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## **Cross-cultural differences in consumer quality perception of rice**

Jungsoo Son, Kwang-Ok Kim, Thongchai Suwonsichon, Vinh Bao Do, Alexia Jauniau, Amélie Pecourt, F. Hayakawa, K. Suzuki, M.S. Cho, N. Fukutome,  
et al.

► **To cite this version:**

Jungsoo Son, Kwang-Ok Kim, Thongchai Suwonsichon, Vinh Bao Do, Alexia Jauniau, et al.. Cross-cultural differences in consumer quality perception of rice. 4. international symposium: From sensory to quality, What can sensory evaluation bring to quality control?, Jul 2014, Ho Chi Minh City, Vietnam. 132 p. hal-02741025

**HAL Id: hal-02741025**

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SUMMER PROGRAM IN SENSORY EVALUATION 2014

Vietnam, July, 25-27 , 2014



Dominique Valentin

Sylvie Chollet

Sebastien Lê

Dzung Hoang Nguyen

Hervé Abdi

Editors

FROM

**SENSORY  
TO  
QUALITY**

WHAT CAN  
**SENSORY  
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BRING TO  
**QUALITY CONTROL?**

**SPISE**

**2014**

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**PROCEEDINGS BOOK**

**FROM SENSES TO QUALITY:  
WHAT CAN SENSORY EVALUATION BRING TO QUALITY CONTROL**

**Proceedings of the SPISE 2014 meeting  
Ho Chi Minh City, Vietnam, July 25–27, 2014.**

**Edited by**

**Dominique Valentin, Sylvie Chollet, Sébastien Lê, Dzung Hoang Nguyen, & Hervé Abdi**

**“SPISE 2014: FROM  
SENSES TO QUALITY  
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Số lượng 200 cuốn,

Khổ 19 x 27 cm,

ĐKKHXB số 471-2014/CXB/05-37

Quyết định XB số 148,

ngày 24/7/2014.

của NXB ĐHQG-HCM.

In tại: Xưởng in Trường Đại học

Bách khoa TP HCM

Đ/c: 268 Lý Thường Kiệt, Phường 14,

Quận 10, TP HCM

Nộp lưu chiểu tháng 8 năm 2014.

**ISBN: 978-604-73-2450-7**



SUMMER PROGRAM IN  
SENSORY EVALUATION  
2014

From Senses To Quality  
What can sensory evaluation bring to quality control?

4<sup>th</sup> International Symposium, July 25-27, VietNam

## CROSS-CULTURAL DIFFERENCES IN CONSUMER QUALITY PERCEPTION OF RICE

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### ABSTRACT

Most aspects of food product quality perception are culture-bound. We present a cross-cultural study aiming at understanding how consumers from four countries (French, Japanese, Korean and Thai) perceive, describe and appreciate rice and rice quality. Marked differences were found in participants' motivation to consume rice: sensory and commodity in France; sensory and health in Japan; nutrition and commodity in Thailand; and nutrition, health and safety in Korea. For the description of rice qualities, despite a few cultural differences, especially between Korean and Thai descriptions of white and brown rice samples, similar sensory profiles were obtained in the four countries. In all countries germinated rice samples were less appreciated than the other samples. A preference mapping combining descriptive and liking data showed that, contrary to what we expected, preference of Japanese consumers were closer to that of French consumers than to that of other Asian consumers. This study suggests that cultural differences in food product quality perception might be more driven by motivation than by perception and that geographical proximity is not a good predictor of quality perception.

**Key words:** cross cultural study, rice, quality, perception, motivation, preference

### 1. INTRODUCTION

Consumers' demand for foods that are healthier, safer, more palatable and more environmentally or animal friendly is increasing (Gao, Schroeder *et al.*, 2010, Horská, Ůrgeová *et al.*, 2011). Consumers want quality and value, however, these terms have slippery meanings that are hard to pin down. The ISO 8402-1986 standard defines quality as "the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs". Manufacturers define it as a measure of excellence or a state of being free from defects, deficiencies, and significant variations, brought about by the strict and consistent adherence to the measurable and verifiable standards to achieve the uniformity of output that satisfies the specific customer or user requirements. Quality is thus

considered synonymous with innate excellence and cannot be analyzed, but only recognized through experience (Oude Ophuis and Van Trijpp, 1995). The formation of quality judgments entails a subject-object interaction, since the quality judgment is formed by an individual with respect to a certain product. Perceived-quality judgments emerge in contextual setting and, therefore, cannot be located "inside" the consumer as a completely subjective concept or "outside" the consumer as a subject-free objective concept (Thompson, Locander *et al.*, 1989). As such, quality judgments are culture-bound.

According to Wansink, Sonka *et al.* (2002) all cultures do not have the same perception of food. "Some cultures view food exclusively as providing nutrition (utilitarian perception), whereas other have a greater appreciation for the complexity of

preparation and for the process of savouring food (hedonic perception)" (p. 354). For example, according to these authors, Vietnam is considered as a culture where a utilitarian perception of food is dominant. Food consumption has become focused on providing nutritional and health benefits as a result of food shortages and civil strife. As a consequence, Vietnamese people view food primarily as a functional instrument that provides value by being a means to an end. In this context food quality might relate mostly to the nutritional value of the food. On the other hand, Japanese culture is considered as a hedonic culture that views food as experiential and affective. In this culture, food is appreciated for its own sake, with less regard for its practical characteristics. In this context food quality might relate mostly to sensory appeal of the food.

Food quality judgments are strongly related to sociocultural factors, thus, to understand quality judgments we need to understand cultural factors. Cultures are not characterized only by specific cuisines and dishes but also by specific attitudes toward foods and toward the role of foods in daily life. Cultures and individuals vary in the importance they attribute to food in their lives, the ritual and moral significance of food, and the role of food as a social vehicle. Among different food categories, starchy foods are interesting to study not only because of their importance in our diet but also because of the beliefs they generate in different cultures. Consumers have mixed beliefs on these foods. For example, Lloyd, Paisley *et al.* (1993) observed that for 40% of consumers increasing the intake of starchy food was favorable for weight control, whereas about the same percentage thought the opposite. Rice, along with wheat and corn, is one of the three most important grains in the world to be used today as a starch source. Especially in Asia, rice is crucial for food security since rice provides on average more than 28% of the daily calorie intake against 1.65% in Europe. Beyond the calorie intake, brown rice and even value-added rice such as germinated brown rice (GBR) have gained a great deal of attention, especially in Asian countries as a result of growing health consciousness (Sakamoto, Hayashi *et al.*, 2007, Moongngarm and Saetung, 2010, Roy, Nei *et al.*, 2010, Cha, Han *et al.*, 2012).

The general objective of the work presented here was to better understand cultural differences in the motivation of rice consumption and the determinants of choice of rice and rice cooking methods with regard to the different values attached to nutrition, taste and convenience across cultures. The end goal of this work was to provide insights to develop new rice cooking processes to enhance nutritional and organoleptic qualities to international consumers. The first step towards this goal was to understand consumers' expectations and perception of rice and rice cooking processes. We hypothesized that these expectations and perceptions would be influenced by consumers' cultural background. To verify this hypothesis, we conducted a series of cross-cultural studies in four countries that have contrasted and shared cultures. To represent Eastern culture, we included three Asian countries: Korea (Seoul), Japanese (Tsukuba and Tokyo) and Thai (Bangkok). These selected Asian countries shared a rice-based culture; however, they differ substantially in terms of geographic, social and economic factors, especially Thailand, a South-east Asian country and Korea and Japan, North-East Asian countries. To represent Western culture, we selected France (Dijon). France is one of the larger consumers of rice in the EU with Spain and Italia. The second step was to evaluate the effect of cultural differences in expectation and motivation on rice perceived sensory characteristics. We hypothesized that different expectations and motivations might lead consumers to focus their attention on different characteristics of the rice and thus lead to differences in terms of description and appreciation of rice qualities. We first developed a "universal" tool to describe the organoleptic characteristics of rice across cultures. A modified optimized descriptive profile (ODP) was then used based on this lexicon to describe white, brown and germinated rice samples in the four countries. In parallel a consumer test was conducted to evaluate the appreciation of the same products by consumers from the same countries.

## 2. EXPECTATIONS AND PERCEPTION OF RICE AND RICE COOKING PROCESSES

### 2.1. Material and Methods

*Participants.* A total of 80 participants from four countries - Korea (Seoul), Japan (Tokyo and

Tsukuba), Thailand (Bangkok), and France (Dijon) – participated in this study. Inclusion criteria were that the participants were the primary person responsible for food preparation in the household, spoke the native language, were aged between 20 and 70 years, cooked rice at least once per week and were willing to receive two researchers in their kitchen and talk about their way of cooking rice. As an incentive, participants were offered a payment going from \$10 in Thailand to \$50 in Japan. The payment was based on the economic standard of the country. The majority of participants were females (75 women; five men); reflective of data showing that women prepare meal more frequently than men especially in Asia. The males who participated in our study were all French.

*Procedure.* Participants were interviewed individually at home. They were first asked to cook rice in their usual way. The cooking step was videotaped (Figure 1). At the end of this step, participants were interviewed through a semi-structured individual face-to-face interview including a free association task (Son, Do et al., 2014), a matching task (Son, Do et al., 2013) and questions linked to their rice-cooking behaviors, as well as their perception of other rice-cooking methods, and rice and other cereals and beans usage. The ways they stock rice was also observed by taking pictures of their cupboards. The interviews were conducted in native language. The interviews lasted from 1h30 to 2h and were audio-taped.

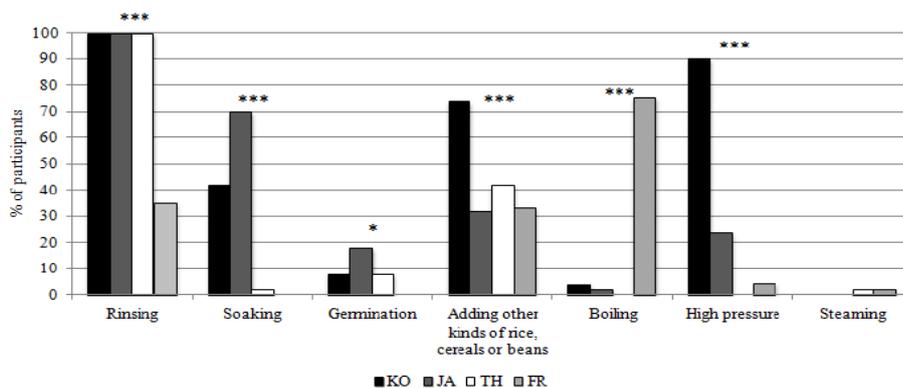
*Data analysis.* Videotapes were analyzed independently by two researchers. The analyses focused on three main aspects: 1) the ingredients that participants used and those they have in their cupboard, 2) the cooking devices they generally use and 3) the cooking steps they used the day of cooking. In addition, the audio recordings were transcribed and verbatim transcripts were analyzed by two researchers to help understanding the observed behaviors. The association and matching tasks were analyzed by comparing respectfully the frequencies of words and matches obtained in each culture (see Son, Do et al. (2013) and Son, Do et al. (2014) for further details).

**2.2. Results and discussion**

Figure 1, 2 and 3 illustrates the cooking methods and ingredients used in the four countries. In France, participants cooked rice mostly in standard pots, whereas participants from the three Asian countries used mostly electronic rice cookers. Differences in the type of electronic rice cookers were observed among the three Asian countries. In Thailand, participants used electronic rice cookers with simple functions, such as cook and warm. In Korea and Japan, most participants used high-technology multi-function rice cookers. All Korean participants used pressure cookers, but only half of them used induction-heating (IH) system. In Japan, most participants used IH system, but only half of them used pressure.



**Figure 1.** Illustration of cooking methods in the four countries.



**Figure 2.** Frequency of participants using the seven different rice cooking processes.

\*\*\*, p<0.001; \*, p<0.05, khi2 test



**Figure 3.** Illustration of ingredients used in the four countries

In the four countries the most frequently used ingredient was white rice. However, the variety of rice was different: Long-grain rice was used in France, Jasmine rice in Thailand, and Japonica rice in Korea and Japan. Many Korean participants added cereals and beans into the white rice and even some of them used brown rice instead of white rice and they explained their motivation to use these ingredients with nutritional-related issues. This behavior appeared also in Thailand in a lesser extent but not in Japan and France.

When asked what came to their mind when prompted with the words rice or good rice, 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 rice 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. Association to “good rice” showed that health was more considered by Korean and Thai participants and cooking process was more considered by French and Japanese participants. Sensory aspects, type of rice, and cleanliness were considered as important criteria for good rice in all four countries, which can be the criteria for better taste, nutrition, and safety.

### 2.3. Conclusion

Our findings showed that cultural environment has an impact on rice consumption motivations and perceived quality. Habitual behavior in rice-cooking process is strongly associated with beliefs’ on cooking quality of rice which were acquired from long experience in each culture. In addition, there was a tendency to account for one’s pattern of

behavior by moving in circles from positive beliefs to habits and back to positive beliefs again.

## 3. DESCRIPTION AND APPRECIATION OF RICE QUALITIES

### 3.1. Material and Methods

**Participants.** The descriptive panels were composed of eight women in each country (aged  $26 \pm 2$  in Korea and  $29 \pm 5$  in France) who consume rice at least once a week and had prior experience in sensory profiling techniques but not of cooked rice. The consumer panels were composed of 100 women in each country.

**Products.** Six cooked rice samples obtained by crossing three types of rice (white, brown and germinated brown rice from the chu-cheong variety) and two cooking methods (called Korean and French cooking) were utilized. The details of cooking conditions are described in Table 1.

**Descriptive test procedure.** A modified version of the Optimized Descriptive Profile (ODP, de Cássia dos Santos Navarro da Silva, Minim *et al.* (2012)) was used. A “universal lexicon” was first developed (Son, Pecourt *et al.*, 2012). The lexicon included 22 descriptors illustrated by a set of definitions and references as illustrated figure 4.

Panelists were first familiarized with the lexicon and the set of reference during two sessions. Then eight evaluation sessions were conducted. Panelists were asked to indicate the intensity of the attribute for each sample on an unstructured 10cm line scale. They received all rice samples at the same time along with the references illustrating the weak and strong end of each scale.

**Consumer test procedure.** Panelists were asked to taste the rice samples and to indicate their liking on a 9-point scale going from dislike extremely to like extremely.

**Data analysis.** For the descriptive test the sensory scores obtained for each attribute in each

country were averaged across repetitions and submitted to a multiple factor analysis (MFA). For the consumer test the liking scores were submitted to a two-way analysis of variance with country as a between subject factor and rice samples as a within

subject factor. Pairwise comparisons with a SNK test were computed to evaluate the difference in liking between products in each country.

Table 1. Rice samples

Cooking condition		Details			
Code	Rice type	Cooking type	Rice :Water(g)	Pre-cooking in the water bath*	Cooking appliance/ cooking Program
WF	White	French	572:905	Soak during 30 minutes at 60°C	Seb 8 en 1 electric rice cooker /Rapid cooking without smmimering
WK	White	Korean	600 :700	-	Cuckoo electric pressure rice cooker /White rice menu (1)
BF	Brown	French	572 : 905	Soak during 60 minutes at 60°C	Seb 8 en 1 electric rice cooker /Rapid cooking with simmering
BK	Brown	Korean	600 : 800	-	Cuckoo electric pressure rice cooker /Brown rice menu (4)
GF	Germinated brown	French	572 : 905	Soak during 16 hours with lactic bacteria at 30°C	Seb 8 en 1 electric rice cooker /Rapid cooking with simmering
GK	Germinated brown	Korean	600 : 800	Soak during 16 hours with lactic bacteria at 30°C	Cuckoo electric pressure rice cooker /Brown rice menu (4)

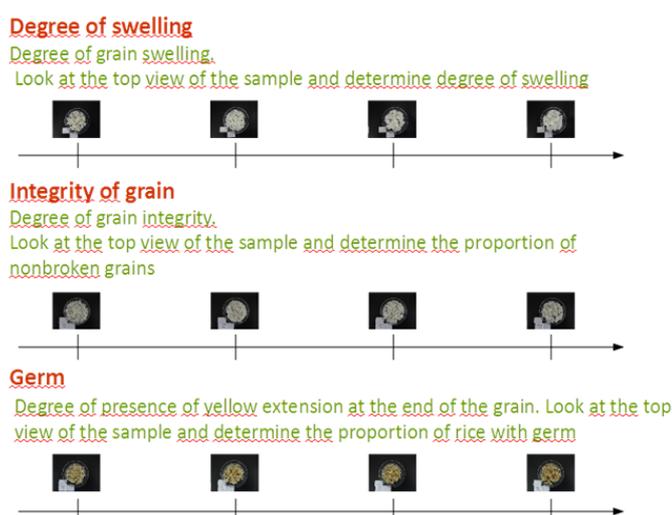


Figure 4. Illustration of universal lexicon used for rice description

### 3.2. Results and discussion

*Descriptive test.* The first three MFA components explain 96% of the total variance (Figure 5). For all panels, the first dimension opposes white rice to brown rice, the second dimension opposes the two cooking methods and the third one opposes brown rice to germinated rice.

All panels described the rice samples similarly. White rice samples were characterized with high glossiness, swelling, integrity of grain, rice cake odor, adhesiveness, cohesiveness of mass, and watery. Brown rice and germinated brown rice samples were characterized with high color, germ, sourness, astringency, bitterness, rice bran odor,

roasted barley odor, firmness, chewiness, skin toughness and residual. Germination strengthen the sourness, corn odor and acidic odor characteristics of the brown rice and the French cooking method (with more water and no high pressure) lowered the color and glossiness characteristics and strengthen the easy to separate characteristics of brown rice. Korean panelists were more sensitive to the difference between brown rice either due to the cooking method or to the germination process than other panelists.

*Consumer test.* The ANOVA showed a significant effect of country with higher scores given by the Thai panel compare to the three other panels,  $F() = , p <$  as well as a product effect with the germinated

rice being less appreciated than the other rice samples,  $F(0) = , p <$  and an interaction effect,  $F(0) = , p <$ . Figure 6 shows that French and Japanese panels tended to have similar liking patterns which differed from the Thai and Korean pattern.

An internal preference mapping (figure 7) showed that the attributes the less valued by consumers in the four countries are the attributes describing the germinated samples: acid, astringent and bitter taste, acid and corn smell, firmness, chewiness, skin toughness as well as the excessive

adhesion and cohesion of the mass. In contrast the attributes the most appreciated by consumers are the attributes describing the white rice sample with the FR cooking method (i.e. with more water and no high pressure) and the brown rice samples. Among those attributes odor attributes vary by country: rice bran and rice cake odor in Thailand and Japan, roasted barley in France and Japan whereas texture and appearance tend to be the same in all countries: integrity of the rice grain, swelling of the grains and glossiness.

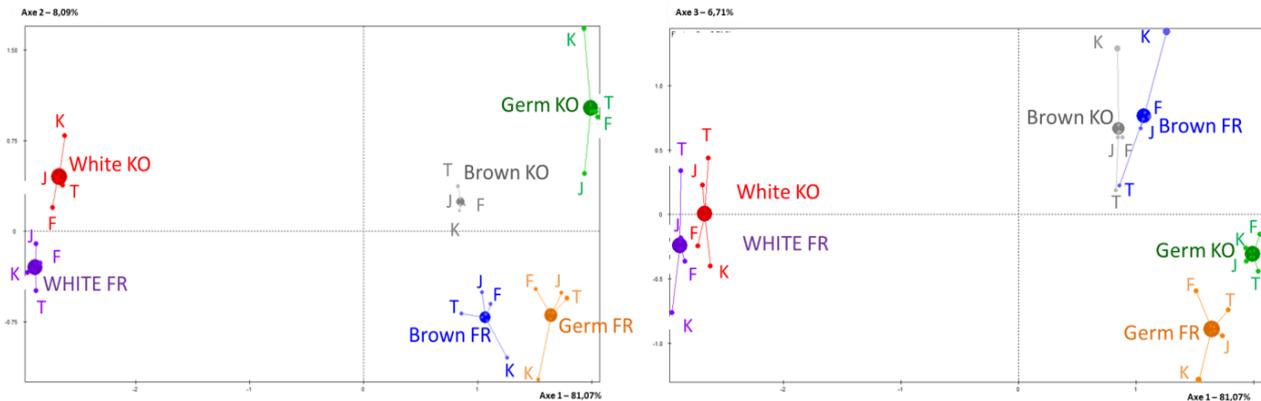


Figure 5. Projection of the products on the first three dimensions of the MFA carried out on the descriptive data collected in the four countries

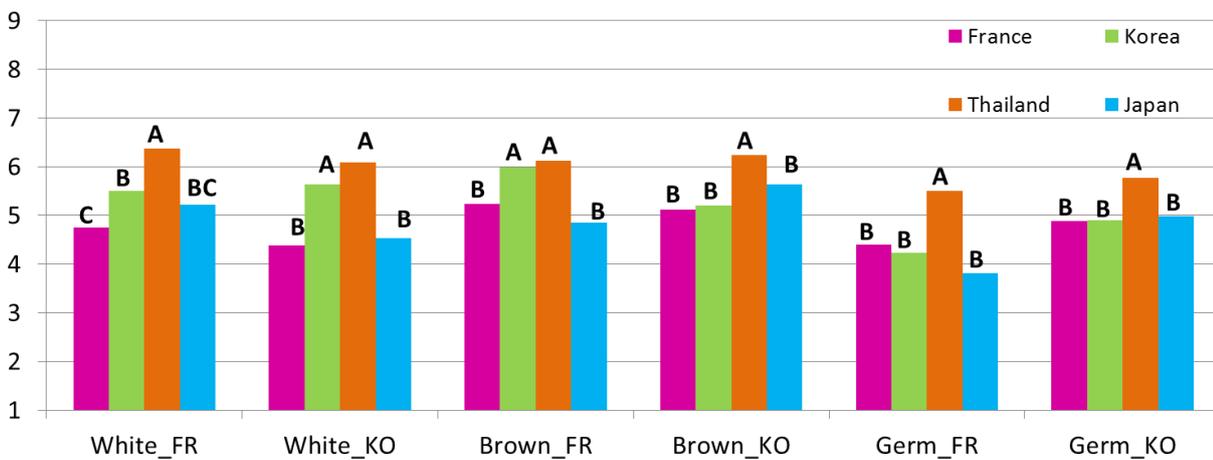


Figure 6. Average liking scores of the four panels. The letters represent the results of the SKN pair comparison test. Two samples with the same letter were not significantly different.

### 3.3. Conclusion

Although all panels described globally the rice samples similarly, some differences appear in the preference pattern. These differences may be attributed to different sensitivity of the panelists to some characteristic of the samples due to different food habit and familiarity with the products as well as to difference in expectation due to different representations. Finally, contrary to what we expected, preferences of Japanese consumers were closer to that of French consumers than to that of

other Asian consumers which suggests that geographical proximity is not a good predictor of preferences and quality perception.

### 4. GENERAL CONCLUSION

Our results indicate the importance of understanding cultural differences in the development of a new rice cooking process for consumers across the world to satisfy quality demands underlying rice consumption in each country. For example, nutritional benefits can be

emphasized when targeting Korean consumers and to a lesser degree Thai consumers. Convenience might be a more important factor to highlight for Thai consumers. For Japanese consumers, sensory

qualities should be fulfilled fundamentally. Finally, to targeting French consumers, symbolic meaning of rice consumption such as voyage and exotic concepts can be used as a useful marketing strategy.

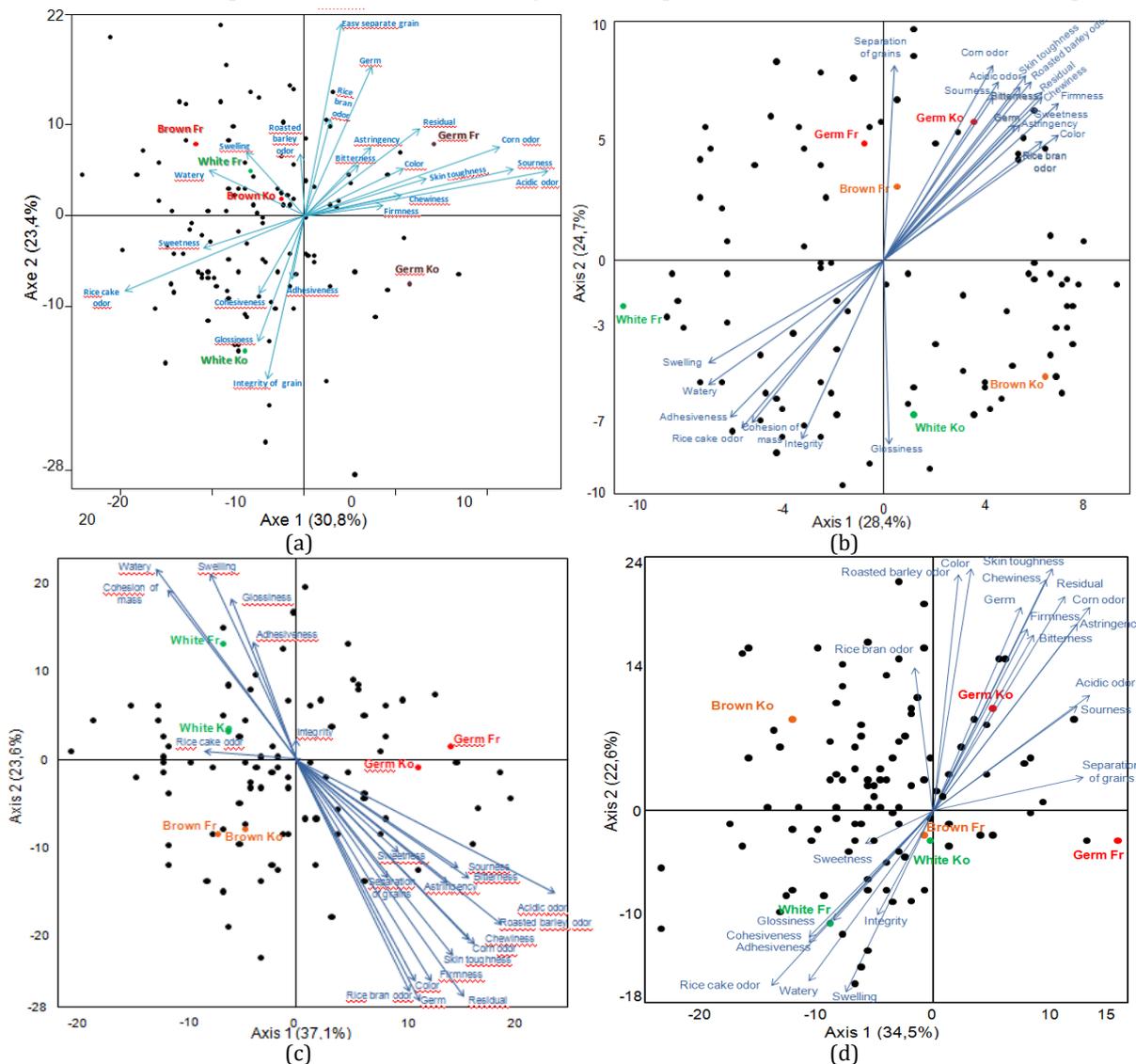


Figure 7. Illustration of the preference mapping realized in the four countries: a) South Korea, b) Thailand, c) Japan, and d) France)

**ACKNOWLEDGMENTS**

This work was funded by FUI and regional council of Burgundy.

**REFERENCES**

Cha, H.-M., G. Han and H.-J. Chung (2012). "A study on the trend analysis regarding the rice consumption of Korean adults using Korean National Health and Nutrition Examination Survey data from 1998, 2001 and 2005." *Nutrition research and practice* 6(3): 254-262.

de Cássia dos Santos Navarro da Silva, R., V. P. R. Minim, A. A. Simiqueli, L. E. da Silva Moraes, A. I. Gomide and L. A. Minim (2012). "Optimized descriptive profile: a rapid

methodology for sensory description." *Food quality and Preference* 24(1): 190-200.

Gao, Z., T. C. Schroeder and X. Yu (2010). "Consumer willingness to pay for cue attribute: the value beyond its own." *Journal of International Food & Agribusiness Marketing* 22(1-2): 108-124.

Horská, E., J. Ůrgeová and R. Prokeínova (2011). "Consumers' food choice and quality perception: Comparative analysis of selected Central European countries." *Agric. Econ.-Czech* 57: 493-499.

Lloyd, H., C. Paisley and D. Mela (1993). "Changing to a low fat diet: attitudes and beliefs of UK consumers." *European Journal of Clinical Nutrition* 47(5): 361-373.

Moongngarm, A. and N. Saetung (2010). "Comparison of chemical compositions and bioactive compounds of germinated rough rice and brown rice." *Food Chemistry* 122(3): 782-788.

Oude Ophuis, P. A. and H. Van Trijp (1995). "Perceived quality: a market driven and consumer oriented approach." *Food quality and Preference* 6(3): 177-183.

Roy, P., D. Nei, T. Orikasa, H. Okadome, M. Thammawong, N. Nakamura and T. Shiina (2010). "Cooking properties of different forms of rice cooked with an automatic induction heating system rice cooker " *Asian Journal of Food and Agro-Industry* 3(4): 373-388.

Sakamoto, S., T. Hayashi, K. Hayashi, F. Murai, M. Hori, K. Kimoto and K. Murakami (2007). "Pre-germinated brown rice could enhance maternal mental health and immunity during lactation." *European journal of nutrition* 46(7): 391-396.

Son, J.-S., V. B. Do, K.-O. Kim, M. S. Cho, T. Suwonsichon and D. Valentin (2013). "Consumers' attitude towards rice cooking processes in Korea, Japan, Thailand and France." *Food quality and Preference* 29(1): 65-75.

Son, J.-S., V. B. Do, K.-O. Kim, M. S. Cho, T. Suwonsichon and D. Valentin (2014). "Understanding the effect of culture

on food representations using word associations: The case of "rice" and "good rice"." *Food quality and Preference* 31: 38-48.

Son, J. S., A. Pecourt, F. Hayagawa, K. Suzuki, T. Suwonsichon, K.-O. Kim and D. Valentin (2012). How can we communicate sensory characteristics of food in different languages and cultures? The case study of cooked rice. SPISE, Vietnam.

Thompson, C. J., W. B. Locander and H. R. Pollio (1989). "Putting consumer experience back into consumer research: the philosophy and method of existential-phenomenology." *Journal of consumer research*: 133-146.

Wansink, B., S. T. Sonka and M. M. Cheney (2002). "A cultural hedonic framework for increasing the consumption of unfamiliar foods: soy acceptance in Russia and Colombia." *Review of Agricultural Economics* 24(2): 353-365.