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### How to cite this manuscript

If you make reference to this version of the manuscript, use the following information:

Bell, B., Adhikari, K., Chambers, E., Cherdchu, P. & Suwonsichon, T. Ethnic food awareness and perceptions of consumers in Thailand and the United States. Retrieved from <http://krex.ksu.edu>

### Published Version Information

**Citation:** Bell, B., Adhikari, K., Chambers, E., Cherdchu, P. & Suwonsichon, T. (2011). Ethnic food awareness and perceptions of consumers in Thailand and the United States. *Nutrition & Food Science*, 41(4), 268-277.

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**Digital Object Identifier (DOI):** doi: 10.1108/00346651111151401

**Publisher's Link:**

<http://www.emeraldinsight.com/journals.htm?articleid=1941547&show=abstract>

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**Bell B, Adhikari K, Chambers E IV, Cherdchu P, Suwonsichon T. 2011. Ethnic food awareness and perceptions of consumers in Thailand and the United States. Nutr Food Sci 41:268-77.**

## **Ethnic food awareness and perceptions of consumers in Thailand and the United States**

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## **Abstract**

**Purpose** – The main purpose of the study was to determine the awareness towards ethnic foods made with traditional spices among U.S. and Thai consumers.

**Design/methodology/approach** – Data on the awareness and use of ethnic cuisines and spices was collected from 100 consumers in a Midwestern university town in the United States and 100 consumers in Bangkok, Thailand. Consumers were also asked to identify ethnic spice blends by tasting spice blends in rice and they ranked the perceived health benefits of 15 ethnic cuisines.

**Findings** – The results showed that more Thai consumers (94%) shop at ethnic grocery stores than US consumers (55%). Also, Thai consumers are more likely to consume ethnic foods from nearby countries, but US consumers have tried a greater variety of ethnic foods. Neither group generally was able to identify a cuisines based only on the spice flavors, although, Thai consumers were slightly better at doing so. Asian cuisines were perceived to have the greatest health benefits to both American and Thai consumers.

**Originality/value** – The consumption of ethnic foods is on the rise around the world as consumers seek new food experiences and diversity in their diets. Manufacturers are using these traditional spices to convey an “ethnic” and “healthy” profile to their foods.

**Keywords** Ethnic foods, Consumer test, Health, Thailand, United States

**Paper type** Research paper

## **Introduction**

Marketing research experts have predicted a doubling of ethnic food demand from 2005 to 2015, with annual sales reaching 75 billion dollars (Howell, 2005) in the United States. Ethnic food consumption is increasing at a rate of over 7% annually, as the availability of ethnic food restaurants and ethnic food stores has grown and as consumers aim to balance nutritious diets (Jones, 1997). Asia is increasingly important to global food manufacturers and is especially important for marketing unique foods with functional properties (Mun, 2009), many of which are based on “ethnic” Asian diets.

Consumers are seeking new food experiences and flavor combinations. Much of the transfer of cuisines around the world has occurred through flavorings from spices, which capture the “essence” of particular foods (Danhi and Slatkin, 2009). Dietary diversification is an essential part of maintaining adequate health. Generally, as diets become more simplified, more health problems arise (Frison *et al.*, 2006). Assantachai and Lekhakula (2007) showed that deficiencies of certain nutrients in older adults in Thailand were not only from socio-economic problems, but also from “monotonous food consumption” practices. Diversity of diet can be increased as ethnic foods become more available and as knowledge of how to prepare such foods is increased. Different cultures can learn from each other about the effective use of various plant materials (Frison *et al.*, 2006).

As cultures continue to diversify and evolve, it is expected that food choices also will diversify as consumers assimilate certain ethnic food cultural habits into their own diets (Tian, 2001). In fact, some recent studies have shown that individual differences in consumers tend to be more important than specific ethnicity issues when studying food acceptance for various products (Neely *et al.*, 2010; Palacios *et al.*, 2009) although some differences by country can still exist

(Lee *et al.*, 2010). Ethnic groups vary from each other, often widely, by the cultural context of their food and diet. According to Guerrero *et al.* (2008), when defining a “traditional food product (TFP),” sensory parameters and identifying a particular taste are the best ways.

Evaluation of the sensory attributes of foods is an easy and effective way to distinguish the authenticity of such products as well as the culture related to it.

The recognition of flavor is a direct link to flavor and memory. Consumers often have difficulty describing new foods and flavors because they must rely on memory and experience to do so, even though they haven't tasted the product. “This inability to define, measure, or quantify taste may contribute to the link between memories and taste” (Varadachari, 2002). It is difficult to describe new foods or sensations without the prior memory of similar foods or sensations.

Food choice and selection often is based on memory, though consumers often are unaware of such factors in their decisions. Consumption of products leads to an implicit knowledge of the specific foods eaten, thus influencing what we eat (Mojet and Koster, 2005). Recent studies have shown differences in the ability of consumers to identify typical cuisines. For example, Yusop *et al.* (2009) found that Europeans were better able to identify various Chinese cuisines than were Chinese consumers living in Europe. Those authors suggested that "authenticity" may differ depending on people's experiences and the actual foods used in the test.

Laureati *et al.* (2008) examined absolute memory by giving custard samples to consumers, along with a meal to disguise the objective of the test. The consumers returned the next day and had to identify the sample they ate on the previous day, among distracter foods. Females and high-likers had a higher recognition index than males and low-likers. The age of the consumer did not seem to have an effect, as those of all ages performed poorly at the memory recognition

(Laureati, 2008). The conclusions from the study suggest that there still are many unknowns about the role of memory on flavors, liking, and the impact that it has on food choice.

A child's dietary diversification and eating habits are molded early on in life as their diets are generally based on the cultural eating tendencies of their parents (Bril *et al.*, 2001). Children are more accepting of new foods (more neophilic) than adults 55 years and older who tend to be more neophobic (Verbeke and Lopez, 2005). Also, exposure to flavors, both prenatally and through breastmilk feeding, influences the child's flavor preferences later in life (Mennela *et al.*, 2001). The liking for particular foods is increased as repeated exposure occurs (Liem and deGraaf, 2004).

Research has shown that young children are better able to remember a flavor if the flavor recalls positive memories about the time it was consumed. This is possibly due to the fact that they are better able to describe the flavor, engraining it in their memory for future references to repeated exposures (Lumeng and Cardinal, 2007).

The objectives of the study were to understand (1) the general awareness of ethnic foods containing traditional spices in two different markets (US and Thailand); (2) the accuracy of consumer identification of seasonings/spice blends that are traditionally used in various ethnic foods; (3) and the health-related perceptions and attitudes towards ethnic foods.

## **Materials and Methods**

### *Sample Preparation*

Six spice blends were selected, including: Mexican (Mexican Spice Blend; Spice Barn, Inc., OH, USA), Cajun (Cajun Seasoning; McCormick & Company, Inc., Hunt Valley, MD, USA), Italian (Italian Seasoning; McCormick & Company, Inc.), Thai (Tom Yum Soup Powder; Multipro International Company Ltd., Samulprakarn, Thailand), Indian (Curry Powder; House of Spices

(India) Inc., Flushing, NY, USA), and Korean (Korean Kimchi Bowl Noodle Powder; Nongshim Company, Ltd., Seoul, Korea). Enriched long grain rice (Great Value, Wal-Mart, Bentonville, AR, USA) was prepared by weighing 375g of rice and rinsing with 2 cups of distilled water. The water was drained and the rice was placed in a rice cooker (Automatic Rice Cooker, RC-18JM, Sharp, Japan). Six rice cookers were used, one for every spice blend. Five cups of water were added to the rice, along with 2g of salt. The rice took approximately 45min to cook. After cooking, the rice cooker lid was opened to allow the steam to escape. After 5min, the spices were added to the rice and stirred for 3min to ensure a homogenous sample. For the Korean, Thai, Cajun, and Mexican blends, 11.0g of spice were added to the pre-weighed cooked rice. For the Italian and Indian blends, 8.25g of spice were added to the pre-weighed cooked rice. These blends were the results of a preliminary taste test done to ensure that the levels of the spices were strong enough to taste, yet still palatable.

### *Consumers*

One hundred US consumers (55% female and 45% male) were recruited at a Midwestern university town in the United States, and 100 Thai consumers (56% female and 44% male) were recruited at a large national festival in Bangkok, Thailand. The participants recruited had no known food allergies, and were selected to span the age range of 18 to 69 years.

### *Questionnaires and Spice Awareness Test*

The consumers completed a questionnaire that detailed questions about ethnic food awareness and health perceptions. The questions (Table 1) were asked prior to the taste test.

The taste portion of the test required consumers to match a particular ethnicity to the ethnic blended rice samples provided. The samples were served using a sequential monadic presentation that balanced the order of presentation across the consumers. All of the samples



were served in 96-ml (3.25oz.) plastic cups labeled with the appropriate 3-digit code. Each consumer was given water and unsalted crackers and was encouraged to cleanse his/her palate between the samples. The only difference in the two tests was that the consumers in Kansas were given reverse osmosis, deionized, carbon-filtered water and Thai consumers bottled water (Nestlé, Bangkok, Thailand). The entire test took approximately 45 min to complete.

### *Data Analysis*

Wherever applicable, the percentages and mean values were calculated for the questions.

Pearson's correlation coefficients were calculated in Microsoft Excel<sup>®</sup>.

## **Results and Discussion**

### *Ethnic food and restaurant awareness*

A comparison of attitudes towards ethnic foods identified that more Thai consumers (94%) shop at ethnic grocery stores than US consumers (55%) (Table 1). There are a number of factors that might have contributed to this. Bangkok, Thailand is a large metropolitan area of more than 10,000,000 people with many ethnic markets, while the US town is a much smaller market of less than 60,000 people with only 2 ethnic food stores. Also, typical Thai grocery stores carry a large assortment of products from other Asian countries and from “western” countries. Thus, Thai consumers may have labeled their local grocery store an “international/ethnic grocery store” because the term was undefined. Both sets of consumers are equally aware (Thai – 92%, US – 89%) of an international food aisle at the local grocery store. The Thai consumers and US consumers purchase items from these aisles at reasonably similar rates, 57% and 65%, respectively. Of Thai consumers, 61% think ethnic foods are somewhat to very affordable, compared to 80% of US consumers, and approximately seven out of 10 consumers from each group thought that ethnic foods are readily accessible. It is important to identify that the average

American consumer spends ~ 6% of their disposable income on food (Euromonitor International, 2010a) while the typical Thai spends ~17% of their disposable income on food (Euromonitor International, 2010b). The additional costs of ethnic foods, coupled with the disparity in percent disposable incomes spent on food, possibly explains why 20% fewer Thai and US consumers consider the foods affordable.

Thai consumers are more likely to consume ethnic foods from nearby countries (Table 2). A majority of the Thai consumers have consumed Thai (98%), Japanese (93%), Chinese (90%), Vietnamese (81%), and Korean (71%) ethnic foods. US consumers have tried a greater variety of ethnic foods, suggesting that a wider variety of ethnic food restaurants are available in the US, even in a smaller town. The US consumers have tried more ethnic foods that are not available within 40 kilometers of their home, suggesting the US consumers we tested either are willing to drive farther to get to restaurants or that they travel more than the Thai consumers we tested. This finding is derived by comparing the ethnicities in which a low number of consumers identified the ethnic food within 40 km of their home (French, Indian, Russian, Greek, and Spanish) to the ethnic foods they had tried (Table 2), in which the US percentages are always higher. This finding could be because of more ease of traveling, more knowledge or interest in ethnic foods, or more ethnic restaurant options in nearby larger cities in the United States. The ethnic foods that consumers have tried positively correlates with ethnic restaurants within 40 kilometers of the home (Thai  $R^2 = 0.939$ , US  $R^2 = 0.957$ ).

#### *Identification of various ethnic spice blends*

The accuracies of consumer identification of ethnic types of food in the consumer test are shown in Figure 1. Less than 60% of all the consumers were able to accurately identify the ethnicity of

the specific cuisine based on tasting alone. In general, Thai consumers were more able to accurately identify a flavor associated with a particular ethnicity than US consumers. Interestingly, only 53% of Thais identified the Thai spice sample as Thai. The Thai spice blend used was a generic “Tom Yum” soup blend, which, although it was made by a Thai company, may not have conveyed the right flavor perception to some Thai consumers because they ate it on rice. There is not a single spice that is synonymous with Thai culture, which made it difficult to select a spice blend that was the gold standard for Thai taste for use on rice. The US consumers did very poorly with the Thai spice blend, with only 19% correctly identifying the sample. Cajun, the ethnic American cuisine chosen for this study, was identified correctly by only 40% of US consumers and by 12% of Thai consumers. The relatively low number of Americans that identified the Cajun spice correctly confirms the regional diversity of food in America. Cajun food is a Southern cuisine and, it is not overly popular (only 24 consumers had eaten at a Cajun restaurant in the past 3 months) in the Midwest. Only 40 US consumers identified a Cajun restaurant within 40 km of their home, though there are two Cajun restaurants in the Midwestern town in this study. The fact that Thais did not recognize this regional ethnic American cuisine is not surprising because few Thais were familiar with it. It also is possible that both the Thai cuisine for Thais and the Cajun cuisine for the US consumers did not capture the "authentic" flavor expected by targeted users, something also found by Yosup *et al.*, (2009). Interestingly, 97% of US consumers noted that they had been to a Mexican restaurant in the last 3 months, but less than 50% of all consumers could identify it by taste. Only 26% of the Thai consumers had ever tried Mexican food and 38% identified it correctly. The same trend held true with Italian food. Many more Americans had consumed it recently and had tried it overall, but the Thai consumers outperformed them on the flavor identification test (52% correct to 43%

correct). This suggests there might be some memory confusion when dealing with ethnic foods or that the consumption of flavors on products that may be less typical of the cuisine (e.g. rice instead of pasta) confuses consumers.

Consumers might have been able to identify whether or not they had tasted the spice blend before but may have been confused when identifying it by tasting it. This is in line with other research, suggesting memory is better at detecting changes in flavor and texture rather than identifying previously tasted foods (Dijksterhuis *et al.*, 2006). Also, Italian spice blends are not normally used in rice, so the carrier of the spice might have confused the consumers. A majority of the US consumers who misidentified the Italian blend indicated they thought it was “Greek,” a different Mediterranean country and cuisine. It was probably because of the presence of oregano in the Italian Seasoning. Neither group was able to identify the Korean spice sample. Again, the Korean blend was a “Kimchi Bowl Noodle Powder,” which might not have been an exclusive characteristic of Korean food as there are numerous flavors associated with Korean food. About 50% from each group identified the Indian, Italian, and Mexican blends.

This data suggests that TFPs cannot be characterized by a sensory parameter, namely flavor, alone, which contrasts with the suggestion by Guerrero *et al.*, (2008). It is possible that some consumers never had the flavor memory experiences necessary to correctly identify the blends. Alternatively, the consumers may have tried the ethnic food before but had not had enough repeated exposure to adequately instill memory recall for the given blends (Mojet and Koster, 2005).

#### *Health-related perceptions of various ethnic spice blends*

All six Asian ethnic food types (Thai, Japanese, Chinese, Vietnamese, Korean, and Indian) that were listed on the questionnaire were perceived as healthier than all other listed ethnic types for

both sets of consumers. Also, African American, Cajun, Russian, and Spanish were ranked in the bottom 5, meaning they were seen as offering the least health benefits by both sets of consumers. It is interesting that the two American cuisines (African American and Cajun) were not viewed as offering much health benefits. This identification as less healthful may explain why Americans are branching out and trying other ethnic cuisines that have more perceived health benefits.

Ethnic foods with the most perceived health benefits could expect more growth than the ethnic foods with fewer perceived health benefits, should this trend continue. According to Niva (2007), foods that are perceived as healthy are often natural, unprocessed, fresh, low-fat, nutritious, and high in vitamin and mineral contents. Perhaps Asian ethnic foods are perceived to have more of these health attributes. More research needs to be conducted correlating specific health perceptions to ethnic and cultural food categories to identify which claims are driving the perceived health benefits.

Another factor that could be driving the willingness to try and use ethnic functional foods is the perceived rewards the diets provide (Urala and Lahteenmaki, 2004). A functional food is defined as a food that provides health benefits above and beyond basic nutrition (Roberfroid, 2000). Poulsen (1999) identified that Americans are much more inclined, compared to Europeans, to accept functional foods as the solution to the problem between health and eating habits. These international differences in health perceptions do not seem to differ between the Thai and US consumers as the health perception rankings are very similar. Evidently, both sets of consumers associate the health perceptions of ethnic foods comparably.

## **Conclusions**

The overall awareness of ethnic foods and spices among the Thai and US consumers we tested is relatively high as consumers frequently visit and purchase ethnic foods from culturally diverse restaurants and grocery stores. Overall, consumers are ‘slightly to moderately’ able to identify the ethnicity of some spice blends based on flavor alone. Spice selection for similar studies in the future needs to be carefully analyzed as it is difficult to pick out a representative spice blend that accurately characterizes the flavor associated with a particular culture, evidenced by the confusion of natives with their own foods. Finally, Asian cuisines are perceived to have the greatest health benefits to both US and Thai consumers.

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**Table II.**

## Survey questions

Questions	Scaling instrument
Do you shop at any ethnic grocery stores?	<i>yes or no</i>
Are you aware of an international food aisle(s) at your local grocery store?	<i>yes or no</i>
Do you purchase items from the international aisle at your local grocery store?	<i>yes or no</i>
Check all of the ethnic types of food that you have tried.	<i>List of 15 ethnic types – check all that apply</i>
Which two ethnic types have you not tried but that you would most like to try?	<i>Two write-in lines</i>
How affordable are ethnic foods?	<i>9-point scale (not at all affordable to extremely affordable), Do not buy option</i>
Do you think international/ethnic foods are readily accessible?	<i>yes or no</i>
Check the ethnic food restaurants that you have eaten at in the past three months.	<i>List of 15 ethnic types – check all that apply</i>
Check the ethnic food restaurants that are within 40 km of your home.	<i>List of 15 ethnic types – check all that apply</i>
What ethnic food store(s)/restaurant(s) are not currently in your city that you would like to see made available?	<i>List of 15 ethnic types – check all that apply</i>
You will receive 6 samples of rice, ONE at a time. Each will have a different seasoning and is labeled with a 3-digit code. Please taste and identify the ethnicity you <u>most</u> associate with each sample.	<i>List of 15 numbered ethnic types – place number of perceived ethnic type in the box that corresponds with the 3-digit coded sample</i>

**Table II.**

Questions related to ethnic foods (% consumers).

Ethnic Type	QUESTIONS				
	Ethnic foods you have tried before	Ethnic foods you are most likely to try, that you have not tried before	Ethnic restaurants visited in last 3 months	Ethnic restaurants within 40 km of your home	Ethnic restaurants you would like in your area
	Thailand/US	Thailand/US	Thailand/US	Thailand/US	Thailand/US
Mexican	26 / 99	16 / 0	14 / 97	13 / 98	30 / 5
French	25 / 46	30 / 31	7 / 7	14 / 10	44 / 36
Japanese	93 / 63	7 / 9	86 / 12	81 / 15	45 / 35
Italian	63 / 98	15 / 0	35 / 67	43 / 88	43 / 15
Indian	42 / 61	10 / 12	13 / 11	14 / 7	17 / 43
Chinese	90 / 98	3 / 0	72 / 79	74 / 98	34 / 2
Russian	1 / 13	9 / 38	0 / 0	1 / 1	11 / 19
Thai	98 / 79	1 / 4	99 / 32	98 / 69	40 / 10
Caribbean	1 / 50	20 / 24	1 / 12	2 / 37	20 / 26
Greek	4 / 60	19 / 16	0 / 7	3 / 9	12 / 46
Korean	71 / 40	4 / 14	37 / 11	50 / 23	25 / 13
Spanish	2 / 49	30 / 10	0 / 7	2 / 10	24 / 14
African American	2 / 49	9 / 7	1 / 11	4 / 16	16 / 24
Vietnamese	81 / 22	3 / 17	55 / 2	69 / 6	33 / 22
Cajun	1 / 87	12 / 6	1 / 24	0 / 40	7 / 28

## **FIGURE CAPTIONS**

**Figure 1.** Consumer responses for identification of six ethnic spice blends (rice was used as the carrier food)

**Figure 2.** Average consumer ranking (from most healthy to least healthy) of the perception of health benefits for each ethnic type

Figure 1.

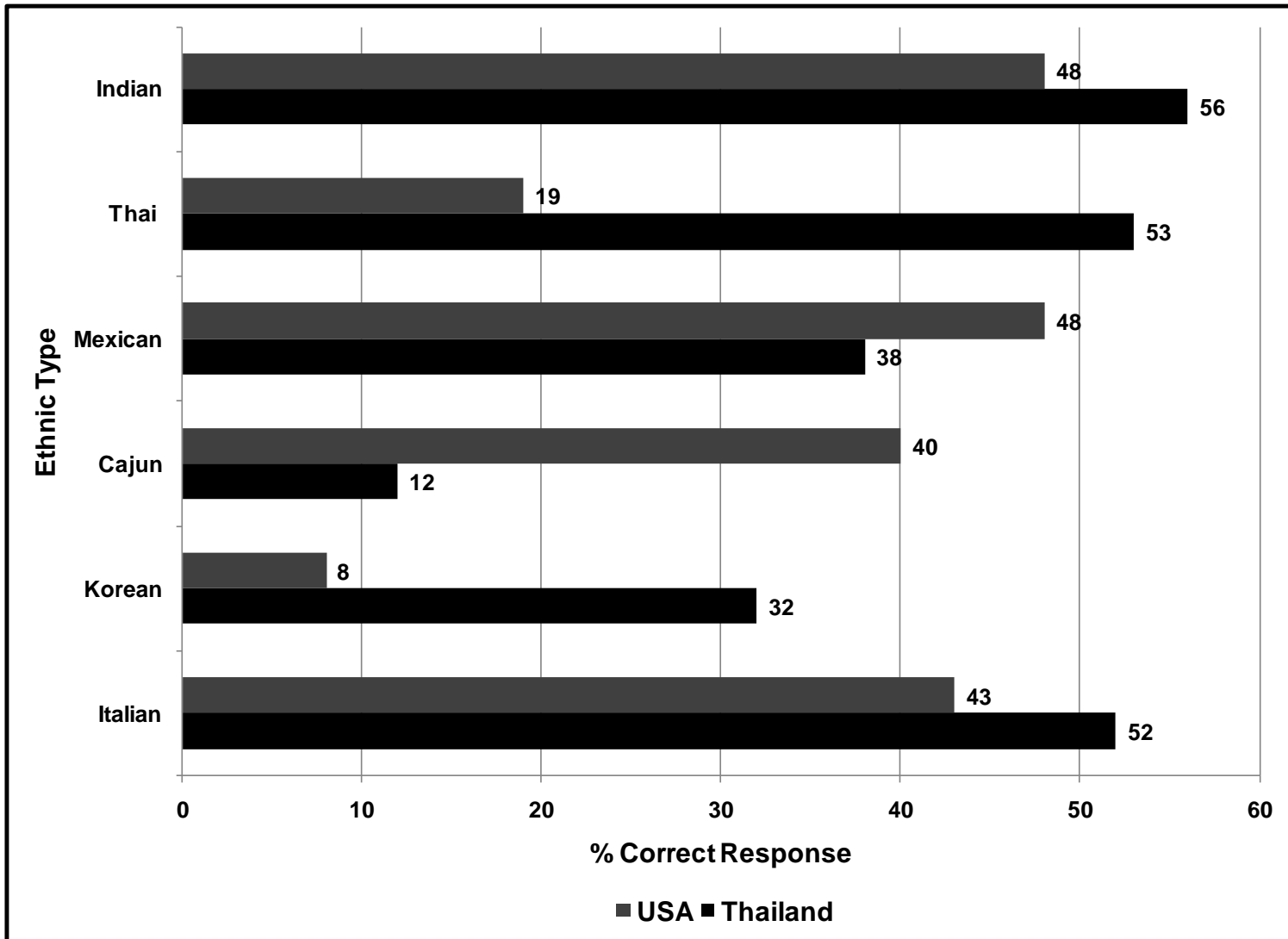


Figure 2.

