

# Attitude as a Predictor of Trust in Food Safety: A Study of Malaysian Chinese College Students

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**Abstract** *Objective:* This study explored the relationship between consumers' trust in and attitude towards food safety and, then, examined the prediction of trust in food safety by the attitude towards food safety. *Method:* One hundred and eight Malaysian Chinese college students (42 men, 66 women) completed online survey. Trust in food safety included dimensions of ways of shopping, food quality, cooking methods, consumption situation, and purchasing motives. Attitude towards food safety consisted of positive and negative aspects. *Results:* Positive attitude towards food safety significantly correlated to and successfully predicted trust in food safety concerning cooking methods and consumption situation. On the other hand, negative attitude towards food safety significantly correlated to and successfully predicted trust in food safety regarding ways of shopping, food quality, and purchasing motives. *Conclusion:* Malaysian Chinese college students with positive or negative attitude towards food safety were able to predict different behaviors concerning their trust in food safety. Those with positive attitude towards food safety tended to enjoy various cooking methods and share food with friends and family members. Those with negative attitude towards food safety most likely would shop cautiously, choose most fresh and healthy food, read into product labels, and believe advertised food.

**Keywords** Trust, Attitude, Food Safety

## 1. Introduction

Food safety has become a global issue nowadays. World Health Organization reported that meat was associated with a high risk of cancer [1]. Toxic food incidents were reported in many countries, such as Malaysia, Taiwan, China, Hong Kong, Korea, and Japan. Several incidents were reported in Malaysia recently, such as toxic baby formula scandals in 2008 and 2013, polluted Shin Ramyun instant noodles in 2012, and Master Kong instant noodles in 2014 [2-6].

Food safety included handling, preparation, and storage of food properly to prevent foodborne illness. These incidents not only threatened individuals' health, but also

influenced public's attitude and lowered their trust in food safety. A person's attitude and trust in food safety were highly correlated [7]. Trust in food safety was viewed as a subjective perception of food consumption that formed the foundation of consumer confidence in food safety [8]. However, attitude might be positive or negative. Trust in food safety had several dimensions, such as the ways of shopping, food quality, cooking methods, consumption situation, and purchasing motives [9]. The questions concerning the relations among different attitudes and dimensions of trust in food safety remain unsolved.

Public's negative attitude and low trust in food safety caused by food safety incidents may arouse public worry and panic [10, 11]. It's important to understand people's psychological responses to food safety incidents. However, there were few studies investigated such topics in Malaysia. Therefore, the purpose of this study was to explore the relation among different attitudes towards food safety and dimensions of trust in food safety in Malaysia. We examined a) the correlations between positive attitude and the dimensions of trust in food safety, b) the correlations between negative attitude and the dimensions of trust in food safety, 3) the predictions of the dimensions of trust in food safety by positive attitude, and 4) the predictions of the dimensions of trust in food safety by negative attitude.

## 2. Methods

### Participants

There were 108 Malaysian Chinese college students (42 men, 65 women, average age 21.85) voluntarily participated in online survey. Malaysian Chinese were overseas Chinese who lived in Malaysian. We recruited participants aged 18-and-up through snowball sampling.

### Trust in food safety

Trust in food safety referred to an individual's expectation and belief toward food being safe and not harmful to people's health and environment [12]. Food Related Lifestyle Instrument was used to assess the trust in food safety [9]. Trust in food safety had five dimensions including ways of shopping, food quality, cooking methods,

consumption situation, and purchasing motives. Ways of shopping referred to how consumers shopping for food and factors influencing their decision in food selection. Secondly, food quality was what kinds of food quality consumers concerned, such as freshness, health, taste and etc. Third, cooking methods referred to the procedure and time spent in meal preparation. Next, consumption situation was the habit of having meals with certain people or in certain circumstance. Lastly, purchasing motives referred to the expectation of food quality and brand preference. The scale ranged from 69 to 483 and comprised of 69 7-point Likert questions, with 1 indicating completely disagree and 7 indicating completely agree. Higher scores indicated higher trust in food safety.

**Attitude toward food safety**

Attitude towards food safety referred to an individual's opinion and behavior concerning the occurrence of food safety incidents and issues. Consumer Confidence in the Safety of Food Instruments was used to evaluate attitude toward food safety incidents under intensive exposure of media [13, 14]. Attitude towards food safety included positive and negative aspects; the scale ranged from 26 to 130 and consisted of 26 5-point Likert questions with 1 indicating strongly disagree and 5 indicating strongly agree.

**Data analysis**

Pearson product-moment correlation coefficient analysis was used to investigate the correlations between attitude and trust in food safety. Linear regression analysis was used to examine the prediction of trust in food safety by attitude toward food safety.

**3. Results**

Table 1 shows the correlations between attitude and trust in food safety. Positive attitude was significantly and positively correlated with cooking methods and consumption situation. Negative attitude was significantly and positively correlated with ways of shopping, food quality, and purchasing motives. Table 2 presents the results of five regression models. Positive attitude significantly predicted trust in food safety in cooking methods and consumption situation. Negative attitude significantly predicted trust in food safety in ways of shopping, food quality, and purchasing motives.

**Table 1.** Correlation between attitude and trust in food safety (N=108)

Variable	Attitude	
	Positive	Negative
Ways of shopping	0.173	0.308**
Food Quality	-0.087	0.304**
Cooking methods	0.196*	0.185
Consumption Situation	0.222*	0.154
Purchasing Motives	-0.076	0.316**

\* $p < 0.05$ , \*\*  $p < 0.01$

**Table 2.** Results of regression models

Model	Predictors/Attitude	F	p	Adjusted R <sup>2</sup>
1. Ways of shopping	Positive	3.256	0.074	0.021
	Negative	11.116**	0.001	0.086
2. Food Quality	Positive	0.813	0.369	-0.002
	Negative	10.809**	0.001	0.084
3. Cooking methods	Positive	4.219*	0.042	0.029
	Negative	3.770	0.055	0.025
4. Consumption Situation	Positive	5.472*	0.021	0.040
	Negative	2.579	0.111	0.015
5. Purchasing Motives	Positive	0.614	0.435	-0.004
	Negative	11.792**	0.001	0.092

\* $p < 0.05$ , \*\*  $p < 0.01$

**4. Discussion**

Our findings showed that different attitudes towards food safety were associated with different dimensions of trust in food safety. These findings generally support the previous finding about the correlation between attitude and trust in food safety [7]. Our results further differentiated such correlations by positive and negative attitudes and dimensions of trust. Positive attitude towards food safety were correlated to the cooking methods and consumption situation of trust in food safety. Negative attitude towards food safety were correlated to ways of shopping, food quality, and purchasing motives of trust in food safety.

Positive attitude towards food safety was able to successfully predict the trust in food safety in cooking methods and consumption situation. Malaysian Chinese college students with positive attitude most likely would prefer to cook at home, a safer way to prepare food and lower risk of illness [15]. They probably had a strong tendency to be willing to spend time in planning meals, trying new recipes, enjoying sharing food with friends and family members.

On the other hand, negative attitude toward food safety was able to successfully predict the trust in food safety in ways of shopping, food quality, and purchasing motives. When shopping for food, Malaysian Chinese college students with negative attitude might check prices, read labels cautiously, plan before shopping, and select the most fresh and nutritious food. The occurrences of food safety indicated food risk management problems and reduced confidence of consumer [16]. They might avoid certain brands, believe in experts' advices, and love to shop in specialty stores.

Our findings indicated the need of enhancing public's trust and developing stronger positive attitude towards food safety. Governmental health institutes should further promote correct concepts of food safety to public and food industry. Consumers should advance their knowledge about food safety. Consumers' healthy preferences in food

purchase might influence food industry to produce food without harming consumer health. Food industry should examine professional ethical principles in the process of producing food. Comprehensive food safety regulations and policies in food preparation and distribution should be established and implemented thoroughly in order to guard public health.

## 5. Conclusions

Malaysian Chinese college students with positive or negative attitude towards food safety were able to predict different behaviors concerning their trust in food safety. Those with positive attitude towards food safety tended to enjoy various cooking methods and shared food with friends and family members. Those with negative attitude towards food safety most likely would shop cautiously and care about the freshness and nutrition of food. We suggest that government should promote food safety concepts, meanwhile thoroughly implement food safety regulations to protect public health.

## Appendix

### Part 1: Trust-in-food-safety (7-point Likert Scale)

Statements
1. To me product information is of high importance. I need to know what the product contains.
2. I compare labels to select the most nutritious food.
3. I compare product information labels to decide which brand to buy.
4. I have more confidence in food products that I have seen advertised than in unadvertised products.
5. I am influenced by what people say about a food product.
6. Information from advertising helps me to make better buying decisions.
7. Shopping for food does not interest me at all.
8. I just love shopping for food
9. Shopping for food is like a game to me.
10. I do not see any reason to shop in specialty food stores.
11. I like buying food products in specialty stores where I can get expert advice.
12. I like to know what I am buying, so I often ask questions in stores where I shop for food.
13. I always check prices, even on small items.
14. I notice when products I buy regularly change in price.
15. I look for ads in the newspaper for store special and plan to take advantage of them when I go shopping.
16. Before I go shopping for food, I make a list of everything I need.
17. I make a shopping list to guide my food purchases.
18. Usually I do not decide what to buy until I am in the shop.
19. I prefer to buy natural products, i.e., product without preservatives.
20. To me the naturalness of food that I buy is an important quality.
21. I try to avoid food products with additives.
22. I always try to get the best quality for the best price.
23. I compare prices between product variants in order to get the best value for money.
24. It is important for me to know that I get quality for all my money.
25. I love to try recipes from foreign countries.
26. I like to try new foods that I have never tasted before.
27. Well-known recipes are indeed the best.
28. I always buy organically grown food products if I have the opportunity.
29. I make a point of using natural or ecological food products.
30. I don't mind paying a premium for ecological food products.
31. I find taste in food products important.
32. When cooking, I first and foremost consider the taste.
33. It is important to choose food products for their nutritional value rather than for their taste.
34. I prefer fresh products to canned or frozen products.
35. It is important to me that food product are fresh.
36. I prefer to buy meat and vegetables fresh rather than pre-packed.
37. I like to have ample time in the kitchen.
38. Cooking is a task that is best over and done with.
39. I don't like spending too much time on cooking.

40.	I like to try out new recipes.
41.	I look for ways to prepare unusual meals.
42.	Recipes and articles on food from other culinary traditions make me experiment in the kitchen.
43.	Frozen foods account for a large part of the food products I use in our household.
44.	We use a lot of ready-to-eat foods in our household.
45.	I use a lot if mixes, for instance baking mixes and powder soups.
46.	The kids or other members of family always help in the kitchen; for example the peel the potatoes and cut the vegetables.
47.	My family helps with other mealtime chores, such as setting the table and doing the dishes.
48.	When I do not feel like cooking, I can get one of the other members of my family to do it.
49.	What we are going to have supper is often last-minutes decision.
50.	Cooking needs to be planned in advance.
51.	I always plan what we are going to eat couple of days in advance.
52.	I consider the kitchen to be the woman's domain.
53.	It is the women's responsibility to keep the family healthy by serving a nutritious diet.
54.	Nowadays, the responsibility of shopping and cooking ought to rely on the husband as much as the wife.
55.	I eat before I get hungry, which means that I am never hungry at meal time.
56.	I eat whatever I feel the slightest bit hungry.
57.	In our house, nibbling has taken over and replaced set eating hours.
58.	Going out for dinner is a regular part of our eating habits.
59.	We often get together with friends to enjoy an easy-to-cook, casual dinner.
60.	I enjoy going to restaurants with my family and friends.
61.	Being praised for my cooking add a lot to my self-esteem.
62.	Eating is to me a matter of touching, smelling, tasting and seeing, all the senses are involves. It is a very exciting sensation.
63.	I am an excellent cook.
64.	I dislike anything that might change my eating habit.
65.	I only buy and eat foods which are familiar to me.
66.	A familiar dish gives me a sense of security.
67.	Dining with friends is an important part of my social life.
68.	When I serve a dinner to friend, the most important thing is that we are together.
69.	Over a meal one may have a lovely chat.

Part 2: Attitudes toward food safety (5-point Likert Scale)

<b>Statements</b>	
	Food products have never been as safe as nowadays.
	I believe food products are becoming increasingly safe.
	Food scares increase my concern about food safety.
	In recent months my confidence in food products has decreased.
	Generally there are few risks involved with food.
	Too often it happen that food products are sold in my place that are dangerous to consume.
	I worry about the safety of food.
	I do not have faith in the safety of food.
	I am afraid to become ill as a consequence of the products I eat.
	I am confident that food products are safe.
	I get very stressed when I think about food safety.
	I think the quality of food will increase.
	I feel uncomfortable regarding the safety of food.
	Generally food products are safe.
	As a result of the occurrence of food safety incidents I am suspicious about certain food products.
	I feel frustrated about the problems that come up in the area of the safety of food.
	I believe few risks are involved in the consumption of food products.
	It scares me that there are problems with managing the safety of food.
	I am calm about all discussions about the safety of food.
	Problems that occur in the area of food safety make me angry.
	I feel hopeful about the developments in the area of food safety.
	I feel nervous when I think about the safety of food products.
	I am optimistic about the safety of food products.
	I panic as a result of food safety incidents that occur.
	I feel helpless as a consumer, with regard to the safety of food.
	I am satisfied with the safety of food products.

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## REFERENCES

- [1] O'connor A. Meat is linked to higher cancer risk, W.H.O. report finds. *New York Times*. 2015, Oct. 26; Retrieved 2015, Oct. 27; from [http://www.nytimes.com/2015/10/27/health/report-links-some-types-of-cancer-with-processed-or-red-meat.html?\\_r=1](http://www.nytimes.com/2015/10/27/health/report-links-some-types-of-cancer-with-processed-or-red-meat.html?_r=1).
- [2] Sin Chew Daily News. Malaysia Importers: Master soup ingredients including lard shelves destruction. *Sin Chew Daily News*. 2014, Sep. 16; Retrieved 2015, Sep. 26; from <http://news.sinchew.com.my/node/386926?tid=1> (in Chinese).
- [3] Sin Chew Daily News. Instant noodles suspected containing carcinogenesis. *Sin Chew Daily News*. 2012, Oct. 27; Retrieved 2015, Aug. 26; from <http://news.sinchew.com.my/node/266185?tid=1> (in Chinese).
- [4] Branigan T. Chinese figures show fivefold rise in babies sick from contaminated milk. *The Guardian* (London). 2008, Dec. 2; Retrieved 2015, Aug. 23; from <http://www.guardian.co.uk/world/2008/dec/02/china>.
- [5] McDonald S. Nearly 53,000 Chinese children sick from milk. *Associated Press*. 2008, Sep. 22; Retrieved 2015, Aug. 23; from <http://www.nbcnews.com/id/26827110/>.
- [6] Macartney J. China baby milk scandal spreads as sick toll rises to 13,000. *The Times* (London). 2008, Sep. 22; Retrieved 2015, Aug. 23 from <http://www.timesonline.co.uk/tol/news/world/asia/article4800458.ece>.
- [7] Toh PS, Birchenough A. Food safety knowledge and attitudes: culture and environment impact on hawkers in Malaysia.: Knowledge and attitudes are key attributes of concern in hawker foodhandling practices and outbreaks of food poisoning and their prevention. *Food Control*. 2000;11(6):447-52.
- [8] Röhr A, Lüddecke K, Drusch S, Müller MJ, Alvensleben Rv. Food quality and safety—consumer perception and public health concern. *Food Control*. 2005;16(8):649-55.
- [9] Brunsø K, Grunert KG. Cross-Cultural Similarities and Differences in Shopping for Food. *Journal of Business Research*. 1998;42(2):145-50.
- [10] Li J-H, Yu W-J, Lai Y-H, Ko Y-C. Major food safety episodes in Taiwan: Implications for the necessity of international collaboration on safety assessment and management. *The Kaohsiung Journal of Medical Sciences*. 2012;28(7, Supplement):S10-S6.
- [11] Soon JM, Singh H, Baines R. Foodborne diseases in Malaysia: A review. *Food Control*. 2011;22(6):823-30.
- [12] de Jonge J, Frewer L, Hans van T, Renes RJ, et al. Monitoring consumer confidence in food safety: an exploratory study. *British Food Journal*. 2004;106(10/11):837-49.
- [13] de Jonge J, van Trijp H, Goddard E, Frewer L. Consumer confidence in the safety of food in Canada and the Netherlands: The validation of a generic framework. *Food Quality and Preference*. 2008;19(5):439-51.
- [14] Haythornthwaite C. A social network study of the growth of community among distance learners. *Information Research*. 1998;4(1):4-1.
- [15] Wilcock A, Pun M, Khanona J, Aung M. Consumer attitudes, knowledge and behaviour: a review of food safety issues. *Trends in Food Science & Technology*. 2004;15(2):56-66.
- [16] Chen M-F. Consumer's trust-in-food-safety typology in Taiwan: Food-related lifestyle matters. *Health, Risk & Society*. 2011;13(6):503-26.