juice. Given that Chinese consumers are becoming more Health Conscious and are switching from soft drinks to fruit juices (Euromonitor International, 2013; Granato, Branco, Nazzaro, Cruz, & Faria, 2010), and that this trend of consuming fruit juice is likely to continue with the increasing disposable incomes and rising education levels (Euromonitor, 2013),

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decision making for fruit juice purchases is an obvious area worthy of further consideration.

The objectives of this study were twofold. Firstly, the study aimed to provide an insight into which extrinsic attributes Chinese fruit juice consumers prioritize when making purchase decisions. This insight will supplement existing studies published on the product attributes that consumers seek when making fruit juice purchase decisions (Bonilla, 2010; Lee et al., 2014; Sorenson & Bogue, 2005). The descriptive examination of this product specific (healthy juice) category will also yield results that will be of interest to those working in the nonalcoholic juice industry that are interested in exporting to China. Secondly, the study also aimed to provide a comparison of select findings about how Chinese consumers prioritize attributes when making purchase decisions, recognizing that cultural differences exist between Chinese and Western buyers, and that these differences can cause distinctions in consumer decision making processes.

The remainder of the paper is structured as follows: Section 1.1 provides readers with background information on the theoretical underpinning of this study; consumer's use of trade-offs in making purchase decisions. Section 1.2 overviews conjoint analysis generally and then Section 1.3 moves on to more specifically explain the extrinsic attributes identified in the literature that influence fruit juice purchase decision making. The material and methods (Section 2) are then detailed, the results are presented and discussed (Section 3), and then the paper concludes by summarizing the theoretical and practical contributions and implications of this study (Section 4).

1.1. Consumer's use of trade-offs in making purchase decisions

A consumer's decision to purchase one product over an alternative is based on a complex set of trade-offs between the different attributes of the alternative products (Green, Krieger, & Wind, 2001). This consumer decision making process can be categorized into two stages: before and after purchase (Grunert, Bredahl, & Brunso, 2004). Before purchase decisions are made, consumers form expectations of product quality based on evaluations of available cues regarded by the consumers as reliable indicators of the product quality (Grunert et al., 2004). These quality cues can be described as intrinsic or extrinsic. Akdeniz, Calantone, and Voorhees (2013) defined intrinsic cues as attributes that are part of the physical product, such as ingredients and sensory attributes, that cannot be manipulated without altering the physical properties of the product itself. Extrinsic cues refer to product attributes that are not part of the physical product, such as price, brand name and packaging; they can be changed without modifying the physical properties of the product (Akdeniz et al., 2013). After making the purchase decision, the quality of the product is experienced when the product is consumed (Grunert et al., 2004). However, it should be noted that credence characteristics such as the healthiness of a food product cannot be evaluated by the consumer even upon consumption (Grunert et al., 2004).

Conjoint analysis is a well-known research technique used to determine which features a new product should have, by conjointly measuring consumers' trade-offs between discretized factors or attributes (Orme, 2006, Chap. 4). The reader's attention is now turned to an overview of this technique and its theoretical underpinnings.

1.2. Conjoint analysis

Conjoint analysis is a generic term that the field of consumer food studies has adopted from psychology which describes several ways of eliciting consumers' preferences for food and beverage products. Conjoint analysis is consistent with the theory of

consumer demand (Lancaster, 1996) and random utility theory (Ben-Akiva & Lerman, 1985, Chap. 4). Lancaster (1996) consumer theory proposes that consumers derive value, or 'utility', from consuming attributes that are present in the product. Random utility theory models consumer's choice among substitute product alternatives. A distinct advantage of conjoint analysis is that it makes it possible to identify the relative importance of individual product attributes driving consumer preference (Moskowitz & Silcher, 2006). Conjoint analysis has thus been extensively used in many food and beverage-related fields with applications including new product development, market segmentation, and as a simulator of purchasing decisions (Cardello, Schutz, & Leshner, 2007; Deliza, Macfie, & Hedderley, 2003; Haddad et al., 2007).

There are several conjoint methods: traditional, adaptive, and choice-based (Orme, 2006). Choice-based conjoint analysis was selected for the present study. Instead of rating or ranking product concepts such as in the full profile method or adaptive conjoint analysis, each individual participant is presented with hypothetical choices that are defined on two attributes at-a-time such that there is a trade-off between them. The person is then asked to indicate which product they would prefer or purchase (Orme, 2006). Comparing just two attributes at a time simplifies decision making and is likely to increase the accuracy of each response as participants are not overwhelmed with information at one time (Hansen & Ombler, 2008).

Grounding the discussion on conjoint analysis back in the subject matter of this article, i.e. fruit juice, it is pertinent to note that product tasting is typically not permitted at the point of purchase which results in consumer decisions being based on the extrinsic product attributes (Lee & Lou, 2011). As such, the following section overviews the range of extrinsic attributes that have been identified in the literature as being important influences on consumer preference for fruit juice.

1.3. Extrinsic attributes identified in the literature that influence fruit juice purchase decision making

Extrinsic and credence product attributes that most commonly affect fruit juice purchase decisions include brand, health related aspects, price, country-of-origin, and shelf-life (Abadio Finco, Deliza, Rosenthal, & Silva, 2010; Ferrarezi, Minim, dos Santos, & Monteiro, 2013; Lee et al., 2014; Sorenson & Bogue, 2005).

A brand is a promise and a guarantee with the manufacturer (Keller, 1998). Consumers who do not have specific ideas about a product commonly rely on a brand name as an indicator of quality (Dodds, Monroe, & Grewal, 1991). Sorenson and Bogue (2005) found brand familiarity to be a key attribute driving Irish consumers' purchase decisions for orange juice. Lee et al. (2014) also found Chinese consumers perceived well-known brands as a means to assure the quality and safety of healthy drinks.

While health related aspects such as nutritional value and the use of additives or preservatives are credence attributes that cannot be experienced by consumers either before or after purchase, these attributes can be identified through product labels such as nutrition content claims and ingredient tables (Grunert et al., 2004). With considerable food safety incidents in China, consumers are increasingly interested in products that are nutritious and additive-free (Brenchley, Trombini, & Lintott, 2012; Lee et al., 2014). A survey conducted in China found that 76% of the consumers habitually check the label for additives when choosing foods (Institute of Food technologists., 2013). Similarly, a marketing report revealed that seven out of ten Chinese consumers were trying to avoid drinks with artificial ingredients, with the majority wanting to purchase drinks with natural ingredients (Brenchley et al., 2012). Lee et al. (2014) found that Chinese consumers perceived healthy drinks (e.g. that were high in nutritional content

and made with natural ingredients) to be safe for consumption and believed that these would bring good health to their family.

The price of a product is the cost or sacrifice exchanged for the promised benefits, considered from the consumer's point of view (Kotler, Roberto, & Lee, 2002, Chap. 2). According to Jaeger (2006), price could either decrease consumer purchase intentions due to a greater monetary sacrifice or increase the intention because of the perceived benefits such as product quality. A web-based survey showed that 34% of the 253 participating US households were concerned about price (second to packaging material) when choosing fruit juice (Bonilla, 2010). In contrast to Western consumers, price was found to be the least important attribute determining Chinese consumers' consumption decisions for healthy drinks (Lee et al., 2014). Studies have shown that there is an emerging segment of high-end consumers willing to pay a modest premium for value-added food and beverage products in China (Wang, Mao, & Gale, 2008; Xu, Zeng, Fong, Lone, & Liu, 2012).

The country-of-origin information has been found to be a quality indicator when consumers purchase a food product (Balestrini & Gamble, 2006; Veale & Quester, 2009). Lee et al. (2014) found Chinese consumers preferred imported healthy drinks to locally produced alternatives because they were perceived to have guaranteed quality and safety.

The shelf-life of a product can influence consumers' food purchase decisions, however few studies have analyzed this particular attribute (Lee et al., 2014; Magnusson, Arvola, Hursti, Åberg, & Sjöden, 2001). A product's shelf-life is: "a guide for the consumer of the period of time that food can be kept before it starts to deteriorate, provided any stated storage conditions have been followed" (NZFSA, 2005, p. 4). Long Product Shelf-life was rated to be of great importance by the majority of the Swedish consumers when purchasing organic foods (Shepherd, Magnusson, & Sjöden, 2005). Chinese consumers were found to purchase food products with a short shelf-life as these products were considered safe, fresh and natural (Lee et al., 2014).

This study investigates the relative importance of identified key product attributes on Chinese consumers purchase decisions for fruit juice. To achieve this, a quantitative approach choice-based conjoint analysis, is applied to measure the relative importance of different extrinsic attributes on consumer's purchase decisions for fruit juice. As a result of this research, the levels of different attributes desired by different segments of Chinese consumers are identified for a targeted population in China.

2. Material and methods

2.1. Research location and participant selection

Data was collected in Hangzhou, the capital of Zhejiang Province in China, between October and November 2013. Adults 18 years and older, living in Hangzhou, and consumers of fruit juice were selected to participate in this study. A fruit juice consumer was defined as an individual who had consumed fruit juice at least once in the past three months prior to participating in the study.

In total, six hundred and forty-five participants (45% men, 55% women) were recruited with university students comprising 52% of the study population and company workers 48%. Participants were mostly between 18 and 29 years old (81%), single (59%) and had a bachelor's degree or above (60%). Young and educated consumers were recruited for this study as they have been identified as being particularly health conscious and interested in purchasing healthy food products (Lau, Chan, Tan, & Kwek, 2012; Zakowska-Biemans, 2011).

The challenge of conducting this research was to access the email address of the participants due to privacy policy in China.

Zhejiang University and a Telecommunication company in Hangzhou were the institutions that gave us permission to access their database and use the contacts of students and employees. Recruitment at Zhejiang University began with advertising for participants who were interested in taking part in the survey on student BlogSpot. Interested participants could click on the attached hyperlink in the advertisement that directed participants to the survey. Alternatively, a brief email containing the survey hyperlink was sent out to a Telecommunication company using staff email lists (approval was granted from the company Manager) to recruit participants on behalf of the researchers. Participation in the conjoint survey was entirely voluntary. Before beginning the conjoint survey, participants were asked to read an information sheet (which provided a description of how the survey would present participants with pairs of hypothetical concepts) which was accessible via an URL (Uniform Resource Locator) that was embedded in the conjoint survey. Ethical approval was granted by the University of Otago Human Ethics Committee (Reference number: 12/194).

2.2. Design of conjoint survey

The survey consisted of two sections. Section one was the choice-based conjoint analysis to study the importance of extrinsic and credence product attributes that Chinese participants use when making purchase decisions for fruit juice. Section two was a demographic questionnaire to profile participants.

For section one, attribute profiles in the conjoint design were chosen based on the study by Lee et al. (2014) who identified important attributes that Chinese consumers use when making consumption decisions for healthy drinks. The present study included six of the nine attributes identified by Lee et al. (2014) in the conjoint survey. These included brand, nutrition content claim, ingredients label, shelf-life, price and manufacturing country. Flavored and non-flavored (both intrinsic attributes) were excluded as the present study focused on extrinsic product characteristics. Closest to manufacturing date was also combined with short shelf-life as both fell under the shelf-life category that helps consumers determine the freshness of the foods they consume (Labuza & Szybist, 2008, Chap. 1).

Table 1 shows the six attributes and fifteen levels selected and intrinsically ranked from lowest to highest in terms of their relative values to the general public. Attribute levels used in this study were established from expert opinions, group meetings, and a review of literature (with key informative studies including Annunziata & Vecchio, 2013; Lee et al., 2014).

Table 1

Attributes and levels (lowest to highest ranked) of fruit juice used in the conjoint survey design.

Attribute	Attribute level
Brand	<ul style="list-style-type: none"> • Unknown brand • Well-known brand
Nutrition content claim	<ul style="list-style-type: none"> • No nutrition content claim • Nutrition content claim made
Ingredients label	<ul style="list-style-type: none"> • Made with artificial additives • Made with natural additives • Contain no additives
Shelf-life	<ul style="list-style-type: none"> • Short shelf-life • Medium shelf-life • Long shelf-life
Price	<ul style="list-style-type: none"> • Low priced • Mid-range priced • High priced
Manufacturing country	<ul style="list-style-type: none"> • Made in China • Imported

For brand, two levels of the attribute were selected to present two distinct strengths of brand: an unknown brand and a well-known brand. Two levels of nutrition content claims were compared in this study: no nutrition content claim and nutrition content claim made. Three levels of ingredient label emphasizing the presence or types of additives were selected: made with artificial additives, made with natural additives, and contain no additives. Three varying levels of shelf-life were considered in this study: short, medium and long shelf-life. For the price attribute, three basic levels of price were adopted: low, medium and high, similar to the criteria used in other conjoint studies (Annunziata & Vecchio, 2013). The two different levels of country-of-origin used in this study were: local (made in China) and imported. As part of the conjoint survey, individual consumers' definitions for certain attribute levels (specifically well-known brand, short, medium and long shelf-life, low, medium and high priced, and imported country) were also collected. However, the results of the definition part were not presented in this study.

In this study, the 1000Minds internet-based software implementing the PAPRIKA ('Potentially All Pairwise Rankings of all possible Alternatives') method was used as a data collection tool (Hansen & Ombler, 2008). Each participant was presented with a pair of hypothetical fruit juices defined by two attributes at given levels (Fig. 1). Participants were asked the question: "Imagine you are in a supermarket and have decided to purchase a fruit juice. Which of these two fruit juices do you prefer (given they are identical in all other respects)?" The number of trade-off questions asked varied across participants based on their choices made. Each time the participant makes a selection, 1000Minds software immediately identifies all other hypothetical fruit juices that can be pairwise ranked via transitivity and eliminates them from the survey. For example, if a participant prioritizes hypothetical fruit juice A over fruit juice B and then he/she prioritizes B over fruit juice C, then – by transitivity – A is prioritized over C, hence, the software would not ask a question pertaining to this third pair of fruit juices (Hansen & Ombler, 2008). This elimination procedure ensures that the number of trade-off questions asked is minimized, though the number may vary based upon the choices made by participants (Sullivan & Hansen, 2014). On average, participants were presented with twenty trade-off questions ranking a total of 216 possible

combinations (2 brands \times 2 nutrition content claims \times 3 ingredient labels \times 3 shelf-life \times 3 prices \times 2 manufacturing countries).

Section two of the survey gathered demographic information including age, gender, marital status, occupation, and education level to profile the participants. In total, the survey took approximately 15 min to complete.

Surveys were written in Mandarin. A pilot survey was administered to ten native Mandarin speaking Chinese, living in Dunedin, New Zealand to verify that the instruction, construct and language use was correct. The survey was then translated into English to identify any further language concerns.

2.3. Statistical analysis

Based on the participant's explicit pairwise rankings, 1000Minds software uses mathematical methods based on linear programming to estimate the relative weights (also known as part-worth utilities) for the attributes and levels. The part-worth utilities indicate the relative importance of each level of each attribute, in terms of its contribution to the overall preference for the fruit juice (Orme, 2006). For technical details, the reader is referred to the paper by Hansen and Ombler (2008). Additionally, to identify distinct segments of participants, the individual part-worth utilities of attribute levels were subjected to cluster analysis. Segmentation was performed using an Agglomerative Hierarchical Cluster Analysis by the squared Euclidean distance for the dissimilarity scale by the Ward's method (SPSS, version 21). Multinomial Logistic Regression was used to test for significant differences between-cluster in demographic data (age, gender, marital status, occupation, and education level) (SPSS, version 21).

3. Results and discussion

3.1. Overall response to the product profiles

The estimated relative utility values of each level of the six attributes averaged across all participants are presented in Table 2. The utilities of the highest level of each attribute are scaled so that their part-worth utilities sum to 100. In general, participants considered the ingredient label 'contains no additives' as the most important attribute when selecting a fruit juice, with a

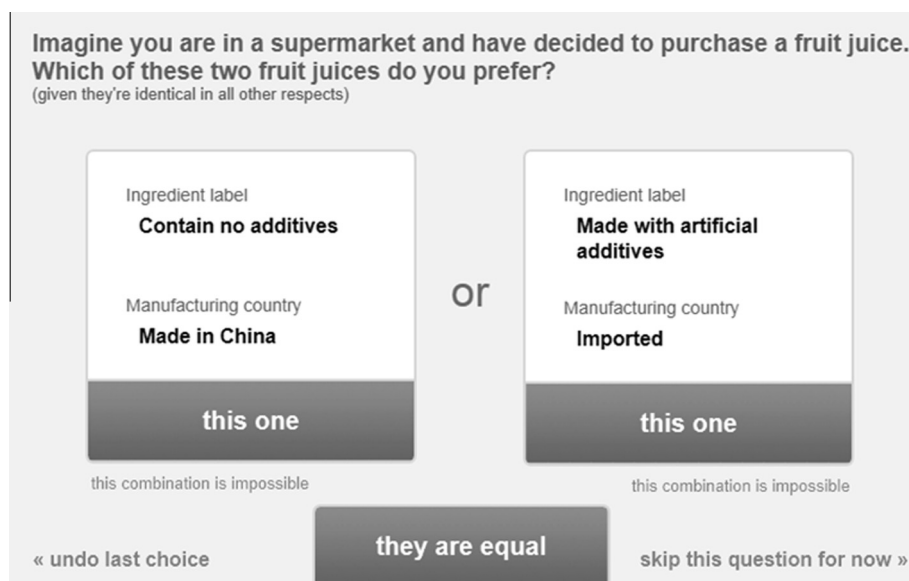


Fig. 1. An example of a pair-wise ranking question (a screenshot from 1000Minds software).

Table 2
Estimated part-worth utilities for the overall participants and three clusters based on preferences for fruit juice attributes.

Attributes	Levels	Relative importance (%) ^{a,b}			
		Overall (100%) (N = 645)	Health Conscious segment (62%) (N = 398)	Premium Product segment (20%) (N = 131)	Long Product Shelf-life segment (18%) (N = 116)
Brand	Unknown brand	0.00	0.00	0.00	0.00
	Well-known brand	16.97	17.49	13.94	18.57
Nutrition content claim	No nutrition content claim	0.00	0.00	0.00	0.00
	Nutrition content claim made	17.10	17.50	15.12	17.94
Ingredients label	Made with artificial additives	0.00	0.00	0.00	0.00
	Made with natural additives	14.29	16.97	8.04	12.14
	Contains no additives	25.61	29.90	16.13	21.57
Shelf-life	Short shelf-life	0.00	0.00	0.00	0.00
	Medium shelf-life	7.24	5.34	8.97	11.81
	Long shelf-life	13.71	9.95	16.43	23.53
Price	Low priced	0.00	0.00	0.00	0.00
	Mid-range priced	7.77	6.63	13.16	5.60
	High priced	14.25	12.06	24.18	10.56
Manufacturing country	Made in China	0.00	0.00	0.00	0.00
	Imported	12.37	13.09	14.20	7.82

^a Relevant relative importance values are in bold and sum up to 100 within a column.

^b Zero relative importance represents the lowest level of each attribute.

relative importance of 25.61%. The second most important attribute is 'nutrition content claim made' with 17.1%, followed by 'well-known brand' (16.97%), 'high priced' (14.25%), 'long shelf-life' (13.71%). 'Imported' appeared to be the attribute with the least prominent role (12.37%). The utilities of the medium levels including 'made with natural additives' (14.29%), 'medium shelf-life' (7.24%), and 'mid-range priced' (7.77%) fall between 0 and the value of the highest level, suggesting that these attributes were considered acceptable to the participants. 'Unknown brand', 'no nutrition content claim', 'made with artificial additives', 'short shelf-life', 'low priced' and 'made in China' were each scored zero, indicating that these attributes were disfavored by participants. Other conjoint studies have found zero utility representing the lowest levels of each attribute (Hansen, Kergozou, Knowles, & Thorsnes, 2013).

3.2. Segmentation of participants based on individual part-worth utilities

Cluster analysis identified three groups of participants with distinct preferences towards the fruit juice attributes: Health Conscious, Premium Product, and Long Product Shelf-life. The order attributes were ranked and the levels of these attributes differed across clusters (Table 2). Logistic regression indicated that demographic data was not able to explain the cluster membership (McFadden = 0.065). Consequently, the main differences between segments are discussed in terms of the relative importance that the group's participants gave to each attribute. This lack of significance suggests demographics alone are not sufficient to define and profile Chinese consumer segments.

3.2.1. Health Conscious segment

Sixty-two percent of total participants (398 participants) belonged to the Health Conscious segment. These participants were most concerned that the ingredient label stated 'contains no additives' (29.90%). Participants in this segment expressed almost equal importance to 'nutrition content claim made' (17.50%) and 'well-known brand' (17.49%). These participants also assigned less importance to 'imported' (13.09%), 'high priced'

(12.06%) and 'long shelf-life' (9.95%). Hence, participants in this segment are more likely Health Conscious and could not easily make trade-offs between the ingredient label, shelf-life, price and manufacturing country. In comparison to the Chinese consumers in the present study, Bonilla (2010) found that US consumers who belonged to the Health Conscious segment were price sensitive and try to eat healthy at the same time. These US consumers placed the highest importance to product package material and price, then followed by nutritional and health claims, and locally produced attributes when choosing a fruit juice (Bonilla, 2010).

Lee et al. (2014) found Chinese consumers valued security, and perceived healthy drinks with natural ingredients to contain fewer additives and safe for consumption. Another survey based in Beijing found Chinese participants were willing to pay a higher price for an additive-free mooncake, which showed consumers' concerns towards food additives and preservatives used in food production (Liu, Zeng, & Yu, 2009). Nutrition content claim and brand were also important attributes for the Health Conscious segment when making a fruit juice purchase decision. Lee et al. (2014) found Chinese consumers valued benevolence and as a result were more likely to purchase a healthy drink with high nutritional content (e.g. calcium, vitamin, etc.). Other studies have also demonstrated that Chinese consumers have a high level of brand awareness and perceive brand as a quality indicator (Kurt Salmon Associates., 2004; Troesch, 2012).

3.2.2. Premium Product segment

The Premium Product segment comprised of 20% of total participants (131 participants) and included those that assigned high importance to the attribute 'high priced' (24.18%). 'Long shelf-life' (16.43%), 'contains no additives' (16.13%), 'nutrition content claim made' (15.12%) and 'imported' (14.20%) are almost equally important for participants in Premium Product segment. Noteworthy, 'well-known brand' (13.94%) was the least preferred attribute level for this segment. This suggests that these participants may consider price to be an indicator of quality in this situation, and the higher price may have been interpreted as evidence that those fruit juices were of superior quality. The present findings differ to those found for Western consumers, who were found to be mostly price

sensitive when making food purchase decisions (Bonilla, 2010; Sorenson & Bogue, 2005).

Chinese consumers have previously been regarded as price-sensitive, tending to go for cheaper rather than quality products (Wang et al., 2008). However, the recent food safety incidents in China have led some Chinese consumers to think that one cannot get quality food products at cheap prices (Wang et al., 2008). Therefore, those consumers who can afford premium prices are tending not to purchase low priced food products these days as they expect the product to be of low quality and unsafe for consumption. Lee et al. (2014) also found price to be the least important attribute determining the consumption decisions for healthy drinks.

Concerns about food safety have also caused some Chinese consumers to lose confidence in local (made in China) food products, creating demand for safe and quality imported foods and beverages with country-of-origin (Troesch, 2012). Lee et al. (2014) found Chinese consumers to perceive imported products to have guaranteed quality. Consumers in their study preferred imported healthy drinks even though prices were higher than locally produced alternatives. Similarly, Wang, Chen, Chan, and Zheng (2000) found that young and urban Chinese consumers with stronger hedonic values focused on product packaging and foreign branding. These participants may tend to respond to promotion stimuli and be more likely to change their brand preference (Wang et al., 2000). 'Long shelf-life', 'contains no additives', and 'nutrition content claim made' are also important factors driving fruit juice preferences for the Premium Product segment.

3.2.3. Long Product Shelf-life segment

The Long Product Shelf-life segment was the smallest of the partition and included 18% of participants (116 participants). These participants assigned higher relative importance to 'long shelf-life' (23.53%), 'contains no additives' (21.57%), 'well-known brand' (18.57%) and 'nutrition content claim made' (17.94%). Conversely, 'high priced' (10.56%) and 'imported' (7.82%) were the least important attributes to participants in this segment. Interestingly, 'imported' had the lowest relative importance for the Long Product Shelf-life consumers compared to the other two segments.

Although the majority of the Chinese consumers valued fresh and natural characteristics of food products and associated shorter shelf-life with product quality and safety (Lee et al., 2014), the present study identified a small segment of consumers who prefer longer shelf-life products. Chinese consumers who hold weaker hedonic values focus on tangible product quality and physical performance, and therefore they are more price-conscious and less likely to purchase expensive imported products (Wang et al., 2000).

The current findings suggest that participants in the Long Product Shelf-life segment might be convenience-oriented and were more likely than other participants to purchase shelf-stable fruit juice that can be stored for longer time. Extended shelf-life fruit juices provide consumers with convenience of use and storage (Coles & Kirwan, 2011, Chap. 1). Convenience was found as a principal factor determining Western consumers' food choices, typically young women in the workforce due to time constraints and other responsibilities (Bove, Sobal, & Rauschenbach, 2003; Jaeger, 2006; Pingali, 2007). In the study by Bonilla (2010), US fruit juice consumers who belonged to the convenience segment were found to prefer a product without nutritional and health claims, contrasting to the findings from the current study where nutrition content claim was identified as an important attribute driving Chinese consumers' fruit juice purchase decisions.

To summarize, based on the differences highlighted by the cluster analysis, it is recommended that the ingredient label (e.g.

'contains no additives'), price (e.g. 'high priced') and the influence of shelf-life (e.g. 'long shelf-life') are used as the basis for segmentation. Based on these different attribute focuses, fruit juice producers could develop various products and build different marketing strategies tailored to these three identified specific segments in order to capture the best opportunities offered by the Chinese market.

4. Conclusions and implications

The use of conjoint analysis measured the relative importance of extrinsic attributes that influence a subset of young, urban Chinese consumers' fruit juice purchase decisions from the Hangzhou region. The present study demonstrated three different segments of consumers in the Hangzhou population, revealing heterogeneity in consumers' fruit juice preferences. These segments were: Health Conscious, Premium Product, and Long Product Shelf-life. The practitioner-oriented contributions of this research are many, and a number of practical marketing recommendations are now detailed for each of the three identified segments.

The current findings show that the ingredient label, nutrition content claim and brand are important attributes determining fruit juice purchase decisions for the Health Conscious segment. When targeting these consumers, food manufacturers may develop alternative recipes or technologies for food additives to increase consumers' welfare. For example, juice manufacturers could consider using natural ingredients (e.g. natural sweetener, color, aromas etc.) in their food production and label products accordingly (e.g. "additive-free"). Having information about the nutrition labels and composition table (e.g. vitamin content) on the product packaging will increase the likelihood of these Health Conscious Chinese participants purchasing the fruit juice. Media visibility (e.g. television, radio, internet, newspaper and magazine) is integral to promote food and beverage products and increase brand awareness (Kotler et al., 2002).

Price was the most important attribute influencing the Premium Product segment when purchasing fruit juice. When targeting these consumers, pricing strategy for fruit juices can potentially be set at 10–30% higher than the local juice prices to distinguish the product from other competitors. This is because price is no longer an obstacle for premium quality juice products in China. The current study also found that 'imported' had the highest relative importance for the Premium Product segment, compared to the other two segments. Promotions targeting fruit juice to the Premium Product segment could include the product's country-of-origin image in order to gain participants' confidence in the quality and safety of products. As suggested by Lee et al. (2014, p.101): "Countries with a positive country-of-origin image in China certainly have an advantage entering the market".

When targeting the Long Product Shelf-life segment, lower priced products may be more attractive as 'high priced' had the lowest relative importance compared to the other two segments. Ingredient label, brand and nutrition content claim were also found to be important attributes influencing these consumers' fruit juice purchase decisions. Product packaging and labeling targeting this segment should include information such as ingredient label and nutrition content claim and manufacturers should aim to increase brand awareness through media visibility.

The outcome of this study shows that demographics alone were not sufficient to define and profile the three different consumer segments. Alternative measurements such as the food-related lifestyle instrument (Grunert et al., 2011) and consumption behavior (Verbeke, Pérez-Cueto, Barcellos, Krystallis, & Grunert, 2010) may better profile the consumer segments and allow wider

generalization of the findings. Future research, for example, that includes attitudinal questions (e.g. scales that measure a consumer's health consciousness tendencies) to further describe these consumer segments would be worthwhile. Likewise, future research exploring how intrinsic attributes (e.g. flavor) interact with the identified extrinsic attributes driving consumers' fruit juice preferences would be valuable.

It should be noted that the current study focused on urban consumers in Hangzhou region. Hence, results may not be representative of the greater Chinese population and future research is needed to explore other regions within China. However, the present study did demonstrate three different segments of consumers in the Hangzhou population. Therefore, one cannot assume homogeneity of the Chinese population and further research is needed to examine various segments of consumers in a wider geographic and demographic setting.

Given the paucity of information on Chinese consumers' decision making processes for purchasing food and beverages, there are many potential avenues for future research. The findings of this study have in places revealed the existence of cultural differences between the Chinese study population and those Western buyers reported on in extant literature. These cultural distinctions, as well as the many identified overlaps, need further exploration in other food-related consumer decision making areas. This study has successfully employed a conjoint-based survey to explore Chinese consumers' decision making for fruit juice products. Other studies are now needed to explore Chinese consumer decision making processes in alternative food and beverage contexts.

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