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## Understanding the effect of culture on food representations using word associations: The case of "rice" and "good rice"



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#### ABSTRACT

Consumers' perception toward rice was studied using a word association task in Korea, Japan, Thailand and France. A total of 195 participants from four countries were asked to indicate all the words that came to their minds when the stimulus words, "rice" and "good rice" were verbally presented. Frequencies of elicited words were counted and these words were grouped in different categories by triangulation. Some similarities and differences were observed among countries. French participants tended to associate "rice" more frequently with concepts such as foreign countries, culture, travel and exoticism. Participants in Asian countries tended to associate it more frequently with concepts such as agricultural products, necessary goods, and emotions. Framed into the triadic approach of consumption, these results indicate that symbolic motivation is more important for French participants and utilitarian and experiential motivations are more important for Asian participants in rice consumption. For good rice, all participants elicited terms linked to taste, health and process. However the relative importance of these categories of terms differed between countries. Health was more considered by Korean and Thai participants and cooking process was more considered by French and Japanese participants. Agricultural process was frequently cited by Korean and Japanese participants. Results showed that there are clear cultural differences in terms of utilitarian and symbolic motivations to consume rice as well as on the relative importance of the main quality criteria associated with rice.

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#### 1. Introduction

Rice is one of the most important grains in the world. It is not only consumed as a staple food in many Asian countries, but its acceptance and interest are getting bigger in Europe and the United States (Chataigner, 1992; Suwansri, Meullenet, Hankins, & Griffin, 2002). Accordingly, rice is traded internationally and international rice market has been expanded greatly in the past decades (Calpe, IRRI, 2004). This phenomenon is due not only to open trade policies but also to a changing demand for rice. Rice consumption per capita in many Asian countries has recently decreased. The key factors for this decrease were urbanization/westernization and increased incomes. In contrast, rice consumption increased in the United States and European countries. This seems to be mainly due to

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an increased interest for Asian cuisine (Hogg & Kalafatis, 1992) and increased concerns about diet and health (Childs, 1993). Having a better understanding of the motivations underlying these changing patterns of rice consumption seems to be crucial in this competitive global rice market.

The triadic approach (utilitarian, experiential and symbolic) is regularly used in consumer research to describe consumers' motivations (Charters, 2006; Werle, Trendel, & Ardito, 2013). Food is associated with a biological need and evaluated from a nutritional and health perspective for the utilitarian perception of food. On the other hand, pleasure and taste of foods are emphasized in the experiential perception. Symbolic dimension focus on the symbolic meaning and messages conveyed to the consumer through goods. In the case of wine consumption, for example, Charters (2006) argued that the symbolic and experiential motivations are more important than the utilitarian one. It has also been noted that the relative priority of these three purposes of consumption is culture dependent (Wong & Ahuvia, 1998). For example, Rozin, Fischler, Imada, Sarubin, and Wrzesniewski (1999) observed that

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US-American participants associated food with a utilitarian dimensions whereas French participants associated it with an experiential dimensions. These different perceptions toward food consumption lead to important differences in food choice.

Many studies were conducted to understand consumers' food choice concerning rice consumption (Meullenet et al., 2001; Suwannaporn & Linnemann, 2008b; Suwansri & Meullenet, 2004; Suwansri et al., 2002). These studies focused mostly on understanding the specific sensory attributes of cooked rice that appeal to consumers. Kaosa-ard and Juliano (1991) report that consumers from different countries have different preferences for rice. For example, Japanese consumers prefer soft, sticky rice, while Thai consumers prefer soft, non-sticky rice. American consumers prefer non-sticky rice, but firm rice. And consumers in India and Thailand favor fragrant or scented rice. However, food choice has been recognized as a complex process that goes beyond sensory properties. Indeed, food choice is also underlined by utilitarian and symbolic dimensions, such as health (Vickers, 1993) and price (Vickers, 1993), attitudes (Rozin, 1996; Shepherd, 1989), ethical concerns (Sparks, Shepherd, & Frewer, 1995) and mood (Rogers, 1996). These non-sensory factors influence consumers' perception through cognitive expectations. Cognitive expectations rely on pre-existing memory associative structures created as a result of past experience. In this context to better understand cultural differences in rice preference it seems to be important to understand cultural differences in memory associative structures associated to rice.

Different methods can be used to access consumer's memory associative structures. Among those methods the free word association task has gain popularity in the last decade in the sensory evaluation field to understand consumers' perception of local and organic foods (Roininen, Arvola, & Lähteenmäki, 2006), perception of conventional and functional yogurt (Ares, Giménez, & Gámbaro, 2008), expectation created by package shape and color of milk desserts (Ares & Deliza, 2010), and perception of traditional food products (Guerrero et al., 2010). In a free word association task, participants are prompted with a stimulus word and asked to indicate either the first word (discrete association task) or all the words (continuous association task) coming to their minds. The strength of an associated word is measured by how many participants produced the word. Words that are produced by many participants are assumed to have a stronger association with the target word than words that are produced by a few participants. The free association task was initially developed in psychology by Galton (1880) as a way to explore thought mechanisms. Since then, it has been used by market researchers to ensure the proper message is conveyed by words used in promoting a company's product. It is now one of the most commonly used methods for the evaluation of concepts and for studying consumers' beliefs or attitudes (Doise, Clémence, & Lorenzi-Cioldi, 1993; Hirsh & Tree, 2001; Hovardas & Korfiatis, 2006; Ross, 2003; Schmitt, 1998). Theoretically based on an associative network conceptualization of memory structure, the free association task reflects the relative strength of automatic associations between concepts for a population of individuals. It reveals commonalities within a group of individuals that arises as a result of similar experience. As such it constitutes a powerful tool to compare groups with different hypothesized association networks such as cultural groups. According to Nelson, McEvoy, and Dennis (2000) the free association task captures stable aspects of associative networks that can be useful in predicting performance in a variety of tasks. When dealing with food choice, the free association task might provide information on cultural differences in food memory structures which can lead to different expectations. Understanding those differences in expectations might provide useful information in predicting food choice especially those based on utilitarian and symbolic motivations.

The main objective of the present study was to compare consumers' memory structures linked to the concept of rice in four different countries - Korea, Japan, Thailand and France - with important differences in historical, geographical, climatic, and economical backgrounds of consuming rice. We were especially interested in accessing participants' representations of rice qualities: What makes a rice a good rice? Traditionally, rice growers and exporters establish certain criteria to grade their commodities, mainly physical properties such as length of grain, degree of milling, percentage of broken grains, proportion of damaged grains, colored grains, moisture level and impurities (Kaosa-ard & Juliano, 1991). However these factors do not take into account other quality criteria that might be important from the consumer's point of view, such as taste, health, convenience and process (Brunsø, Fjord, & Grunert, 2002). While these four quality dimensions appear fairly universal (Grunert, Hartvig Larsen, Madsen, & Baadsgaard, 1996), their relative importance differs between countries. In other words, what consumers consider good rice might depends on historical and socio-cultural factors as well as food habits. A top-quality rice in one country may be considered low-quality in another. To test this hypothesis we used a continuous free word association test with the words "rice" and "good rice" as cues. The comparison between the terms generated for "rice" and "good rice" will give us some insights into the main quality criteria in each culture. More specifically, we expected to see cultural differences in underlying dimensions of the representation of a good food notably in terms of tradition, health, and sensory properties. Moreover, we expected these cultural differences to increase with the differences in historical, geographical, climatic, and economical backgrounds as well as in food habits.

#### 2. Materials and methods

This study was part of a large scale project comparing food attitudes in four countries – Korea (Seoul), Japan (Tokyo and Tsukuba), Thailand (Bangkok), and France (Dijon) – through several cognitive tasks. The word association task was carried out first followed by a sorting task on nutritional beliefs (submitted, Appetite) and a picture-word matching task on rice cooking attitudes (Son et al., 2013).

#### 2.1. Participants

A total of 195 consumers participated in the study (Table 1). All the participants prepared food at home and consumed rice at least once a week. Only women were recruited, considering the fact that women are mainly responsible to cook in Asian countries (Joseph & Najmabadi, 2005). In each country, the participants were between 20 and 70 years old.

#### 2.2. Word association procedure

The participants were interviewed individually in their native language, with the same procedure in each country. First, the interviewer explained to the participant that there are no right or wrong answers. In order for the participants to be familiarized with the task and to make them feel comfortable, the experiment started by a warm-up session in which the participants were asked to elicit all the words starting with the letter "b" and then all the words coming to their minds when prompted with the word "sky". The experimenter did not interfere while the participants were thinking until they said they were done, at this point, they were prompted by the experimenter as follows "Can you write down (or tell me) even more than that? As much as you can." Once the participant had properly understood the principles of the experiment, the main session started. The first stimulus word, rice, was verbally

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