

2012

The "Sour" Smell of Fake Scented Rice: Media Coverage and Public Knowledge, Risk Perception and Behaviors in Response to a Food Safety Scandal

Jing Li

Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/etd>

 Part of the [Mass Communication Commons](#)

Recommended Citation

Li, Jing, "The "Sour" Smell of Fake Scented Rice: Media Coverage and Public Knowledge, Risk Perception and Behaviors in Response to a Food Safety Scandal" (2012). *Graduate Theses and Dissertations*. 12381.
<https://lib.dr.iastate.edu/etd/12381>

This Thesis is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

**The “sour” smell of fake scented rice:
media coverage and public knowledge, risk perception and behaviors
in response to a food safety scandal**
by
Jing Li

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

Major: Journalism and Mass Communication

Program of Study Committee:

Lulu Rodriguez, Major Professor

Sela Sar

Lester Wilson

Iowa State University

Ames, Iowa

2012

Copyright © Jing Li, 2012. All rights reserved

TABLE OF CONTENTS

LIST OF TABLES	iv
LIST OF FIGURES	v
ABSTRACT	vi
Chapter 1 INTRODUCTION AND STATEMENT OF THE PROBLEM	1
Chapter 2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK	6
The use of food additives in China	7
Media coverage	8
Food safety issues	10
The psychometric paradigm	11
The importance of trust	12
Agenda setting	17
Trust and agenda setting	20
Research questions	22
Chapter 3 METHODS	24
Content analysis	24
Survey	26
The sample	26
Survey questionnaire	27
Training interviewers	29
Variables and measures	29
Chapter 4 RESULTS AND DISCUSSION	34
Content analysis results	34
Survey results	36
The sample	36
Media use habits	36
Evaluation of media performance	40
Knowledge level	41
Risk perception	42
Risk behavior	43
Trust in government and the media	46
Relationship between trust, risk knowledge, risk perception and risk behavior	47
Media exposure and its influence on trust, knowledge level, risk perception and risk behavior (additional analysis)	54
Summary of results	58

Chapter 5 CONCLUSIONS	60
Implications of the findings	62
Limitations of the study	64
Suggestions for future study	65
APPENDIX A	67
APPENDIX B	68
APPENDIX C	77
APPENDIX D	84
REFERENCES	111

LIST OF TABLES

Table 1. Respondents' jobs.....	37
Table 2. The most often read newspaper sections	38
Table 3. Ratings of newspaper performance in covering the Wuchang rice issue	41
Table 4. The respondents' knowledge about the fake Wuchang rice issue	42
Table 5. Risk perception about the fake Wuchang rice issue	44
Table 6. Actions taken during and after the risk event	44
Table 7. Trust ratings of information channels	47
Table 8. Correlations between trust in media and the seven risk perception items	48
Table 9. Results of a simple regression test showing the influence of trust in media on the perception that experts are aware of the product tampering risks	48
Table 10. Correlation between trust in government and the seven risk perception items	50
Table 11. Results of a simple regression test showing the influence of trust in government on perceptions that experts are aware of the product tampering risks	50
Table 12. Results of a simple regression test showing the influence of trust in government on perceptions that the product tampering risks can be controlled	51
Table 13. Results of a simple regression test showing no significant influence of trust in information sources	51
Table 14. Correlation between trust in interpersonal communication sources and the seven risk perception items	53
Table 15. Results of a simple regression test showing the non-significant influence of trust in interpersonal communication sources on perceptions of deleterious risk effects	53
Table 16. Correlation between newspaper exposure and trust in the three categories of government on perceptions that the risk event was novel	55
Table 17. Correlation between exposure to newspaper reports and knowledge level and risk behavior	55
Table 18. Results of a simple regression test showing the influence of newspaper exposure on knowledge level	56
Table 19. Results of a simple regression test showing the influence of newspaper exposure on risk behavior	56
Table 20. Correlation between exposure to newspaper reports and the seven risk perception items	57

LIST OF FIGURES

Figure 1. The two levels of agenda setting	18
Figure 2. The comprehensive conceptual model of agenda setting	20
Figure 3. The study's conceptual framework	22
Figure 4. Information sources used for scientific topics and issues	38
Figure 5. Newspapers read regularly	39
Figure 6. Sources of information about the Wuchang rice issue	40
Figure 7. Other behaviors or actions residents took to protect themselves from the threat.....	45

**The “Sour” Smell of Fake Scented Rice:
Media Coverage and Public Knowledge, Risk Perception and Behaviors
in Response to a Food Safety Scandal**

ABSTRACT

When the renowned high-quality Wuchang rice was found to be adulterated with rice of low quality and scented with a fake aroma, the Chinese people were subjected to yet another case of food safety breach. This study examines the second-level agenda setting function of newspapers in the city of Xi’an in Shaanxi province, and sought to determine the intervening function of trust in shaping public knowledge, risk perception, and protective behaviors adopted to cope with the threat.

A content analysis of local newspapers and a survey of a purposive sample of Xi’an residents were conducted. The results show that the issue was assigned a low priority in the newspapers’ agenda. People had low levels of knowledge about the incident, relatively high levels of risk perception, and took actions to mitigate the dangers without government and media assistance. The respondents reported they did not trust the government at all, showed moderate trust levels in the media, and trusted interpersonal sources the most.

Trust in media influenced the extent to which it is seen that experts are aware of potential health threats. Trust in government had a significant bearing on the public’s perception that the risks are known to experts and within their control. Trust in media and in government had no bearing on knowledge level and risk behaviors. Trust in interpersonal communication channels was not related to knowledge level, risk perception, and risk behavior.

Chapter 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

China seems to be perpetually beset by food safety concerns and scandals that seriously threaten the wellbeing and health of consumers. Indeed, food safety issues are not new in the country. For instance, adulterated wine was found in Guangdong province in 2004, powdered milk was discovered tainted with melamine in 2008, media outlets around the world documented how restaurants were found using oil recycled from garbage in 2010. In numerous instances, the safety of food products has been threatened by improper manufacturing and packaging processes. The spate of food safety scandals led the *Chongqing Morning News* (2011) to report that over 70% of the country's population do not believe that the Chinese food industry can be trusted to provide them with products that are safe to eat.

These incidences happen, according to Bai et al. (2007), because producers will do anything to reduce production costs. They have been known to use inferior ingredients (e.g., fake milk powder in Fuyang in 2004) and sometimes add toxic substances to make products look more attractive (e.g., when Kentucky Fried Chicken added the dye Sudan I¹ to its so-called New Orleans roasted chicken leg burgers and roasted chicken wings in Shanghai in 2005). Food additives are also thought to extend a product's shelf life.² Although people

¹ According to the Food Standard Agency, Sudan I is a type of red dye used to color solvents, oils, waxes, petrol, and shoe and floor polishes. Sudan dyes have been shown to cause cancer in laboratory animals.

² According to Maga (1995), food additives, include anti-caking and free flow agents, antioxidants, anti-browning agents, antimicrobial agents, coloring agents and adjuncts, curing and picking agents, dough conditioners or strengtheners, drying agents, emulsifiers, enzymes, firming agents, flavor enhancers, flavor adjuncts, flavoring agents, flour-treating agents, formulation aids, fumigants, humectants, leavening agents, lubricants and release agents, non-nutritive sweeteners, nutrient supplements, nutritive sweeteners, oxidizing and reducing agents, pH control agents, processing aids, propellants, aerating agents, and gases,

rarely protest or question the government and related industries for subjecting them to food risks, many have become cautious and have learned to protect themselves in the wake of apathy that has grown over the authorities' and the media's inability to assist them in times of danger.

The residents of Xi'an in Shaanxi province were again exposed to a risk event when, in July 2010, the gourmet quality rice for which they are known, which sells considerably more than ordinary rice, became the subject of product tampering. A China Central Television (CCTV) report revealed that nearly 70% of the rice sold in the province has been improperly classified ever since producers adopted the practice of combining high-quality milled rice with rice of low quality. The resulting product is then polished with wax and given a dose of fragrance and flavoring to mimic the attributes of a high-quality rice popularly known as Wuchang, considered the best in all of China. Wuchang rice derived its name from a village in Heilongjiang province in the northeast whose special agroclimatic conditions are said to nurture the country's top-of-the-line rice. Those in the industry say that half a kilo of fragrance could aromatize ten tons of rice, the reason why just 800,000 tons of Wuchang rice are produced every year, but up to 10 million tons are sold (*China Daily*, 2010).

Adding low quality rice to the Wuchang variety ensures rice sellers considerable profit. Regular rice of high quality typically sells for 35 yuan (about US\$5.55) per kg (Food Business, 2012); Wuchang goes for 398 yuan (about US\$63.06) per kg (Tencent News, 2012).

sequestrants, solvents, stabilizers and thickeners, surface-active agents, and surface finishing agents.

This practice of giving adulterated rice fake aroma is said to have been going on for over ten years, but no one dared inform the public until CCTV exposed the practice. That Xi'an was the epicenter of the scandal was not a coincidence. The city is the capital of Shaanxi province that boasts of the largest grain wholesale market in northwest China. Noodles and rice are the staple food of its over eight million residents (General Office of the People's Government of Xi'an Municipality, 2010).

The illegal use of artificial essence to make scented rice led to a fresh round of inspections on the quality of rice produced across the country. The local media picked up the issue, prompting the government to implement with vigor several laws related to food safety and sanitation: the Food Hygiene Law adopted in October 1995, the Food Safety Law put into practice in February 2009, and the National Standards for Rice, enforced since October 2009. The first two laws specify the allowable types of additives for food processing; none offers standards regarding the use of flavoring in rice, a huge loophole in the current food safety regulations.

It therefore did not surprise many that the CCTV expose did not create any rancor. The government started regulating the rice market more closely, but although the public clamored for information about the potential adverse health effects of the added flavoring, media reports were not forthcoming. Lacking information and unsure what the government will do to protect them, the public refrained from buying Wuchang rice.

The government closed down businesses suspected of selling the fake rice (*China Daily*, 2010). Subjected to risk by scrupulous rice retailers, residents saw in the incident another failure of the government to properly regulate and administer the food industry. To those who regularly consume Wuchang rice, the perceived health dangers from the additives

remain unfamiliar and uncertain so that despite government guarantees, residents stayed away from the product.

The contamination of Wuchang rice offers a case with which to examine the relationship between the public, the media and risk regulators with respect to continuing food risk issues. Of particular importance is the notion of public trust in institutions that are supposed to protect the citizens' welfare. "Trust appears to be linked to perceptions of accuracy, knowledge, and concern with public welfare. Distrust is associated with perceptions of deliberate distortion of information, being biased, and having been proven wrong in the past" (Frewer, 2003, p. 126). The media, it is often said, play an important role in building and destroying trust. "The media themselves (and their different manifestations) are also associated with different levels of public trust and distrust, and this might be expected to directly influence public responses in the absence of other source cues" (Frewer, 2003, p. 12). Trust also has been linked to the public's perception of risk and the actions they take to avert risk. Specifically, trusted regulatory bodies considerably lessen public worry. At the same time, people's perceptions influence their attitudes about the media and risk regulators, both of which are often considered major sources of information during risk events.

This study aims to determine whether the Xi'an media performed a "second-level agenda setting" function with respect to the adulterated Wuchang rice incident. That is, the study sets out to provide evidence that the newspapers' coverage of this incident helped shaped what people knew about it, their perceptions of risks related to this malpractice, and the actions they performed to help mitigate the risks. To ascertain the role of trust in this context, the study also examines the relationship between trust in risk regulators and trust in

the media on the public's cognitions about the issue, their perceptions of risks, and the behaviors they performed to alleviate the threats related to the fake rice scandal. The objective is to find out whether residents in Xi'an trusted government at the national and local levels, as well as the media, specifically the popular newspapers, to help them deal with the perceived health threat.

The results are expected to explain the role of public trust in situations perceived to be risky. The findings may be useful to media organizations and practitioners as they strive to identify content and craft messages likely to improve their credibility among the audiences they purport to serve. Government agencies may find in this study's results recommendations that will enable them to better manage risk situations by enhancing public cooperation and goodwill. The results are also expected to inform other food safety-related communication efforts by predicting public reaction to a wide array of food safety threats and concerns.

Chapter 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Unbeknownst to the residents of Xi'an in China's Shaanxi province, their renowned high-quality Wuchang rice was being adulterated with regular rice, spiced with flavoring, and waxed for a nice finish. This patently illegal practice has been going on for over ten years until a CCTV expose in July 2010 brought it to public attention. After the story aired on central television, the local media picked it up, prompting the municipal government and the local rice industry to respond. Despite assurances that the problem has been solved, Xi'an residents basically ignored the government's recommended safety actions and stayed away from their famous rice. Consequently, there was a sharp drop in the sale of Wuchang rice (down by 400 tons by the end of 2010) as major supermarkets in more than 20 cities stopped selling the gourmet rice (Tonghua Xijiang Rice Industry, n.d.).

Xi'an is the political, economic, and cultural center of Shaanxi province. Composed of nine districts and four counties, Xi'an covers 16,808 square kilometers of urban area and has a population of about 7.5 million. The city proper occupies an area of 861 square kilometers, with a population of four million (Asia Rooms, n.d.). Almost half of the population derives income from non-agriculture sources (General Office of the People's Government of Xi'an Municipality, 2010). Those who earn income from agriculture grow wheat, corn, rice, beans, and potatoes. The province's cash crops also include cotton, canola, vegetables, melons and fruits. The province is also known for other crops such as peanuts, sweet potato, beet, tobacco, and bast fiber (Xi'an Statistics, n.d.).

Wuchang rice was named after Wuchang city in nearby Heilongjiang province, believed to be one of the best rice growing areas in China. Its unique geographic location is

said to offer the best agroclimatic conditions that nurture the growth of this high quality rice variety, long offered as a tribute to the emperors of ancient China (Chinese Rice Net, 2010). This study describes and explains how the media, the government, and the general public interacted in response to the exposed adulteration and tampering of this famous rice product.

The use of food additives in China

According to Maga and Tu (1994), flavoring agents represent “the most diverse group of food additives and is composed of both natural and synthetic compounds” (p. 5). Because “the world supply of natural flavorants is not sufficient to meet the needs of the food processing industry, the synthesis of the same compounds augments the natural supply” (p. 5). Flavorings are used to give a special taste; enhance, add, or change a flavor; or cover the original flavor (Swaine, 1995). To guarantee the safe use of flavoring, toxicity “must be considered with [respect to] dose, occurrence, and exposure” (Maga & Tu, 1994, p. 364).

China has specific standards and rules about the use of additives in foods and food processing. Chapter 4, Article 45 of the country’s Food Safety Law (Food Production and Trade) provides that a food additive will be permitted for use only after it is technically proven to be safe and reliable through risk assessment. Health authorities under the State Council shall, based on food safety assessment results, revise the standard for the type, scope of use and dosage of food additives in a timely manner. Article 46 specifies that producers shall determine the type, scope of use, and dosage of food additives as specified in the food safety standards, and shall not use substances hazardous to human health. Article 47 mandates that food additives must be properly labeled and carry instructions as well as other information required in Article 42.1.1~6, 8 and 9.

It is clear from the foregoing statutes that it is illegal to sell fake rice, especially the kind laced with additives that may pose risks to human health.

Media coverage

Slow to uncover the scandal and triggered only by a national TV exposé, the local media showed little interest in the topic, which generated less than one month of interrupted coverage. Stories about the fake rice were no longer seen after August 2010. The only exception was an article published in December in the local newspaper, *Huashang*, about a food company that wishes to cooperate with the municipal government to rebuild the Wuchang brand (Li, 2010). On top of that, the issue did not always capture front-page headlines, suggesting low priority and low salience in the media agenda. According to McCombs (2004), “front page stories have about twice the readership of stories that appear inside the newspaper. Also, stories with attractive graphics and large headlines attract more readers” (p. 52). Apparently, the Wuchang rice scandal did not merit front-page treatment and attractive graphics.

The absence of substantial coverage meant that the potential risks people faced from eating adulterated rice remained unclear. On July 16, 2010, *Zhengwu 30 Fen (30 Minutes at Noon)*, a TV news program based in Shenzhen, Guangdong province, which caters to Hongkong and Macao listeners, cited food safety experts as saying that the artificially synthesized flavoring involved in the rice scandal can tax vital organs such as the liver and the kidney. The news reports failed to explain, however, what constitutes “safe doses” of flavoring and the symptoms of poisoning.

The local Xi’an media were not only slow in following up on the CCTV exposé. What little coverage they produced left much to be desired. Fleming et al. (2006) suggest that to

help people make informed decisions about their health, “journalists should always provide a balanced and science-based assessment of both the potential benefits and risks of a particular event or issue. To do so, journalists first need to equip themselves with adequate knowledge and skills in reporting food safety issues to the public. They also need to present their coverage within appropriate contexts so that the news they provide is what people need and want to know” (p. 804). The media should have ample capability for risk communication because they still remain the most important channels by which the general public accesses information, especially about risk events (Fleming et al., 2006).

The effect of risk communication, in turn, may be related to other factors. “People’s potential for social action and mobilization is influenced by how they perceive a social condition as a problem and the information they have to mobilize and act on resolving that problem” (Taylor-Clark et al., 2007, p. 165). Different sources, complicated terminologies, and competing arguments, among others, may impede the acquisition of knowledge.

Taylor-Clark et al. (2007) explain:

Participants cope with barriers (such as information overload, lack of trust, and contradictory information) in a variety of ways. One commonly mentioned strategy was to rely on a trusted source for guidance on exactly where (on the Internet, for example) to look for solid, clear information on a specific subject.

They also relied on their sources to advise them on when to seek or not to seek more information (p. 176).

Trusted information sources, therefore, play a significant role in risk communication by “providing relevant information to increase community awareness of public health threats and protective strategies that communities can act on” (pp. 177-178).

Food safety issues

The current spate of food safety scandals in China and throughout the world is a marked departure from the level of people's concern regarding food safety issues in the past. Anderson (2000) observes:

Food safety was once a topic debated exclusively by the food industry and regulatory authorities. Consumers accepted that food was safe. It was not something to be worried about. It was not something that would determine what was eaten or by whom it would be eaten. The media rarely saw food safety as a newsworthy topic and few, if any, reports on food safety ever found their way into the popular press (p. 254).

Today, however, it has come to the point, Anderson (2000) continues, that "one of the most difficult messages the consumer has been asked to accept is that eating food involves an element of risk" (p. 255). Although scientists now have better technologies to detect toxic substances, people are more concerned today about food safety because mistakes can cause more severe consequences as they have learned from previous food safety breaches. Being aware of these enables them to deal with new risks (Slovic, 1992).

Tanaka (2008) points out that because food appears too "normal," people do not pay much attention to food issues until confronted with some threat. For instance, people do not worry about the rice they eat every day until they realized it has been contaminated. Made aware of the product tampering, the people of Xi'an stopped buying gourmet rice and demanded a recall of contaminated products.

Tanaka (2008) argues that what happened in Xi'an mirrors the shortcomings of the Japanese food investigative system following the bovine spongiform encephalopathy (BSE)

scare in that country in 2001. First, the producers' interests were placed on higher priority than those of the consumers. Second, government agencies in charge of ministering to the health of the public failed to communicate with each other and with the public they are supposed to serve. Third, there was a clear lack of transparency in government decision-making. Fourth, policy makers' limited scientific knowledge precluded the development of appropriate food safety rules, regulations and policies.

The psychometric paradigm

It has long been observed that the public's concerns about and perceptions of risk could be completely different from those of experts and officials. This is so, risk experts contend, because people make judgments about risk not based exclusively on technical risk assessments. To determine the underlying factors behind the differences in risk perception between the public and the experts, Fischhoff et al. (1978) used the psychometric paradigm to analyze perceived technological risks and benefits. They explored four individual-based factors hypothesized to influence risk perception: perceived benefit, perceived risk, acceptance of the current risk situation, and in-depth understanding of nine risk dimensions. These nine dimensions of risk include perceptions of whether people voluntarily subjected themselves to the risk or were exposed to the risk due to the negligence of others, the immediacy of the adverse effects, the extent to which the risks are known by the persons exposed to those risks, the degree to which the risks are known to science and to experts, the extent to which the risk is seen as within the experts' control, the "newness" of the risk, potential chronic and/or catastrophic effects, the risk's "dread" factor, and the perceived severity of the consequences (p. 133).

Additionally, the public's perception of risk is influenced by the degree to which people trust the government and other sources of information, their receptivity to different social issues, their familiarity with and understanding of the risk event, the perceived scientific uncertainty of the risk event, the perceived impact of the risk on children and other vulnerable groups, how the media informed the public about the risk, and the benefits or advantages of taking on the risk (Fischhoff et al., 1978).

In this case, although Xi'an residents became suspicious of Wuchang rice, they were unsure about the risks involved because of limited news reports. Although unaware of the extent of product tampering, people knew that the risks were practically imposed upon them, and that the effects on human health remain unknown. Aside from its high dread characteristic, the adulteration of Wuchang rice also was seen as having been brought about by human actions triggered by immoral motives (profiteering). According to Slovic (1992), people tend to see non-chemical sources of exposure, such as food additives, as low in benefit and high in terms of risk. He adds that the higher a hazard's perceived risk, the more people want to see strict regulations to reduce the risk.

In the absence of government action to protect the public from the threat, Xi'an residents did not demonstrate confidence on the risk regulators nor the media system that was supposed to safeguard their welfare.

The importance of trust

Despite the growing expertise in the field of risk analysis and assessment and the increasing reliability of safety studies, a closer look at the agri-food sector suggests that trust in the industry (or the lack thereof) is still a major concern. Indeed, consumer trust has received substantial attention in recent years. Several large European Union-funded research

projects on consumers' trust in food had been executed (Poppe and Kjaernes, 2003; Romano, 2005), national food authorities have prioritized strengthening or rebuilding public trust as one of their core aims (e.g., FSA, 2001), and even global organizations have begun to seriously deal with issues of trust (FAO, 2003). Brom (2002) attributes this attention to trust to a number of developments in the food sector.

One of these developments, Brom (2002) suggests, is the growing distance, in both time and space, between production and consumption. This often makes people feel they have lost control over food selection. The globalizing character of the agricultural and food sector only confirms this feeling—food production is seen as a long, anonymous process in which large-scale industry farms, multinational processing industries and supermarkets are in command.

Another development, considered by many as more serious, is the growing association of the food sector with food-related scandals and affairs, like BSE in beef, dioxins in chicken, salmonella in eggs, and the outbreak of foot-and-mouth disease. The alarming effects of these incidences on public trust have been recognized in global circles (e.g., FAO/WHO, 1998; FSA, 2001; FAO, 2003). The Food and Agriculture Organization (2003), for instance, states that highly publicized food safety problems “have given rise to a general state of distrust among consumers” (p. 3).

Trust has become crucial because in many parts of the world, the public has delegated the task of interpreting environmental and food risks to journalists, environmental groups, government officials, and others in the absence of individual capability in assessing one's vulnerability to a risk event (Rodriguez, 2007). In the current case, although the media are the Xi'an public's main source of information, people did not exhibit considerable trust in

them, in the government, and in the rice industry (Li, 2010). Apathy seems to have ruled considering that people did not bother questioning the absence of consistent government regulatory and management actions, and the lack of technical risk assessment.

Scholars have argued that of the variables that may have a bearing on risk perception, trust is the most significant. Governments and industries have tended to consider the problem of trust as merely a matter of informing consumers about the risks. According to Rodriguez (2007), the most important factor affecting public acceptance of a food safety innovation, food irradiation, is trust in government and industry. She suggests that “effective risk communication may be more a problem of ensuring trust than it is an issue of explaining risk-benefit analysis in lay terms. A history of safe use, perceived concerns, and a sense that one has control over a technology’s application are likely to impress the non-expert far more than improved technical presentations” (p. 497). Earlier, Slovic (1993) went so far as to say that “trust is more fundamental to conflict than is risk communication” (p. 677). He adds that it is easy to destroy trust, but it is hard, even impossible, to rebuild it.

Meijboom, Visak and Brom (2006) define trust as being “encapsulated by one’s judgment of the interests of the trustee... Both the trustor and the trustee are rational agents and trust is a form of rational calculation based upon available information” (p. 429). The authors suggest that during risk situations, more information about the issue can help enhance people’s trust on authorities charged with the task of managing risks, thus enabling citizens to act appropriately before, during and after a risk event.

Meijboom et al. (2006) distinguish between anticipatory trust and responsive trust. Anticipatory trust is the kind in which someone trusts as a matter of routine. In this type of trust, the normal pattern of behavior forms the foundation for trust. A pre-condition for this

type is that there is a kind of predictive pattern based upon specific human relations and based upon people's experience with the objects of trust.

In some situations, however, the normal pattern of behavior is not enough for people to trust. In responsive trust, the trustor presupposes that the trustee has not merely the ability to accept responsibility, but the trustee feels an obligation to respond to the trust placed on him/her (Hollis, 1998). Therefore, when one is trusted, the trustee should recognize the tacit demand of trust and do what is expected of him/her. This expectation often has a moral dimension. For instance, people expect the government to provide for adequate and safe food because it is its moral duty to do so. The main vulnerability of responsive trust is that the presupposed shared moral values do not necessarily lead to the same norms. For instance, all participants in the food chain, the government included, share the values of human health and wellbeing, but not all of these agents can be trusted to fulfill their responsibility. Therefore, "building responsive trust entails not only transparency concerning the values at stake, but also implies a clear discussion of how these shared values are applied in relation to the object of trust" (Meijboom et al., 2006, p. 432).

Transparency and traceability are two major elements that enhance trust. Because people need to know who or what is responsible for a given risk situation, trust also has a bearing on who or what entity the public blames for a particular risk event. In many countries, the task of safeguarding people from threats and dangers fall within the purview of government regulatory bodies.

During risk events, the government has two roles to play: "First, government has a responsibility concerning its own actions and, second, it has a task in stimulating others, like producers and consumers, to take responsibilities" (Meijboom et al., 2006, p. 439). In South

Korea where the public took to the streets in droves to protest the re-opening of the local market to American beef suspected of being contaminated with BSE, the government was both the risk information provider and risk regulator (Kim, 2009). The South Korean case shows how a food safety issue became “a critical trigger that aroused anger, dissatisfaction, and a loss of trust in the agri-food system, which eventually led to social disarray with a series of massive demonstrations by citizens” (p. 143). Kim also directly blamed the miscommunication of core information during the crisis, which led to the public’s loss of faith on the risk regulatory system. “The regulation of food is unique. It is not only a matter of economics and politics. Quality assurance and the protection of consumers against food-related diseases are becoming critical issues for regulatory policy,” Kim explains (p. 148).

When consumers choose food items, several factors assist in their decision making process. Kim (2009) lists them as “individual attitudes; actions taken by agents in the food production, distribution and processing sectors; social marketing; advertising; physiological status; and group behavior” (pp. 148-149). However, the growing distance between and among the food production, transportation, and consumption sectors have made it harder for the government to maintain consumer confidence on food safety authorities. In the case of Xi’an, because the residents did not demonstrate trust on the municipal government, it became harder for risk regulators to adjust the public’s perceptions of risk and rebuild the tarnished image of the local rice industry.

Agenda setting

The media's agenda setting function was originally proposed to analyze the effects of the mass media on people's perceptions of political candidates and their voting behavior (McCombs & Shaw, 1972). In their seminal work, McCombs and Shaw (1972) concluded that the press "may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about" (p. 177). These scholars hypothesized that "the mass media set the agenda for each political campaign, influencing the salience of attitudes toward political issues" (p. 177) and personalities. They concluded that the media's agenda of coverage also set the general public's agenda of daily discussion.

Later, McCombs (2002) expounded on the original theoretical proposition by suggesting two levels of agenda setting: "The first level is the transmission of object salience. The second level is the transmission of attribute salience" (p. 70). He explains: "The agenda setting influence of the news media is not limited to the initial step of focusing public attention on a particular topic. The media also influence the next step in the communication process, our understanding and perspective on the topics in the news" (p. 5). Thus, the first level constitutes the traditional agenda setting proposition in which the public accepts the relevance of the news to their lives. The second level is more concerned with people's understanding or comprehension of the news (McCombs, 2004). Figure 1 diagrams these two levels of agenda setting. It indicates that the agenda setting capacity of the mass media implies a causal connection between a temporal sequence of events: first, news media reporting occurs; second, these presentations influence perceptions of issue importance.

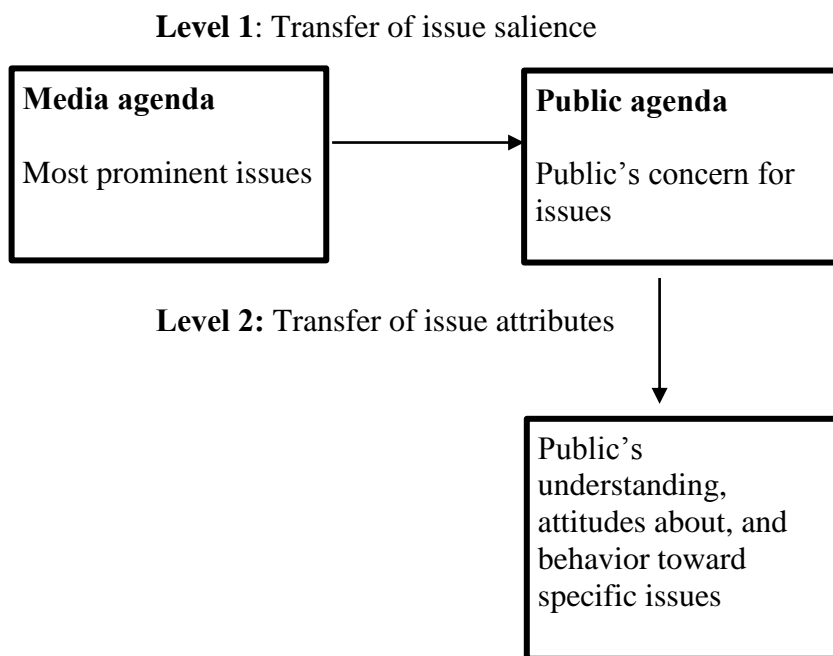


Figure 1. The two levels of agenda setting

Beyond the media agenda and the public agenda, the government's policy agenda also plays a significant role in the process of agenda setting. Cook et al. (1983) state that the media have the capacity to shape policies based on public perceptions. The authors argue that policy makers may change their perceptions of risk and their understanding of the public's perceptions of risk, but may not change their personal issue priorities. In short, the media agenda, the public agenda, and the policy agenda interact and have a logical relationship.

Rogers and Dearing (1988) arrange agenda setting research into two main traditions. The first tradition, "agenda setting," generally describes the mass media as having a relatively important role in shaping the public agenda. Empirical evidence for this first tradition of agenda setting is achieved when the rank-order of issues on the press agenda is related to the rank-order of issues on the public agenda. The second tradition, "agenda building," explains how the policy agenda is influenced by a number of factors, including the

media agenda and the public agenda. Agenda setting theory is thus composed of information flows between and among three components: the media, the public, and policy makers.

The traditional tenets of agenda setting are concerned about the listing of issues present in the media and the extent to which these issues are mirrored in the menu of topics people consider worthy of their attention (McCombs and Shaw, 1972). Based on Shaw (1977), an issue is defined as “a series of related events that fit together in a broad category” (as cited in Rogers and Dearing, 1988, p. 566). Agenda setting claims that because the media cover certain issues, the public will then accept those issues as important. On the other hand, agenda building focuses on the question, “How does a public issue get on the policy agenda?” (Rogers and Dearing, 1988, p. 560). Policy agenda setting researchers, therefore, work under the assumption that issues compete for the attention of policy makers (Rogers and Dearing, 1988).

According to Rogers and Dearing (1988), much of the media’s agenda is affected by social ideology, the routines of journalism, and the values of media professionals, all of which have a bearing on the issues people come to think about (Cohen, 1963). In turn, “the public agenda, once set by, or reflected in, the media agenda, influences the policy agenda of elite decision makers” (p. 579). The policy agenda, on the other hand, “seems to have a direct, sometimes strong, influence upon the media agenda” (p. 580). Thus, agenda setting involves complex information flows among the three components. This comprehensive model that involves the three major entities in agenda setting is shown in Figure 2.

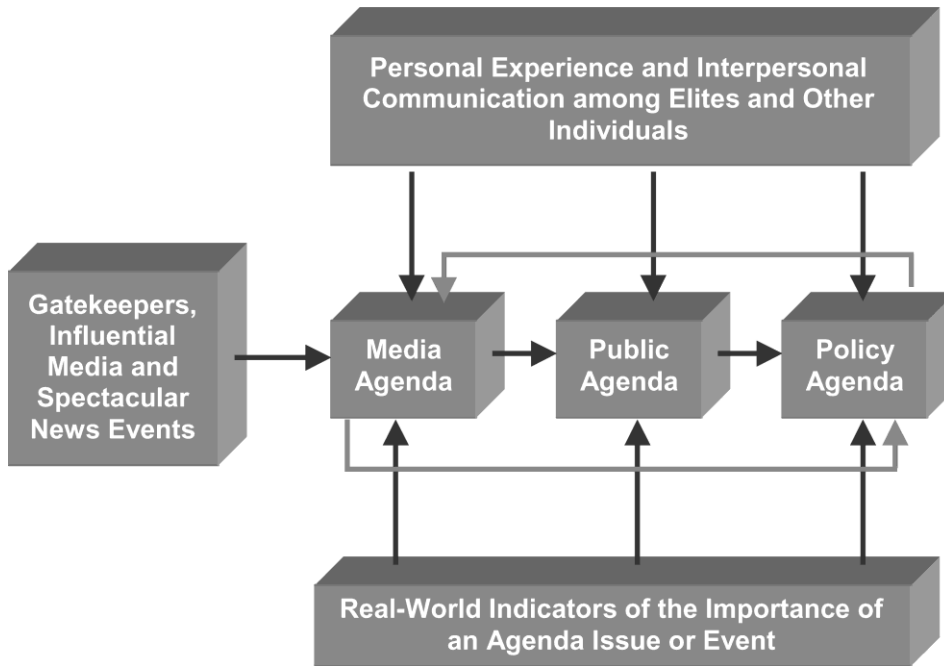


Figure 2. The comprehensive conceptual model of agenda setting (Rogers and Dearing, 1988)

Trust and agenda setting

Under what conditions is agenda setting likely to occur? McCombs (2002) states that this media function is likely to be seen only when people think that news stories are relevant to their own lives. For example, when people show a greater need for orientation especially in the midst of uncertainty, the media, due to their available resources and their structural connectedness with the best available experts, can offer them such an orientation.

Miller and Krosnick (2000) found trust as an important mediator of agenda setting effects. They suggest that people who trust the media are more likely to follow the media's agenda setting cues. Bakir (2006) also notes that media exposure impacts policy by shaping public perceptions of risk (rather than of policy) and by shaping policy makers' perception of public opinion.

Frewer (2003) also points out that the extent to which people trust risk managers and regulators has a significant influence on people's risk perception. "Perceptions that an information source is systematically distorting risk information, or selectively reporting the 'truth' about different hazards for reasons of self-interest, may result in distrust" (p. 124). If, however, according to Moscovici (1985), "they are perceived to be acting in order to protect the welfare of the public, as well as being believed to be expert on the subject of the risk under discussion, they will be highly trusted, as well as being more likely to promote amplification or attenuation of the risk through information dissemination via the media and other information channels, which is deeper and enduring" (as cited in Frewer, 2003, p. 129).

In general, people seek information from the sources they trust, which enables agenda setting to take place. In this case, CCTV, which enjoys high credibility, not only earned public attention but set the agenda of other media in its coverage of the rice scandal. The CCTV report, in effect, warned the Chinese people of imminent danger.

Considering the hypothesized second-level agenda setting function of the media and the intervening influence of trust in media and trust in government on people's knowledge, risk perception, and protective behaviors during and after risk events, Figure 3 shows a schematic of the present study's conceptual framework.

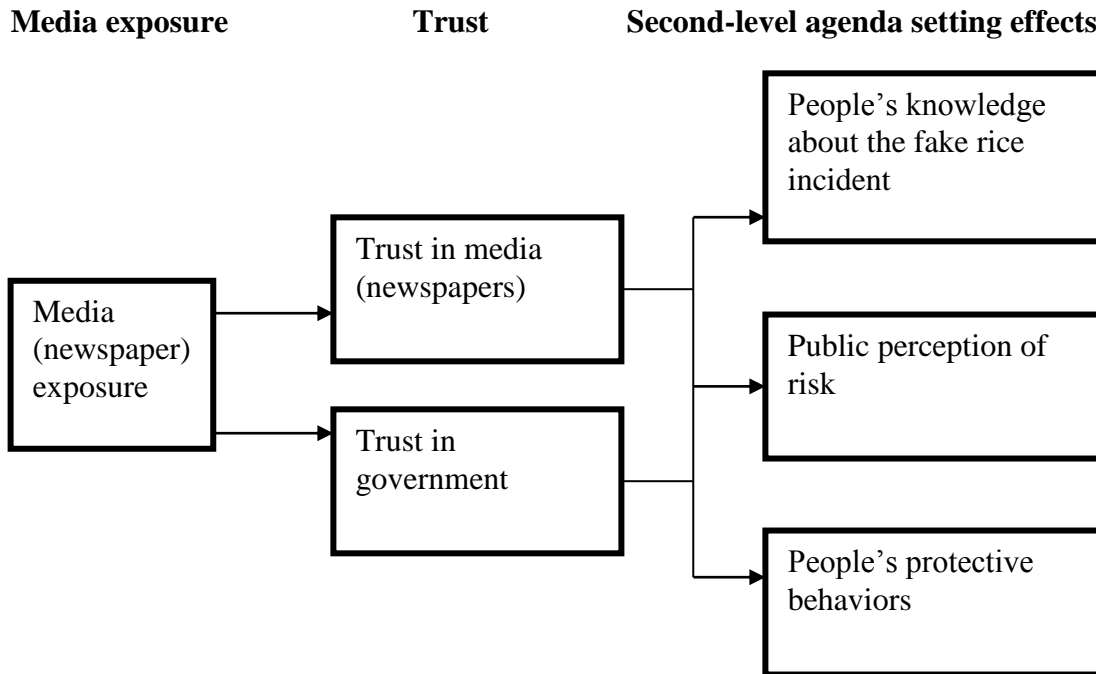


Figure 3. The study's conceptual framework

Research questions

Considering the foregoing literature, this study asks:

RQ1: To what extent was the fake rice issue a part of Xi'an's local media agenda?

Data to answer this question were gathered by conducting a content analysis of the local newspapers' coverage of the fake rice scandal. The content analysis was conducted to determine coverage intensity, time span of coverage, and the informational items related to risks present in the coverage.

In order to provide evidence for second-level agenda setting, this study also asks:

RQ2: How did the public evaluate the performance of the media in reporting about this risk event?

RQ3: What was the general public's knowledge level about the fake Wuchang rice issue (risk knowledge)?

RQ4: How did Xi'an residents perceive the risks related to this event (risk perception)?

RQ5: What actions did the people of Xi'an take to protect themselves during and after the risk event (risk behavior)?

In order to determine the role of trust in this context, it is pertinent to ask:

RQ6: To what extent did the Xi'an population trust the media and their government about scientific and risk issues in general?

RQ7: What was the relationship between trust in media and trust in government and the public's knowledge, risk perception and risk behavior related to the Wuchang rice incident?

Data to answer RQ2 to RQ7 were gathered by conducting personal interviews with Xi'an residents.

Chapter 3 METHODS

This study aims to determine whether the Xi'an media performed a second-level agenda setting function with respect to the adulterated Wuchang rice incident. That is, the study set out to provide evidence that the newspapers' coverage of this incident helped shaped what people knew about it, their perceptions of risks related to this malpractice, and the actions they performed to help mitigate the risks. To ascertain the role of trust in this context, the study also examined the relationship between trust in risk regulators and trust in the media on the public's cognitions about the issue, their perceptions of risks, and the behaviors they performed to alleviate the risks related to the fake rice issue.

Two methods were employed to gather data for this study. To determine the media agenda and how the media performed in covering this risk topic, a content analysis of local newspapers was conducted. To determine public agenda and people's evaluations of the way the incident was handled by the press and by government agencies considered to be risk regulators, a survey of Xi'an urban residents was conducted. Considering the study's objectives, personal interviews are most appropriate in eliciting such perceptions and insights from consumers.

Content Analysis

According to Kerlinger (1973), content analysis is "a method of studying and analyzing communication in a systematic, objective, and quantitative manner for the purpose of measuring variables" (p. 525). A content analysis of Xi'an newspapers is helpful to understand the media agenda and determine the quality of risk communication and information provided to readers.

Stories about the fake rice published in three newspapers—the *Huashang*, *Qing Daily*, and the *Xi'an Evening Post*—were analyzed. All of these newspapers are published daily, except during legal holidays. According to Century Chinese International Media Consultation Inc. (2011), *Huangshang*, *Qing Daily*, and *Xi'an Evening Post* are the top three newspapers in Xi'an in terms of circulation. Therefore, these three newspapers are assumed to be the most influential in the province.

Huashang is a local newspaper circulated widely within Shaanxi province (About us, n.d.). In 2010, it had a circulation of 600,000 (Advertising Offer, n.d.). *Qing Daily* has had a circulation of 380,000 since it was first published in 1994. It focuses on Xi'an and its neighboring cities and counties, and provides current affairs, entertainment, sports, and city news (*Qing Daily*, n.d.). The *Xi'an Evening Post*, established in 1953 by the Xi'an Municipal Party Committee, is the newspaper with the longest history and the most influence in western China. The daily circulation is over 400,000 most of which is due to household subscriptions (*Xi'an Evening Post*, n.d.).

The timeframe of analysis ran from July 1, when the rice scandal was exposed, to August 30, 2010, when the last article about the topic was published. The articles were searched by using the keywords “Wuchang rice” in the electronic archives of the three newspapers. The unit of analysis was the complete newspaper story.

The code book and coding protocols for the content analysis are shown in Appendix A. The articles were examined to determine the most frequently occurring frames or storylines reporters applied to report on this incident. The first three sources cited in each story were coded to detect the individuals, groups or organizations that helped shape the story frames and the general nature of the coverage.

Survey

The sample

To determine the public agenda, a survey of Xi'an residents was conducted. Because the study aims to solicit the opinions mainly of the rice-buying public, a nonprobability sample of Xi'an citizens was personally interviewed using a structured questionnaire. The purposive sampling technique was applied by mailing those in neighborhoods close to rice packaging and rice retailing centers a letter that notified them about the study and its purpose, and soliciting their participation. A total of 235 respondents who have lived in Xi'an for more than two years and who work in research institutions, hospitals, and local community organizations were selected based on their willingness to respond to the questionnaire items. The respondents were interviewed in their place of residence.

Personal interviews were conducted for a period of five weeks. Wimmer and Dominick (2006) point to the advantages of personal interviewing:

It is the most flexible means of obtaining information because the face-to-face situation lends itself easily to questioning in greater depth and detail. Also, some information can be observed during the interviews without adding to the length of the questionnaire. Additionally, the interviewer can develop a rapport with the respondents and may be able to elicit replies to sensitive questions that would remain unanswered in a mail or telephone survey (p. 202).

To increase the response rate, every household that participated received a small gift.

Survey questionnaire

The survey questionnaire was divided into four sections. The first section, designed to analyze the respondents' media use habits, include items that asked (1) what people regularly resort to as sources of information regarding scientific and risk issues, (2) to what extent they trust these information sources, (3) how often they read newspapers, (4) what newspapers they prefer to read, and (5) what newspaper sections they regularly read. This section aims to determine the importance of the media in people's daily lives, as well as to ascertain the level of trust people assign to various information sources.

The second section of the questionnaire solicits the respondents' evaluations of the media's performance in reporting about the adulterated Wuchang rice. In this section, respondents were asked (1) whether they have heard about the fake rice issue, (2) their sources of information specifically about this issue, and (3) how many stories they have read about the topic. They were also asked to evaluate how the media covered this risk event.

The third section of the questionnaire was made up of three parts that aim to tap the respondents' knowledge, risk perception, and behaviors about the issue. The knowledge items include (1) whether they have experienced the same threats before, (2) if they were aware of the type of flavoring unscrupulous producers added to the rice, (3) what they saw as potential health risks related to such tampering, and (4) whether they knew how to distinguish between genuine and fake Wuchang rice.

The risk perception items aimed to measure how people felt about the risk situation. Respondents were asked: (1) To what extent do they think this practice was acceptable? (2) Do they think the practice will have deleterious health effects? (3) Do they see the issue as having a high dread factor? (4) To what extent do they understand this issue? (4) To what

degree do they think the experts know about the health effects of eating the adulterated rice?

(5) How controllable are these effects? (6) Do they consider this issue a novel experience?

The behavior items aimed to measure what residents have done in response to the risk situation. (1) Are they still buying Wuchang rice? (2) What is the probability that they will do so in the future? (3) Did they provide some suggestions to the municipal government and the media about this affair? (4) Did they get rid of Wuchang rice they have at home in the aftermath of the product tampering affair? (5) Have they suggested to authorities how to punish the offending parties? (6) Have they complained to the government or the media about the issue? (7) What else did they do to protect themselves and their family during this event?

The last section of the questionnaire collected demographic information, such as (1) whether the respondents are permanent Xi'an residents, (2) how long have they lived in Xi'an, (3) their occupation, (4) educational background, (5) age, (6) annual household income, and (7) gender.

The questionnaire, reproduced in Appendix B, was pretested on five selected households to refine the items and ensure that the terms used can be easily understood. The codebook for the survey questionnaire is shown in Appendix C. Appendix D presents a letter from the Iowa State University Institutional Review Board approving the protocols regarding the use of human subjects in this research project.

Training interviewers

According to Wimmer and Dominick (2006), “training is important because the questionnaires in a personal interview are longer and more detailed” (p. 201) and that interviewers often run the risk of asking incorrect questions or stating those questions inappropriately. Thus, interviewers were trained about the interviewing and coding protocols. Three interviewers were recruited to assist in data gathering. All of them were Xi’an residents. One has a graduate degree, another has a junior college degree, and the third interviewer holds a high school diploma. They were asked to practice asking questions and to respond to interviewees’ concerns and requests for information using a randomly selected group of five households. Revisions were made to the questionnaire based on the interviewees’ suggestions and comments.

Variables and Measures

Media agenda. The first research question asks whether the fake rice issue was a significant part of Xi’an’s media agenda. To answer this question, a content analysis of newspaper reports about the topic was conducted. The objective was to determine the intensity with which the local media gave credence and importance to this issue. The content analysis also aimed to determine the frames or overarching storylines journalists used to report the issue to their audiences.

For the media to cause any kind of audience effect, agenda setting assumes that the media are major sources of information about this topic. Thus, people’s media exposure and attention habits were ascertained first. Media use habits were determined by asking respondents four questions: (1) Where do you get information about scientific issues and

topics? (2) How often do you read newspapers? (3) What newspapers do you read on a regular basis? (4) When you are reading a newspaper, what sections do you read most often?

Furthermore, to assess whether the media are the major sources of information about the fake rice issue, the respondents were asked: (1) Have you heard about the tampering of Wuchang rice? (2) Which of the following information sources did you rely on for information about this issue? (3) How many stories about the topic have you read?

Descriptive statistics were reported to answer this research question.

The public's evaluation of media performance. To provide depth to the first research question, the second research question asks: How did the public evaluate the media's performance in reporting about the Wuchang rice issue? Newspaper readers were asked: (1) To what extent do you think the newspapers did a good job of providing information about the existence of risk? (2) To what extent do you think the newspapers provided information about how to protect yourself from potential risks? (3) To what extent do you think the papers provided information about what the government is doing to protect the public? (4) In general, to what degree do you think the papers were informative about this particular risk event? The response items ranged from 1 to 7, where 1 means "extremely bad" and 7 means "extremely well."

Descriptive statistics were analyzed to answer this research question.

Knowledge. A series of research questions were asked to determine the extent to which the media depictions of this event helped shape people's knowledge and understanding of the risk event (a second-level agenda setting effect).

The third research question aims to assess the general public's knowledge of the fake rice issue. To do this, respondents were asked: (1) Have you heard about the practice of

adulterating Wuchang rice? (2) Do you know what type of flavoring was added to the product? (3) Do you know what health problems this practice is likely to cause? (4) Can you distinguish between fake and authentic Wuchang rice? The “yes” answers to these questions were added to arrive at a knowledge score.

Descriptive statistics were presented to answer this research question.

Risk perception. The fourth research question aims to determine the public’s perception of risk. To do so, respondents were asked: (1) How do you feel about this issue? (2) Do you think this practice will have deleterious health effects? (3) Do you find this issue as having a high dread factor? (4) To what extent do you understand this issue? (5) To what extent do you think the health effects of eating adulterated rice are known to experts? (6) To what extent do you think this issue could have been controlled or prevented? (7) Is this malpractice new to you? The answers to these questions ranged from 1 to 7 where 1 represents the most negative feeling about the item, and 7 means the most positive feeling about the item.

To answer this research question, descriptive statistics were presented.

Risk behavior. The fifth research question asks: How did the people of Xi’an behave during and after the risk event? To measure risk behavior, respondents were asked to report the actions they took with respect to Wuchang rice: (1) discontinued buying Wuchang rice, (2) complained to the government about this atrocity, (3) got rid of any Wuchang rice at home, (4) suggested to the government ways by which the culprits should be punished, (5) suggested to the government ways by which the rice industry can be regulated to prevent these malpractices, (6) complained to the media about these malpractices, (7) suggested to

the media ways by which they can improve their performance in reporting risks; (8) other specific measures taken. The actions taken were added to measure risk behavior.

To answer this research question, descriptive statistics were presented.

Trust in government and the media. The sixth research question asks: To what extent did the Xi'an population trust the media and their local government about scientific and technological issues in general?

To measure trust in government, respondents were asked to rate the extent to which they find government officials, agencies and instrumentalities trustworthy as sources of information about science and risk issues. To measure trust in media, respondents were asked to rate the extent to which they find (1) newspapers, (2) television, (3) radio, and (4) online news trustworthy. The response items to the trust measures ranged from 1 "not trustworthy at all" to 7 "highly trustworthy." The respondents' assessment of the trustworthiness of these four information channels were combined and averaged to form an index of trust in media.

As an additional analysis, trust in interpersonal communication sources was computed by adding and averaging the respondents' evaluations of the trustworthiness of three interpersonal information channels: (1) friends, (2) family members, and (3) neighbors to form an index of trust in interpersonal communication channels. As in the trust in media index, the response items ranged from 1 "not trustworthy at all" to 7 "highly trustworthy." The reliability of the trust in media and trust in interpersonal communication indices were determined by computing for Cronbach's alpha.

Descriptive statistics were analyzed to answer this research question.

Relationship between trust and knowledge, risk perception and risk behavior.

The last research question asks: What was the relationship between trust in media and the

public's knowledge, risk perception, and risk behavior? In the same vein, the relationship between trust in government and knowledge, risk perception, and behavior was examined.

To answer this research question, the variables trust in media, trust in government, risk knowledge, risk perception and risk behavior were correlated. The significant correlations were tested using simple regression to explore causal relationships.

Chapter 4

RESULTS AND DISCUSSION

The purpose of this study is to assess whether the local media performed second-level agenda setting functions in the wake of the adulterated Wuchang rice scandal in Xi'an in 2010. More specifically, the study aimed to determine whether trust in media and trust in government influenced the general public's knowledge level about the risk event, their perceptions of risk, and their risk behaviors.

Two research methods were conducted to collect data for this study. First, a content analysis of local newspaper reports about the topic was performed to determine the media agenda and how the media performed in informing the public about the risk incident. Second, a survey of Xi'an's urban residents was conducted to assess the influence of media exposure and trust in the two institutions (the media and the government) on people's knowledge about the adulteration of their famous rice, their perceptions of the risks engendered by this malpractice, and the actions people took to protect themselves from the perceived adverse health effects.

Content Analysis Results

The first research question asks: How did the media handle this crisis situation based on an examination of the local newspapers' agenda? An archival search of the three most widely circulated newspapers in Xi'an produced a scant total of 53 stories about the incident that saw print. An analysis of 36 news reports from *Huashang* newspaper, seven from the *Xi'an Evening Post*, and ten from the *Qing Daily*, all published from July to August 2010, reveal the almost negligible coverage of this health threat in the most popular newspapers in

the region. Discussed only within a two-month period, coverage of the issue came to an abrupt end in August.

An analysis of the informational items in the local newspaper reports shows that only ten stories mentioned government action to solve the problem; four discussed public concern, even though some merely reported journalists' assumptions; two over-assured the public that there is nothing to worry about; three gave suggestions about how to distinguish good rice from the fake; only one article estimated the number of people adversely affected; and six assigned blame for the malpractice.

The majority of the newspaper reports indicate that the government was planning to more strictly regulate the rice industry. The chaotic market system, natural disasters, and the entry of foreign capital were blamed for the public's "undue and unwarranted level of worry." News reports quoted municipal announcements that guarantee the safety of rice in the market and assured Xi'an consumers they will not be exposed to contaminated rice again. The articles asked the rice-buying public to patronize only large reputable supermarkets, and offered tips on how to detect good rice from bad. All three newspapers assured residents that the government will punish wayward producers and sellers although none discussed exactly how the offending parties would be prosecuted. The reports failed to discuss the probability of harm and expected harm, leaving people clueless as to how they can protect themselves. A few stories indicated that people were worried enough to throw away Wuchang rice left in their households, while some activist consumers advocated for a recall of fake rice.

In effect, the results of the content analysis showed that the local media became aware of and wrote about the scandal only after the national broadcast of the product-tampering issue on CCTV. It was also observed, based on news reports, that the government began regulating

the chaotic rice market in Xi'an and started prosecuting illegal rice sellers only after the publication of such reports. In the few news articles that discussed the issue, government regulatory bodies and news reporters asked residents not to dwell on the issue, but advised people to buy rice only from standard supermarkets and other "reputable outlets."

Survey Results

The sample

A total of 225 respondents completed the survey questionnaire. Of these, 110 (48.89%) were male. The average age was 38.82 years old. Of the 225 respondents, 82.7% were permanent Xi'an residents; 6.7% respondents preferred not to report their residency status. The respondents said they have lived in Xi'an for an average of nearly 26.33 years.

The residents' jobs fell into 25 categories (Table 1) with most of them saying they were engineers, were retired, were workers and/or laborers, freelancers, corporate employees, and technologists. The educational background showed polarization, with 37.8% of the respondents having undergraduate degrees, while 26.7% reportedly holding high school diplomas. Many opted not to report their household income after taxes in 2010.

Media use habits

The respondents report that television, online sources, and newspapers (in that order) were their top three information sources about science topics and issues (Figure 4). Of the mediated channels, radio was the least used for science topics. Interpersonal sources were also accessed, but in frequencies that were significantly lower than the use of mass media channels. People in positions of authority were the least used as sources of information about science and science-related topics.

Table 1. Respondents' jobs

Jobs	Number	% of total
Worker/Laborer	16	9.20
Accountant	1	0.57
Company employee	12	6.90
Civil servant	5	2.87
Administrator	10	5.75
Freelancer	14	8.05
Teacher	9	5.17
Designer	2	1.15
Self-employed	6	3.45
Housewife	3	1.72
Student	7	4.02
Not specified	4	2.30
Unemployed	10	5.75
Retired	19	10.92
Buyer	1	0.57
Account executive	3	1.72
Military personnel	1	0.57
Engineer	24	13.79
Researcher	3	1.72
Statistician	1	0.57
Salesperson	1	0.57
Technologist	12	6.90
Financial personnel	3	1.72
Medical personnel (Doctor, dentist, nurse)	7	4.02
Total	174	99.97

When asked about their newspaper reading frequency, the mode of the answers indicates that Xi'an residents read newspapers every day. When they do so, they focus on national news, international news, and the health sections most often. The breakdown of the newspaper sections read most often is shown in Table 2.

Table 2. The most often read newspaper sections (N=221)

Newspaper section	Frequency	Percent of total
National news	173	78.28
International news	134	60.63
Local news	86	38.91
Entertainment	83	37.56
Sports	61	27.60
Health	100	45.25
Other sections	28	12.67
Total	221	300.90

Percentages do not add up to 100 because some respondents indicated reading more than one section most frequently.

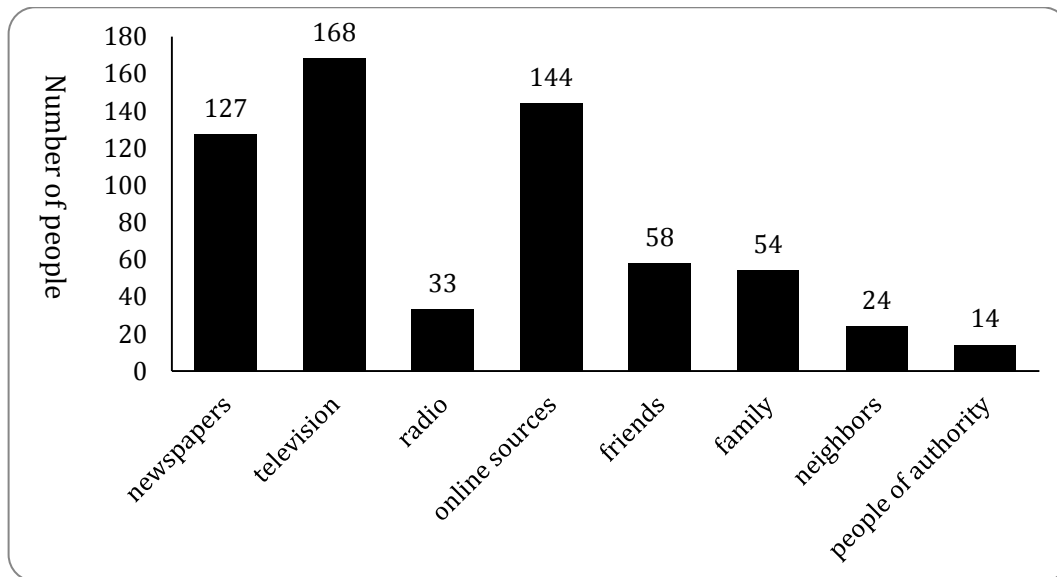


Figure 4. Information sources used for scientific topics and issues

In open-ended responses, the respondents identified a total of 30 national and local newspapers they read regularly. What were the newspapers of choice? The findings show that the local newspapers *Huashang* and *Xi'an Evening Post*, and the nationally circulated *Can Kao Xiao Xi*, were the top three newspapers read on a regular basis (Figure 5). The *Qing Daily* was the fourth preference. Also enjoying some level of readership are the *The People's Daily*, the *Global Times*, and *Southern Weekly*.

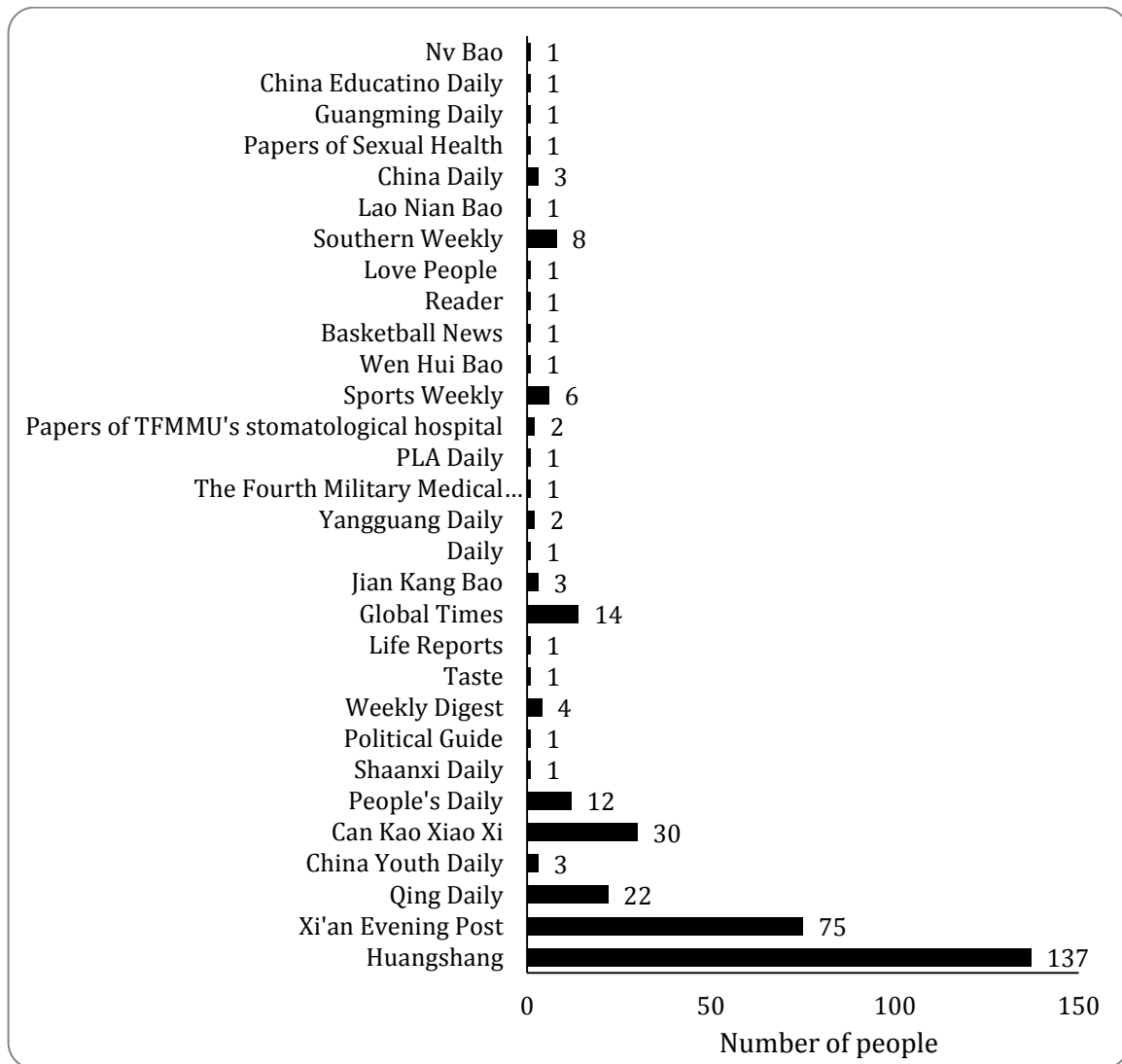


Figure 5. Newspapers read regularly

Of the 225 respondents, 163 (72.4%) were aware of the Wuchang rice incident.

Where did they learn about this risk event? Figure 6 displays the sources of information the respondents used to learn more about the issue. As Figure 6 indicates, respondents gathered information about the adulteration of Wuchang rice from the media and interpersonal channels. Of the mediated sources, the most commonly cited were newspapers, television, and online news. The most sought-after interpersonal communication sources were friends

and family members. Only six residents said they learned about the incident from government reports.

Newspaper readers recalled reading an average of 2.42 stories about the topic, which can be characterized as a low level of exposure to the issue. Although the rice issue did not receive substantive coverage in the local newspapers and the public saw an average of less than three articles about it, residents demonstrated high awareness of the issue. Thus, the low salience of the issue in the media agenda did not match the importance citizens attached to it as can be inferred from the public agenda.

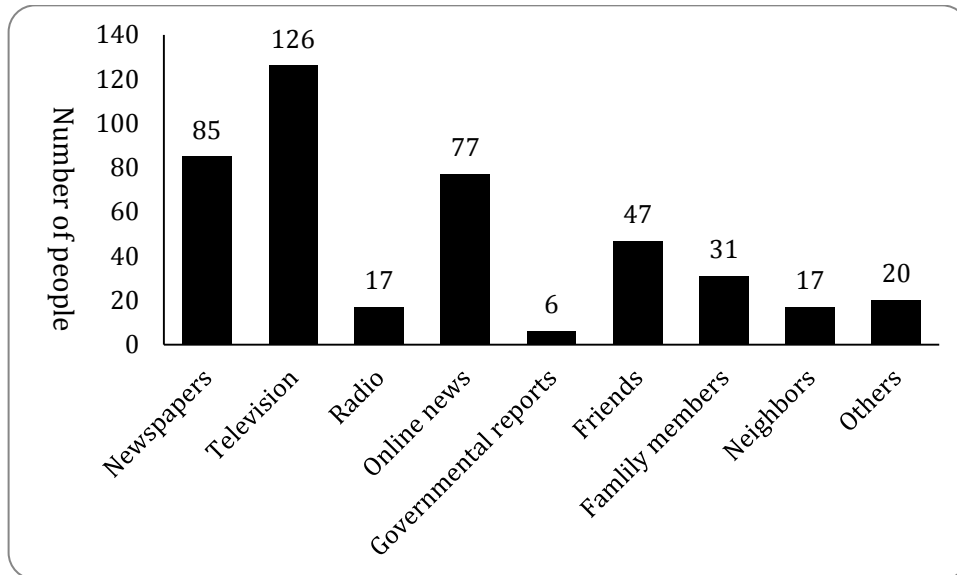


Figure 6. Sources of information about the Wuchang rice issue

Evaluation of media performance

The second research question asks: How did the public evaluate the newspapers' performance in terms of the quality of their coverage of this risk event? Table 3 outlines how the respondents rated the newspapers' performance on five reporting characteristics. The answers to these seven-point Likert-scale items ranged from 1 to 7 where 1 means the

newspapers did an extremely bad job and 7 means the newspapers did an extremely good job. The respondents generally found that the newspapers did a good job of providing information about the existence of the problem, and in telling readers how to protect themselves from potential risks, despite their very low level of exposure to stories that discussed the topic. The newspapers were rated as having done a fairly good job of informing the public about what the government was doing to protect citizens, and about other information related to the risk event. In general, it can be said that the respondents were satisfied with the newspapers' limited and perfunctory coverage of this food safety infraction, finding the papers' reports instructive.

Table 3. Ratings of newspaper performance in covering the Wuchang rice issue

Newspaper performance¹	n	Mean	Mode	SD
1. Provided information about the existence of the problem and the risk	196	5.65	7	1.517
2. Provided information about how members of the public can protect themselves	194	5.69	7	1.523
3. Provided information about what the government is doing to protect the public	194	5.31	7	1.688
4. Provided other information about this particular risk event	194	5.45	7	1.635

¹Measured using a scale of 1 to 7 where 1= extremely bad job and 7= extremely good job

Knowledge level

The third research question aims to investigate the public's familiarity with and knowledge level about the fake rice issue. Specifically, they were asked whether they were aware of the issue, if they knew the ingredients or additives incorporated into the fake rice, the potential health problems this practice was likely to produce, and if they knew how to

distinguish the fake from the authentic rice (Table 4). An overwhelming majority (157 or 69.8%) admitted having heard about the rice problem. However, 77.3% said they do not know the exact type of flavoring added to the rice; 53.8% had no idea about the potential health problems the situation can engender. Meanwhile, 81.8% claimed they do not know how to distinguish between the fake and the real Wuchang rice. In a nutshell, although over half of the respondents were aware about the product tampering practice that has been going on for years, the majority knew little about the details of this issue. Xi'an residents knew very little about the nature or severity of the threat, and other topics related to the case.

Table 4. The respondents' knowledge about the fake Wuchang rice issue (N=225)

Knowledge items	Frequency		Percent	
	Yes	No	Yes	No
1. Have you heard about the fake Wuchang rice issue?	157	68	69.8	30.2
2. What type of flavoring was added to the rice?	51	174	22.7	77.3
3. What health problems may result from this product tampering?	104	121	46.2	53.8
4. Can you distinguish between fake from authentic Wuchang rice?	41	184	18.2	81.8

Risk perception

The fourth research question asks about the public's perception of the risks the adulteration practice entailed. Table 5 lists their responses to seven risk perception items culled from the factors investigated by researchers following the psychometric paradigm as influencing non-experts' perceptions of risk (acceptability, deleterious effects, dread, understandability, the perception that health risks are known to experts, controllability, and

novelty). The responses to these items ranged from 1 to 7 where 1 means low perception and 7 means high level of perception.

A large majority of the respondents (114) found the risks completely unacceptable; 133 thought the product tampering can produce very serious negative effects; 100 assigned to the issue a high level of dread; 89 said the event was difficult to understand; 72 thought the risks attendant to the issue was beyond control; and 73 reported that the rice issue was entirely new to them. Another 47 said they do not think experts had any idea about the potential negative impact of this incident on human health. In general, therefore, the public's risk perception can be considered to be high.

The means of the responses to the acceptability of the risk can be characterized as low (2.18). Xi'an residents also did not think that the incident is easily understood (2.92). Perceptions that the incident can have deleterious effects were high (6.14), and so was the mean of people's perception that the event has a high dread factor (5.74). The respondents reported a moderate mean (3.88) with respect to their perception that the risks the incident spawned can be controlled by experts and regulators. They do not exhibit confidence that experts know how to control the potential health dangers (3.04). They, however, thought the risks were not entirely new (4.75). Consequently, the general public risk perception can be described as considerably high.

Risk behavior

The fifth research question explores how Xi'an residents behaved during and after the risk event to protect themselves from adverse effects. Given a list of actions, respondents were asked to check the actions they did in response to the perceived risks (Table 6).

Table 5. Risk perception about the fake Wuchang rice issue

Risk perception items¹ To what extent the issue was seen as	n	Mode	Mean	SD	Frequency	Percent
1. acceptable	212	1	2.18	1.915	141	62.7
2. having deleterious effects	211	7	6.14	1.431	133	59.1
3. dreadful	208	7	5.74	1.657	100	44.4
4. easily understood	202	1	2.92	2.103	89	39.6
5. having health effects that are known to experts	205	1	3.88	2.141	47	20.9
6. having risks that can be controlled	204	1	3.04	2.017	72	32.0
7. completely new	208	7	4.75	2.186	73	32.4

¹Risk perception items were measured using a scale of 1 to 7 where 1= extremely low and 7= extremely high.

Table 6. Actions taken during and after the risk event (N=225)

Actions performed	Frequency		Percent	
	Yes	No	Yes	No
1. Refrained from buying Wuchang rice	141	84	62.7	37.3
2. Complained to the government about the rice tampering issue	67	158	29.8	70.2
3. Got rid of Wuchang rice at home	137	88	60.9	39.1
4. Resolved not to buy Wuchang rice in the future	147	78	65.3	34.7
5. Suggested to the government ways by which the culprits should be punished	50	75	12.2	77.8
6. Suggested to the government ways by which the rice industry can be regulated to prevent malpractices	20	195	13.3	86.7
7. Complained to the media about the malpractice	39	186	17.3	82.7
8. Suggested to the media ways by which they can improve their performance in reporting risks	27	198	12.0	88.0

In response to perceived risks, 141 of the 225 respondents (62.7%) stated they will completely refrain from buying Wuchang rice; 65.3% said they are unlikely to buy Wuchang

rice in the future. More than half of the respondents (60.9%) reported getting rid of the Wuchang rice they bought before learning about the adulteration practice. A considerable number complained to the government about the rice tampering issue (67 or 29.8%) and 50 or 22.2% suggested to the government ways by which the culprits should be punished. Few, however, suggested to the government ways by which the rice industry can be regulated to prevent malpractices (30 or 17.3%). Even fewer were those who recommended to the media ways by which they can improve their performance in reporting risks (27 or 12%). In addition, 114 residents reportedly performed as many as four other behaviors or actions to protect themselves from the threat.

These responses suggest that most of the respondents handled the issue on their own, without any assistance from outside sources. Specifically, these individual actions include refraining from buying Wuchang rice and refusing to buy the same in the future. Only a few bothered to get in touch with the media and government instrumentalities to seek help, complain or to offer recommendations for action (Figure 7).

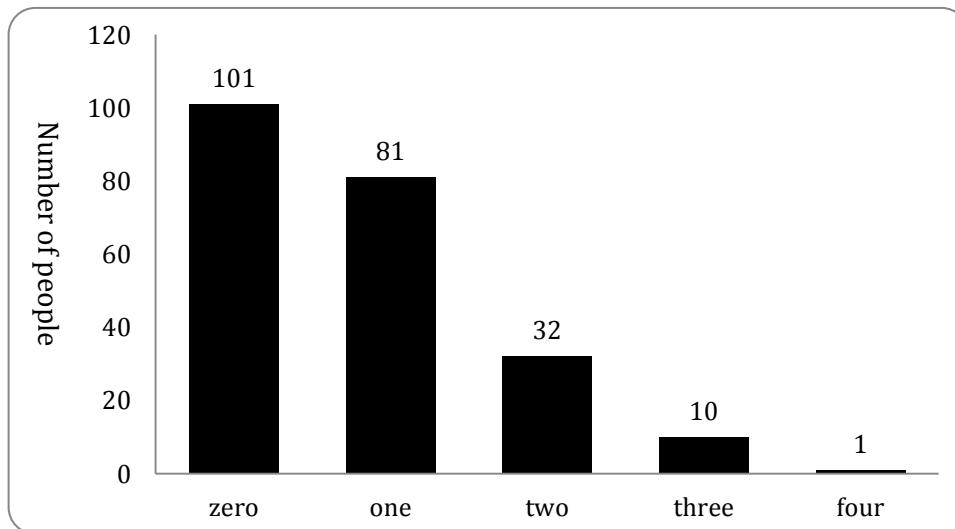


Figure 7. Other behaviors or actions residents took to protect themselves from the threat

Trust in government and the media

The sixth research question probes the extent to which the Xi'an population trusts the media and the local government about scientific and technological issues in general. They were asked the degree to which they consider each of the eight sources listed as trustworthy. The risk information sources can be divided into three categories: (1) the media, including newspapers, television, radio, and online news (Cronbach's alpha= 0.843); (2) government officials and reports; and (3) interpersonal channels, including friends, family members, and neighbors (Cronbach's alpha=0.757).

Table 7 lists how the respondents rated the trustworthiness of information channels they use for science and risk issues in general. The trust ratings were assessed on a scale of 1 to 7 where 1 means completely distrust and 7 means completely trust. The respondents assigned high trust ratings to newspapers, television, and radio, but reported a neutral trust assessment of online news. They found government sources highly untrustworthy. The residents said they trust their friends and neighbors, but gave the highest trust rating to family members.

In summary, people rated the mediated sources moderately high in terms of their trustworthiness about scientific and technological issues, but were neutral toward online news. Governmental sources were not seen as trustworthy at all. Among interpersonal communication sources, family members were trusted completely; friends and neighbors also received fairly high trust ratings. The mode of the responses suggests that interpersonal sources were trusted the most, followed by the media. Government sources were completely distrusted.

Table 7. Trust ratings of information channels

Information channels	n	Mode	Mean	SD	Frequency	Percent
Newspapers	193	5	4.69	1.587	48	21.3
Television	204	5	4.91	1.635	45	20.0
Radio	167	5	4.50	1.598	45	20.0
Online news	175	4	4.39	1.530	48	21.3
Government officials and reports	164	1	3.93	2.055	30	13.3
Friends	166	5	4.57	1.566	42	18.7
Family members	164	7	5.27	1.814	55	24.4
Neighbors	159	5	4.38	1.538	45	20.0

¹Trust ratings were assessed using a scale of 1 to 7 where 1= distrusts totally and 7= trusts fully

Relationship between trust, risk knowledge, risk perception and risk behavior

The seventh research question aims to ascertain the relationship between trust in media, trust in government and the public's knowledge, risk perception and risk behavior. To examine these relationships, a series of Pearson correlation tests was conducted.

Trust in media. No statistically significant correlation was found between trust in media and people's knowledge level ($r=0.051$, $p=0.258$).

A reliability test showed unacceptable Cronbach's alpha for the seven items originally combined to create a risk perception index. Because of this, the seven items were treated as distinct variables. No correlation was found between trust in media and the risk perception items, except with respect to the perception that the risk was known to experts (Table 8). The results of a simple regression test (Table 9) indicate that trust in media influenced the perception that the risks engendered by the product tampering are known to experts [$F(1, 154) = 6.271$, $p=0.013$]. This indicates that media content may have drummed up the role of government experts in helping to alleviate the condition, leading newspaper readers to think that the risks, although unfamiliar to them, may be known to experts.

However, the relationship, although positive and significant, the correlation was weak. As shown in Table 8, trust in media was negatively associated with the perception that the risk was novel, suggesting that media coverage had the tendency to reduce the sense that what happened was new, but this relationship was not significant.

No significant correlation was found between trust in media and risk behavior ($r=0.025$, $p=0.374$).

Table 8. Correlations between trust in media and the seven risk perception items

	N	Trust in media (N=163)	
		Pearson r	Prob.
1. Risk is acceptable	160	0.088	0.135
2. The malpractice has deleterious effects	159	0.053	0.255
3. Dread factor	158	0.016	0.419
4. Risk can be understood	163	0.045	0.288
5. Experts are aware of this risk	156	0.198	0.007
6. Risk can be controlled	157	0.049	0.271
7. Risk is novel	159	-0.081	0.155

Table 9. Results of a simple regression test showing the influence of trust in media on the perception that experts are aware of the product tampering risks

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.198 ^a	0.039	0.033	2.055

a. Predictors: (Constant), media trustworthiness rating

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.485	1	26.485	6.271	0.013 ^a
	Residual	650.355	154	4.223		
	Total	676.840	155			

a. Predictors: (Constant), media trustworthiness rating

b. Dependent variable: Extent to which health impact is known to experts

Table 9. (Continued)

Model		Coefficients ^a				
		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.538	0.594		4.271	0.000
	mean	0.312	0.125	0.198	2.504	0.013

a. Dependent variable: Extent to which health impact is known to experts

Trust in government. A negative and weak association was found between trust in government and knowledge about the incident. This relationship, however, was not significant ($r = -0.080$, $p = 0.154$).

Table 10 lists the correlations between trust in government and the seven risk perception items. The results suggest that trust in government correlated significantly with the perception that potential health problems were known to experts, that the risks can be controlled, and the novelty of the risk. Although significant, these correlations were very weak. Again, the perception that the risk event was novel correlated negatively with trust in government. This time, the relationship was significant (Table 10).

Three simple regression tests were conducted to test whether trust in government indeed caused changes to these three risk perception items. The results (Tables 11 and 12) show that trust in government influenced the perception that experts knew the health threats [$F(1, 154) = 4.139$, $p = 0.044$] and the perceived controllability of the risks [$F(1, 155) = 6.733$, $p = 0.010$]. However, trust in government was not a significant predictor of the perception that the risk event was novel [$F(1, 157) = 3.675$, $p = 0.057$] as shown in Table 13.

A weak and non-significant negative correlation was found between trust in government and risk behavior ($r = 0.059$, $p = 0.228$).

Table 10. Correlation between trust in government and the seven risk perception items

	N	Trust in government (N=157)	
		Pearson r	Prob.
1. Risk is acceptable	160	0.128	0.054
2. The malpractice has deleterious effects	159	0.044	0.292
3. Dread factor	160	0.052	0.257
4. Risk can be understood	158	0.020	0.402
5. Experts are aware of this risk	156	0.162	0.022
6. Risk can be controlled	157	0.204	0.005
7. Risk is novel	159	-0.151	0.029

Table 11. Results of a simple regression test showing the influence of trust in government on perceptions that experts are aware of the product tampering risks

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.162 ^a	0.026	0.020	2.070

a. Predictors: (Constant), Government trustworthiness rating

ANOVA^b

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	17.739	1	17.739	4.139	0.044 ^a
	Residual	660.030	154	4.286		
	Total	677.769	155			

a. Predictors: (Constant), Government trustworthiness rating

b. Dependent variable: Extent to which health impact is known to experts

Coefficients^a

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	3.325	0.354		9.385	0.000
	Government trustworthiness rating	0.162	0.080	0.162	2.034	0.044

a. Dependent variable: Extent to which health impact is known to experts

Table 12. Results of a simple regression test showing the influence of trust in government on perceptions that the product tampering risks can be controlled

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.204 ^a	0.042	0.035	1.955

a. Predictors: (Constant), Government trustworthiness rating

ANOVA^b

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	25.725	1	25.725	6.733	0.010 ^a
	Residual	592.249	155	3.821		
	Total	617.975	156			

a. Predictors: (Constant), Government trustworthiness rating

b. Dependent Variable: Extent to which the threat was controllable

Coefficients^a

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	2.245	0.334		6.712	0.000
	Government trustworthiness rating	0.195	0.075	0.204	2.595	0.010

a. Dependent variable: Extent to which the threat was controllable

Table 13. Results of a simple regression test showing no significant influence of trust in government on perceptions that the risk event was novel

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.151 ^a	0.023	0.017	2.059

a. Predictors: (Constant), Government trustworthiness rating

Table 13. (Continued)

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	15.579	1	15.579	3.675	0.057 ^a
	Residual	665.604	157	4.240		
	Total	681.182	158			

a. Predictors: (Constant), Government trustworthiness rating

b. Dependent variable: Extent to which the issue is new

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	5.156	0.351		14.670	0.000
	Government trustworthiness rating	-0.151	0.079	-0.151	-1.917	0.057

a. Dependent variable: Extent to which the issue is new

Trust in interpersonal communication sources (additional analysis). Because interpersonal communication channels were rated most trustworthy, it is pertinent to find out whether the level of trust ascribed to these sources is related to knowledge level, risk perception, and risk behavior.

The results of a series of Pearson correlation tests reveal no significant relationship between trust in interpersonal communication sources and respondents' knowledge about the risk event ($r=0.061$, $p=0.224$).

Trust in interpersonal communication channels was found to be positively associated with the respondents' acceptance of the issue, perceptions of the event's deleterious effects, and the perceived novelty of the risk event (Table 14). The rest of the risk perception items were negatively correlated with trust in interpersonal channels, but only the relationship

between trust in interpersonal communication and the extent to which the respondents perceived the practice as producing deleterious effects was statistically significant (Table 14). As shown in Table 15, a simple regression test conducted to determine whether trust in interpersonal communication influenced perceptions of deleterious effects produced a non-significant result [$F(1, 151)=3.162, p=0.077$].

Trust in interpersonal communication sources also was not significantly related to risk behavior ($r=0.121, p=0.065$).

The findings imply that although interpersonal sources were seen as most trustworthy, it did not exert a significant influence on respondents' knowledge level, risk perception—except for one factor (the perception that the practice produces deleterious effects),—and risk behavior.

Table 14. Correlation between trust in interpersonal communication sources and the seven risk perception items

	N	Trust in interpersonal communication sources (N=157)	
		Pearson r	Prob.
1. Risk is acceptable	160	0.058	0.236
2. The malpractice has deleterious effects	159	0.143	0.039
3. Dread factor	160	-0.009	0.457
4. Risk can be understood	158	-0.002	0.490
5. Experts are aware of this risk	156	-0.002	0.489
6. Risk can be controlled	157	-0.055	0.251
7. Risk is novel	159	0.021	0.397

Table 15. Results of a simple regression test showing the non-significant influence of trust in interpersonal communication sources on perceptions of deleterious risk effects

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.143 ^a	0.021	0.014	1.375

a. Predictors: (Constant), Personal communication

Table 15. (Continued)

		ANOVA ^b				
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	5.980	1	5.980	3.162	0.077 ^a
	Residual	285.563	151	1.891		
	Total	291.542	152			

a. Predictors: (Constant), Personal communication

b. Dependent variable: The product tampering can have deleterious effects

Coefficients^a

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	5.427	0.422		12.875	0.000
	Personal communication	0.151	0.085	0.143	1.778	0.077

a. Dependent variable: The product tampering can have deleterious effects

Media exposure and its influence on trust, knowledge level, risk perception and risk behavior (additional analysis)

The findings so far indicate that although people trust interpersonal communication channels more than the media and government sources, residents still considered the media as their first source of information about breaking events. To what extent did exposure to newspaper reports about the fake Wuchang rice issue influenced their trust in media, the government, and interpersonal communication channels?

Table 16 displays the correlation between newspaper exposure, measured in terms of number of articles read about the issue, and the trustworthiness ratings of the three categories of sources. Exposure to news reports was positively related to the respondents' assessments of the trustworthiness of the media ($r=0.027$), but negatively related to trust in government sources ($r=-0.021$) and interpersonal communication channels (-0.028). Although not

statistically significant, the correlations suggest that the more people read about the issue, the less they trust government sources and interpersonal communication channels.

Table 16. Correlation between newspaper exposure and trust in the three categories of information sources

	N	Newspaper exposure (N=225)	
		Pearson r	Prob.
1. Trust in media	163	0.027	0.369
2. Trust in government	157	-0.021	0.398
3. Trust in interpersonal communication sources	157	-0.028	0.363

Despite the low level of newspaper exposure, the number of articles read was found to be positively related to the respondents' knowledge level ($r=0.287$, $p=0.000$) and risk behavior ($r=0.173$, $p=0.005$), and both relationships were statistically significant (Table 17).

Table 17. Correlation between exposure to newspaper reports and knowledge level and risk behavior

	N	Newspaper exposure (N=225)	
		Pearson r	Prob.
Knowledge level	225	0.287	0.000
Risk behavior	225	0.173	0.005

The results of simple regression tests conducted to determine causal relationships show that newspaper exposure had a significant influence on knowledge level [$F(1, 220) = 19.722$, $p=0.000$] and risk behavior [$F(1, 220) = 6.819$, $p=0.010$]. These findings imply that people learned more from reading the news and that exposure to news items about the issue is associated with performing more protective behaviors. The details of these tests are shown in Tables 18 and 19.

Table 18. Results of a simple regression test showing the influence of newspaper exposure on knowledge level

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.287 ^a	0.082	0.078	1.21634

a. Predictors: (Constant), Number of articles read

ANOVA^b

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	29.252	1	29.252	19.722	0.000 ^a
	Residual	325.487	220	1.479		
	Total	354.739	221			

a. Predictors: (Constant), Number of articles read

b. Dependent variable: Knowledge

Coefficients^a

Model		Unstandardized coefficients		t	Standardized coefficients	Sig.
		B	Std. error		Beta	
1	(Constant)	1.296	0.101	12.875		0.000
	Number of articles read	0.143	0.032	4.447	0.287	0.000

a. Dependent Variable: Knowledge

Table 19. Results of a simple regression test showing the influence of newspaper exposure on risk behavior

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.173 ^a	0.030	0.026	2.23905

a. Predictors: (Constant), Number of articles read

Table 19. (Continued)

		ANOVA ^b				
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	34.185	1	34.185	6.819	0.010 ^a
	Residual	1102.932	220	5.013		
	Total	1137.117	221			

a. Predictors: (Constant), Number of articles read

b. Dependent Variable: Risk behavior

		Coefficients ^a				
		Unstandardized coefficients		Standardized coefficients		
Model		B	Std. error	Beta	t	Sig.
1	(Constant)	3.320	0.185		17.913	0.000
	Number of articles read	0.154	0.059	0.173	2.611	0.010

a. Dependent Variable: Risk behavior

Is exposure to newspaper content associated with risk perception? The results of a series of correlation tests shown on Table 20 show that newspaper exposure was negatively related to the perceived acceptability of the issue, perceived ability to control adverse effects, and the notion that the event was a new experience. However, news exposure had no significant relationship with any of the seven risk perception items.

Table 20. Correlation between exposure to newspaper reports and the seven risk perception items

	N	Newspaper exposure (N=225)	
		Pearson r	Prob.
1. Risk is acceptable	160	-0.055	0.214
2. The malpractice has deleterious effects	159	0.008	0.455
3. Dread factor	160	0.005	0.474
4. Risk can be understood	158	0.099	0.082
5. Experts are aware of this risk	156	0.032	0.325
6. Risk can be controlled	157	-0.046	0.256
7. Risk is novel	159	-0.007	0.462

Summary of results

In summary, despite scant reports about the scandal found in local newspapers, people spoke highly about the local publications' performance in covering the Wuchang rice affair. That they considered the adulteration of Wuchang rice an important issue despite the dismal news reports suggest no evidence to support first-level agenda setting. That is, the salience of the issue in the media agenda did not correlate with the salience of the same topic in the audiences' agenda. This may explain why despite a high awareness level, consumers knew very little about the nature or severity of the threat and generally had very little to say about potential health problems resulting from consuming fake Wuchang rice.

Risk perceptions were high, with the respondents finding the issue highly unacceptable, difficult to understand, and a relatively new experience. They had no expectation that the government can alleviate the risks, but see technical experts as somehow capable of controlling the risks.

The residents performed behaviors that can be done on their own, without government or media assistance.

Trust in media was found to significantly influence perceptions that experts were familiar with the potential health threats, although the relationship was weak. Trust in government was found to have a bearing on the respondents' perception that experts were well aware of the risks, and that the risks can be effectively controlled. Still, the influence of trust in government was not as strong as expected. Trust in media and trust in government were found to have no significant impact on risk knowledge and risk behavior. Although the respondents reserved the highest trust ratings for interpersonal

communication channels, trust in these information sources had nothing to do with knowledge, risk perceptions, and risk behavior.

The negligible newspaper coverage notwithstanding, newspaper exposure had a significant bearing on knowledge level and was found to lead to risk behavior. The number of articles read about the issue in the newspapers, however, had no significant relationship with any of the seven risk perception items.

Chapter 5 CONCLUSIONS

This study aims to determine whether the Xi'an media performed a second-level agenda setting function with respect to the adulterated Wuchang rice incident. That is, the study set out to provide evidence that the newspapers' coverage of this incident helped shaped what people knew about it, their perceptions of risks related to this malpractice, and the actions they performed to help mitigate the risks. To ascertain the role of trust in this context, the study also examined the relationship between trust in risk regulators and trust in the media on the public's cognitions about the issue, their perceptions of risks, and the behaviors they performed to alleviate the threats related to the fake rice issue.

Two methods were employed to gather data for this study. To determine the media agenda and how the media performed in covering this risk topic, a content analysis of the local newspapers was conducted. To determine public agenda and people's evaluations of the way the incident has been handled by the press and by government agencies considered to be the risk regulators, a survey of Xi'an urban residents was conducted. The survey also ascertained people's trust evaluations of the media, the government, and interpersonal communication channels.

The content analysis results show inadequate coverage of the incident (only 53 stories in a span of two months) in the local newspapers, suggesting the low salience of the topic in the media agenda. Local coverage was initiated only after the CCTV expose, suggesting that the local media, especially the newspapers, saw the tainting of Wuchang rice ranked very low in the local media agenda. The survey revealed that people

preferred the media from government and interpersonal channels as the major source of information about the issue. The preference for the media as an information source, however, may be due more to force of habit and the accessibility of these channels.

Although the issue was assigned a low priority in the newspapers' agenda, the respondents appeared satisfied with the media's performance in covering the issue, indicating that the media must be fulfilling some need or gratification not necessarily related to the objective of obtaining information about science- and technology-related topics. While highly aware of the malpractice that received little media attention, the resident-respondents did not show a high level of knowledge regarding the fake rice issue, indicating little understanding of the nature and severity of the perceived threats.

Peoples' responses to psychologically-based items indicate a very high risk perception level. In response to this perceived high risk, they took protective measures that can easily be done on their own, without the assistance of government or the media.

While trust ratings demonstrated no significant impact on knowledge and risk behavior, exposure to newspapers has been found to be a significant contributor to these two dependent variables. Specifically, the more people read newspapers, the more knowledge they gained and the more protective behaviors they performed. Newspaper exposure, however, had little influence on risk perception.

The public's trust ratings of a number of information sources decidedly indicate low levels of trust in government sources. Media sources received moderate trust assessments. Interpersonal communication sources were considered the most trustworthy information channels. However, newspaper exposure had no significant bearing on people's evaluations of the trustworthiness of the three major categories of information

sources (mediated, interpersonal, and government).

The respondents indicated that they somewhat trust the media, which was found to influence the extent to which they see the experts as aware of the potential health threats the product tampering posed. Trust in government was found to have a significant impact on the public's perception that the risks were known to experts and such risks were within their control. Trust in media and trust in government had no bearing on knowledge level and risk behaviors. Trust in interpersonal communication channels, the highest recorded among the three categories of information sources, was not related to knowledge level, risk perception, and risk behavior.

The results indicate that the general public does not trust the government during crisis situations. More importantly, the respondents showed no expectation that the government can help mitigate the risks. The complete distrust of the Xi'an municipal government may help explain the high sense of apathy observed during the personal interviews.

Implications of the findings

It can be inferred from the findings that Xi'an residents were more likely to hear about risk reports from the media and government sources although they trust interpersonal channels more. This may be a result of the accessibility of media sources and a consequence of long-standing information-seeking and information-gathering habits. These may also explain the moderate level of confidence they gave to mediated channels. Xi'an residents did not trust government sources at all, indicating that people think they are always felt to fend for themselves even in instances when there are clear and present dangers to their food supply.

Taylor-Clark et al. (2007) argue that trusted information sources play a key role in providing protective strategies during times of threat and great ambiguity. In this case, the lack of trust exhibited toward government risk regulators clearly amplified perceptions of risks and heightened the public's sense of dread. This high risk perception may have also been compounded by people's low level of knowledge about the issue, suggesting the lack of individual capacity to protect themselves and their families from unknown threats. Consequently, people did not heed government assurances that the danger has passed, and ignored the call to buy Wuchang rice from reputable sources. In fact, Xi'an residents promptly got rid of Wuchang rice bought before learning of the food safety infraction, stopped buying the aromatic rice altogether, and resolved to refrain from buying the rice product even after the newspapers reported that the situation has been resolved. Detecting a lack of concern for their welfare, consumers acted on their own to protect themselves from the perceived deleterious effects of the tampered product.

If trust in the media indeed strengthens the media's public agenda setting function as Miller and Krosnick (2000) posit, the findings of this study suggest that the media had very limited second-level agenda setting effects. The results of the simple regression tests suggests that trust in media had a significant influence only on one risk perception item, the public's assessment that experts were familiar with the potential health threats. Trust in media had no discernible bearing on knowledge about the risk and on risk behaviors. This may be because the minimal coverage of the incident failed to make a dent on people's cognitions of the issue. This assumption was bolstered by the finding that although people were aware of the product tampering practice, this

awareness was rather superficial because they exhibited low knowledge levels about the details of the issue and the attendant risks. It can be said, therefore, that the dismal coverage the issue received from newspapers may have caused the public's lack of sufficient knowledge, high risk perception, and the nature of the protective actions they performed.

The findings imply that in times of crisis, the public still looks to the media for information to help them navigate threatening circumstances, a condition that should be recognized as a fundamental rationale for enhancing the quality of risk reporting. The media also should take advantage of the trust accorded to them by the public. Because competence in handling risk events has the effect of attenuating risk perception, which in turn averts panic in crisis situations, it is incumbent upon the media to considerably heighten its capacity to protect citizens by providing more perspectives in risk reports, updating them on the status of the threat, offering suggestions for action, and enhancing people's sense that they are important partners in solving the problem.

The findings also suggest that the government should prioritize the task of building public trust to upgrade its ability to safeguard the public welfare. A government that is not trusted cannot be successful in communicating and regulating risk.

Limitations of the study

The study had to contend with the survey respondents' hesitance to divulge personal information, including annual household income and residence status, and their obvious hesitance to provide their evaluations of government performance. For example, some refused to rate the trustworthiness of government sources, but rated other information sources without hesitation. Indeed, many were decidedly suspicious of the

interviewers, the study's objectives, or both. In other words, the survey respondents considered the issue too sensitive and may have worried about the repercussions of reporting negative assessments.

For a study that examined multiple variables, the sample size of the survey component was not big enough to detect the influence of trust assessments on the three dependent variables. The generalizability of the results is also severely limited by the nonprobability sample of Xi'an residents interviewed.

Suggestions for future study

Future studies can expand the scope of inquiry by examining crisis situations that do not necessarily involve food safety breaches. Studies that examine crisis issues related to topics that are not too close to people's daily routine may entail different levels of risk perception. This, in turn, may be influenced more by the levels of trust assigned to the media and to the government.

The content analysis part of the study only examined the local newspapers' coverage to determine the media agenda. This could be expanded to include newspapers circulated at the regional and national levels to ascertain differences in coverage quality and sourcing patterns according to ambit of circulation. In this case, it should be noted that the findings cannot be generalized especially to risk scandals with national and international implications. In other words, food safety scandals with ramifications that go beyond regional or national boundaries may produce a higher level of public awareness, perceptions of the event, and media coverage. The influence of other risk information sources, such as television and online news, on knowledge, risk perception, and risk behavior can also be explored in future investigations. This relates to the

possibility of ascertaining audience impact by demographic segments. For example, media observers point out that online sources are becoming more important news channels among younger audiences. These special preferences may result in variations in knowledge, risk perception, and resultant actions.

A one-shot analytical survey design stands the risk of taking a snapshot of audience evaluations only at one point in time. Risk communication strategists will benefit from the results of longitudinal studies that are able to uncover trends in public perceptions over time. Such designs also are able to detect causality and the transient and enduring effects of risk communication efforts and practices.

APPENDIX A

Newspaper Content Analysis Coding Sheet

Variable name	Variable label	Instructions and coding values	Code
ID		Number each news article consecutively	
Coder	Coder's first name	Enter coder's name	
Date	Date of publication	Enter as mm/dd/yy	
Headline	Story headline	Enter the headline as a string variable	
Section	Section where the article appears	1=Front page 2=National 3=Local 4=Economy/finance/business 5=Science/technology 6=Health 7=Gourmet 8=Other	
Agenda	Major frame employed by the story	1=Economic consequences 2=Government actions 3=Industry actions 4=Over reassure 5=Risk 6=Public reactions 7=Existence of the issue 8=Other	
Source1	First source cited	Enter name of person or group. If person, enter position or title and agency affiliation	
Source2	Second source cited	Enter name of person or group. If person, enter position or title and agency affiliation	
Source3	Third source cited	Enter name of person or group. If person, enter position or title and agency affiliation	

APPENDIX B

Survey Questionnaire

Part I. Media use habits

1. Where do you get information about scientific issues and topics? (*Please select all that applies.*)

- (1) newspapers
- (2) television
- (3) radio
- (4) online sources
- (5) friends
- (6) family
- (7) neighbors
- (8) people of authority (e.g., government personnel, elected officials)

2. How often do you read newspapers? (*Please choose only one answer.*)

- (1) Everyday
- (2) Every two or three days
- (3) Once a week
- (4) I never read newspapers

3. What newspapers do you read on a regular basis? *Please list the newspapers below.*

_____	_____
_____	_____
_____	_____
_____	_____

4. When you are reading a newspaper, what sections do you read most often? (*Please select all that applies.*)

- (1) National news
- (2) International news
- (3) Local news
- (4) Entertainment
- (5) Sports
- (6) Health
- (7) Others

5. To what extent do you think the following information channels are trustworthy sources of information about science and risk issues in general? Please indicate your evaluation on a scale of 1 to 7 where 1 is “distrust totally” and 7 is “trust fully.”

	Distrust totally 1	Trust fully 7
a. Newspapers	_____	_____
b. Television	_____	_____
c. Radio	_____	_____
d. Online news	_____	_____
e. Government officials and reports	_____	_____
f. Friends	_____	_____
g. Family members	_____	_____
h. Neighbors,	_____	_____

Part II. Attitudes toward media's coverage of the fake Wuchang rice issue

6. Have you heard about the fake Wuchang rice incident?

(1) Yes

(2) No

7. How did you learn about this issue? *(Please select all that applies.)*

(1) Newspapers

(2) Television

(3) Radio

(4) Online news

(5) Governmental reports

(6) Friends

(7) Family members

(8) Neighbors

(9) Others

8. About how many stories about the topic have you read? _____ stories

9. To what extent do you think the newspapers did a good job of informing you about the fake rice topic? On a scale of 1 to 7 where 1 is bad and 7 is good, where do you position yourself on each of these items?

a. The papers provided information about the existence of the risk issue.

Extremely bad

Extremely good

1

7

____:____:____:____:____:____:____

b. The papers provided information about how to protect myself from potential risks.

Extremely bad Extremely good

1 7

_____ : _____ : _____ : _____ : _____ : _____ : _____

c. The papers provided information about what the government is doing to protect the public.

Extremely bad Extremely good

1 7

_____ : _____ : _____ : _____ : _____ : _____ : _____

d. In general, the papers were highly informative about this particular risk event.

Extremely bad Extremely good

1 7

_____ : _____ : _____ : _____ : _____ : _____ : _____

Part III. Perception of risk

Knowledge. For each of the items below, please choose only one answer.

10. Have you heard about the fake Wuchang rice issue in Xi'an?

(1) Yes

(2) No

11. Do you know what type of flavoring was added to the product?

(1) Yes

(2) No

12. Do you know what health problems this type of rice could cause?

(1) Yes

(2) No

13. Do you know how to distinguish between the fake Wuchang rice from the authentic Wuchang rice?

(1) Yes

(2) No

Risk perception. For each of the items below, please choose only one answer.

14. To what extent do you find this issue acceptable?

Unacceptable	Acceptable
1	7
_____ : _____ : _____ : _____ : _____ : _____ : _____	

15. Do you think this issue will have deleterious effects?

Will have no effect at all	Will have serious negative effects
1	7
_____ : _____ : _____ : _____ : _____ : _____ : _____	

16. To what extent do you find this issue dreadful?

Not dreadful at all	Highly dreadful
1	7
_____ : _____ : _____ : _____ : _____ : _____ : _____	

17. To what extent do you understand this issue?

Do not understand at all	Completely understand
1	7
_____ : _____ : _____ : _____ : _____ : _____ : _____	

18. To what extent do you think the health effects of eating fake Wuchang rice are known to experts?

25. Have you suggested to the government ways by which the culprits should be punished?

(1) Yes

(2) No

26. Have you suggested to the government ways by which the rice industry can be regulated to prevent these practices?

(1) Yes

(2) No

27. Did you complain to the media about these malpractices?

(1) Yes

(2) No

28. Did you suggest to the media ways by which they can improve their performance in reporting risks?

(1) Yes

(2) No

29. What else did you do to protect you and your family from threats like this? Please list the procedures.

Part IV. Demographic information

30. Are you a permanent Xi'an resident?

(1) Yes

(2) No

31. How many years have you been living in Xi'an? _____ years

32. In general, how would you describe the job you hold now?

33. What is the highest formal education you have completed?

(1) Less than high school graduate

(1) High school graduate

(2) Vocational school/ technical school/ junior college

(3) Undergraduate education

(4) Graduate education and higher

34. What was your age on your last birthday? _____ years

35. What is your gender?

(1) Male

(2) Female

36. How much total income after taxes did your household earn in 2010? Please estimate the combined income for all household members from all sources.

(1) Less than ¥ 50,000

(2) ¥ 50,000 to ¥ 99,999

(3) ¥ 100,000 to 149,999

(4) ¥ 150,000 to ¥ 199,999

(5) ¥ 200,000 to ¥ 249,999

(6) ¥ 250,000 to ¥ 300,000

(7) More than ¥ 300,000

(8) Do not know.

APPENDIX C.

Survey Code Book

Question No.	Variable name	Variable label	Values	Missing values
	id	Respondent id number		9999
1	scimed	Source of information about scientific issues and topics	1=newspapers 2=television 3=radio 4=online sources 5=friend 6=family 7=neighbors 8=people of authority	9
2	read	Frequency of reading newspapers	1=everyday 2=every two to three days 3=once a week 4=never	9
3	title	Newspapers read	Enter newspapers' name	
4	section	Newspaper section read most often	1=national news 2=international news 3=local news 4=entertainment 5=sports 6=health 7=others	9
5a	papertr	Newspaper trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9
5b	TVtr	Television trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9

5c	radiotr	Radio trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9
5d	onlinetr	Online sources trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9
5e	govtr	Government officials and reports trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9
5f	friendtr	Friends trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	9
5g	famtr	Family trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	99
5h	neightr	Neighbors trustworthiness rating	1=completely distrust 2=distrust 3=almost distrust 4=neutral 5=almost trust 6=trust 7=completely trust	99
6	heard	Heard about the fake Wuchang rice issue	1=yes 0=no	9

7	ricemed	Learned about the fake rice issue through what medium	1=newspaper 2=television 3=radio 4=online news 5=government officials and reports 6=friends 7=families members 8=neighbors 9=others	99
8	stories	How many stories about the topic have been read	Enter the number of stories read	99
9a	risk	To what extent the papers provided information about the existence of risk	1= extremely bad 2=bad 3=almost bad 4=neutral 5=almost well 6=well 7= extremely well	9
9b	protect	To what extent the papers provided information about how to protect self	1= extremely bad 2=bad 3=almost bad 4=neutral 5=almost well 6=well 7= extremely well	9
9c	govact	To what extent the papers provided information about what the government is doing to protect the public	1= extremely bad 2=bad 3=almost bad 4=neutral 5=almost well 6=well 7= extremely well	9
9d	ricerisk	To what extent papers were informative about this particular risk event	1= extremely bad 2=bad 3=almost bad 4=neutral 5=almost well 6=well 7= extremely well	9
10	Xi'an	Have you heard about the fake Wuchang rice issue in Xi'an	1=yes 0=no	
11	flavor	Knowledge about the type of flavoring added	1=yes 0=no	9

12	health	Knowledge of health problems the product tampering could cause	1=yes 0=no	9
13	fakereal	Know how to distinguish between fake and authentic Wuchang rice	1=yes 0=no	9
14	accept	Extent to which product tampering is acceptable	1=completely unacceptable 2=unacceptable 3=somewhat unacceptable 4=neutral 5=somewhat acceptable 6=acceptable 7=completely acceptable	9
15	badeff	The product tampering can have deleterious effects	1=no serious effect at all 2=have slight negative effects 3=have moderate negative effects 4=neutral 5=have some serious effects 6=have serious effects 7=completely deleterious	9
16	dread	Extent to which the issue is considered dreadful	1=not dreadful at all 2=undreadful 3=somewhat undreadful 4=neutral 5=somewhat dreadful 7=completely dreadful	9
17	understd	Extent to which issue is understood	1=completely do not understood 2=do not understood 3=almost do not understood 4=neutral 5=almost understood	9

			6=understood 7=completely understand	
18	expert	Extent to which health impact is known to experts	1=completely not known to experts 2=unknown to experts 3=somewhat unknown to experts 4=neutral 5=somewhat known to experts 6=known to experts 7=completely known to experts	9
19	control	Extent to which the threat was controllable	1=completely uncontrollable 2=uncontrollable 3=somewhat uncontrollable 4=neutral 5=somewhat controllable 6=controllable 7=completely controllable	9
20	new	Extent to which the issue is new	1=not new at all 2=old 3=almost old 4=neutral 5=almost new 6=new 7=completely new	9
21	nobuy	Stopped buying Wuchang rice	1=yes 0=no	9
22	comgov	Complained to the government about the rice issue	1=yes 0=no	9
23	gotrid	Got rid of any Wuchang rice at home	1=yes 0=no	9
24	prevent	Will this incident prevent you from buying Wuchang rice in the future	1=yes 0=no	9

25	punish	Suggested to the government ways by which the culprits should be punished	1=yes 0=no	9
26	regulate	Suggested to the government ways by which the rice industry can be regulated to prevent these practices	1=yes 0=no	9
27	commed	Complained to the media about these malpractices	1=yes 0=no	9
28	improve	Suggested to the media ways by which they can improve their performance in reporting risks	1=yes 0=no	9
29	wayspro	What else did you do to protect you and your family from threats like this	Enter specific ways	
30	resident	Xi'an resident	1=yes 0=no	9
31	years	Years living in Xi'an	Enter number of years	99
32	job	Job	Enter specific job	
33	educ	Highest formal education completed	1=less than high school 2=high school graduate 3=vocational school/technical school/junior college 4=undergraduate degree 5=graduate education and higher	9
34	age	Age on last birthday	Enter age	99
35	gender	Gender	0=male 1=female	9
36	income	Total household income after taxes in 2010	1=less than ¥ 50,000 2= ¥ 50,000-99,999 3= ¥ 100,000-149,999	9

			4= ¥ 150,000-199,999 5= ¥ 200,000-249,999 6= ¥ 250,000-300,000 7=More than ¥ 300,000 8=Do not know	
--	--	--	--	--

APPENDIX D.

Approval of the Institutional Review Board

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 1/13/2012

To: Jing Li
3414 Orion Dr, Unit 240
Ames, IA 50010

CC: Dr. Lulu Rodriguez
214 Hamilton Hall

From: Office for Responsible Research

Title: The Media, The Government, Public Perception, and Attitude Toward Fake High-quality Wuchang Rice

IRB ID: 11-603

Study Review Date: 1/12/2012

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

IRB ID: 11-603

INSTITUTIONAL REVIEW BOARD (IRB)
Application for Approval of Research Involving Humans

RECEIVED

Title of Project: The media, the government, public perception and attitude toward fake high-quality Wuchang rice **DEC 15 2011**

Principal Investigator (PI): Jing Li		Degrees: M. Sc.	By IRB
University ID: 358679321	Phone: 515-708-2102	Email Address: jing19@iastate.edu	
Correspondence Address: 3414 Orion Dr., Unit 240			
Department: Greenlee School of Journalism and Communication		College/Center/Institute: Liberal Arts and Sciences	
PI Level: <input type="checkbox"/> Tenured, Tenure-Eligible, & NTER Faculty <input type="checkbox"/> Adjunct/Affiliate Faculty <input type="checkbox"/> Collaborator Faculty <input type="checkbox"/> Emeritus Faculty <input type="checkbox"/> Visiting Faculty/Scientist <input type="checkbox"/> Senior Lecturer/Clinician <input type="checkbox"/> Lecturer/Clinician, Ph.D. or DVM <input type="checkbox"/> P&S Employee, P37 & above <input type="checkbox"/> Extension to Families/Youth Specialist <input type="checkbox"/> Field Specialist III <input type="checkbox"/> Postdoctoral Associate <input checked="" type="checkbox"/> Graduate/Undergrad Student <input type="checkbox"/> Other (specify:)			

FOR STUDENT PROJECTS (Required when the principal investigator is a student)			
Name of Major Professor/Supervising Faculty: Lulu Rodriguez			
University ID:	Phone: 294-0484	Email Address: lulurod@iastate.edu	
Campus Address: 214 Hamilton Hall		Department: Greenlee School of Journalism and Communication	
Type of Project (check all that apply): <input checked="" type="checkbox"/> Thesis/Dissertation <input type="checkbox"/> Class Project <input type="checkbox"/> Other (specify:)			
Alternate Contact Person: Lulu Rodriguez		Email Address: lulurod@iastate.edu	
Correspondence Address: 214 Hamilton Hall		Phone: 294-0484	

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
- I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
- I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
- I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
- I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.

Jing Li 12/14/2011
 Signature of Principal Investigator Date

Lulu Rodriguez 12/14/2011
 Signature of Major Professor/Supervising Faculty Date
 (Required when the principal investigator is a student)

- I have reviewed this application and determined that departmental requirements are met, the investigator(s) has/have adequate resources to conduct the research, and the research design is scientifically sound and has scientific merit.

Michael [Signature]
 Signature of Department Chair Date

For IRB Use Only	Full Committee Review:	<input type="checkbox"/>	Review Date: January 12, 2012
	EXPEDITED per 45 CFR 46.110(b):	Category Letter	Approval/Determination Date: January 12, 2012
Approval Not Required:	<input type="checkbox"/>		Approval Expiration Date: N/A
Not Research:	<input type="checkbox"/>	EXEMPT per 45 CFR 46.101(b): 2	
No Human Subjects:	<input type="checkbox"/>	Not Approved:	<input type="checkbox"/>
		Risk: Minimal <input checked="" type="checkbox"/>	More than Minimal <input type="checkbox"/>

Office for Responsible Research
 Revised: 08/30/11

1

IRB Reviewer's Signature

*Mate Wood***Research Involving Humans Study Information**

Please provide answers to all questions, except as specified. Incomplete forms will be returned without review.

Part A: Key Personnel

List all members and relevant qualifications of the project personnel. Key personnel includes the principal investigator, co-principal investigators, supervising faculty member, and any other individuals who will have contact with the participants or the participants' data (e.g., interviewers, transcribers, coders, etc.). This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project. For more information, please see Human Subjects - Persons Required to Obtain IRB Training.

NAME	Interpersonal contact or communication with subjects, or access to private identifiable data?	Involved in the consent process?	Contact with human blood, specimens, or other biohazardous materials?	Other Roles in Research	Qualifications (i.e., special training, degrees, certifications, coursework, etc.)	Human Subjects Training Date
✓ Jing Li	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PI	Master's	5/1/2011
✓ Lulu Rodriguez	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Adviser	Ph.D.	3/11/2003
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Please complete additional pages of key personnel as necessary.

Part B: Funding Information

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	1. Is the project federally funded? If Yes , please provide the complete name(s) of the source(s); please do not use acronyms. Please attach a complete copy of the federal grant proposal from which the study is funded.

Part C: General Overview

2. Study Objectives – Briefly explain in language understandable to a layperson the purpose and specific aim(s) of the study.
This study examines the relationship between the media, the government, and the public by analyzing how these three actors interacted in the wake of fake high-quality Wuchang rice scandal in Xi'an, China.

3. Benefits to Society and Participants – Explain in language understandable to a layperson how the information gained in this study will advance knowledge, and/or serve the good of society.
The findings will be useful to media organizations and practitioners as they strive to determine content likely to improve their credibility among the audiences they purport to serve. Government agencies may find a way to conduct better risk management during crisis situations by enhancing public cooperation and goodwill. The results are also expected to inform other food safety-related communication efforts by predicting public reaction to a wide array of food safety concerns.
4. Describe the direct benefits to research participants; if there are no direct benefits to participants, indicate that. Note: Monetary compensation cannot be considered a benefit to participants.
There are no direct benefits to the survey respondents.

Part D: Anticipated Enrollment

Estimated number of participants to be enrolled in the study Total: 1,008 Males: Females:	
Check below if you intend to include persons from the following groups: <input type="checkbox"/> Minors (Under 18) Age Range of Minors: <input type="checkbox"/> Pregnant Women/Fetuses <input type="checkbox"/> Cognitively Impaired <input type="checkbox"/> Prisoners	Check below if this project includes: <input checked="" type="checkbox"/> Adults, non-students <input type="checkbox"/> Minor ISU students <input type="checkbox"/> ISU students 18 and older <input type="checkbox"/> Other (explain)

Office for Responsible Research
Revised: 08/30/11

3

List estimated percent of the anticipated enrollment that will be minorities <i>if known</i> :	
American Indian:	Alaskan Native:
Asian or Pacific Islander: 100%	Black or African American:
Latino or Hispanic:	

Part E: Participant Selection and Recruitment

Please use additional space as necessary to adequately answer each question.

5. Explain the procedures and rationale for selecting participants, including the inclusion and exclusion criteria (e.g., where will names come from, what persons will be included or excluded and why, etc.).

Only those who are at least 18 years old will be qualified to participate. The research will be conducted in Xi'an, Shaanxi Province, China, where the fake high-quality Wuchang rice scandal happened. An urban district, Weiyang, was selected randomly from Xi'an's nine districts and four counties as the study site from which a random sample of respondents will be drawn. Weiyang is composed of 27 communities from which 1,008 households will be randomly chosen. This sample will not include basement households because the majority of those who live in these places are immigrant workers who are not registered as permanent residents of Xi'an.

6. Describe the procedures for contacting participants (e.g., letter, email, flyer, advertisements, phone call, etc.). Attach copies of any letters, scripts, flyers, or advertisements that will be used.

An simple oral invitation will be used to recruit participants in person. It includes a brief explanation of the study and its objectives. If asked, they will be shown them the questionnaire that will be used during the personal interviews.

An example of the oral invitation is presented below:

Hello,

I am a graduate student from the Greenlee School of Journalism and Communication at Iowa State University. I am conducting this study as part of my master's thesis the aim of which is to determine the relationship among media, government, and public perception and attitude toward the Wuchang rice scandal that recently occurred in Xi'an.

I estimate that this interview will take no more than 20 minutes. I am seeking your permission to interview you for this study because your participation should be completely voluntary. You need to be at least 18 years old to be interviewed for this study. If, during the interview, some of these questions make you feel uncomfortable, you may choose not to answer them. There is no penalty for not participating or for not responding to any questions.

Your responses will be kept confidential at all times. In other words, you will never be identified as the source of any answer. The results of this effort will be used only for research purposes, and the findings will be reported only in the aggregate.

There are no known risks associated with this study that are greater than those ordinary encountered in daily life. There may be no direct benefits to you as a result of your participation. The findings are expected to enhance the scholarly literature we have so far regarding people's perceptions of media, government and the risk management conducted by risk regulators. The study also aims to understand people's attitude toward the

media and the government during crisis situations.

If you have any questions about this study, I could answer them right now, during the interview, or after the interview. Please contact Jing Li at jing19@iastate.edu. (email), 13991321938 (Chinese mobile phone) and 515-708-2102 (American mobile phone). If you have questions about the rights of research subjects or research-related injury, please contact the Iowa State University IRB administrator, IRB@iastate.edu, 1-515-294-4566.

Thank you very much and thanks for your time.

Part F: Research Plan

Include sufficient detail for IRB review of this project independent of any other documents.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	7. Does this project involve using existing data or records? If Yes, describe the data/records in the Research Plan, question 9.
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	8. Does this project involve secondary analysis? If Yes, describe the source of the data in the Research Plan, question 9.

9. **Research Plan** – The information needed here is similar to that in the “methods” or “procedures” sections of a research proposal—it should describe the flow of events that will occur during your interactions with subjects. Please describe in detail your plans for collecting data from participants, including all procedures, tasks, or interventions participants will be asked to complete during the research (e.g., random assignment, any conditions or treatment groups into which participants will be divided, mail survey or interview procedures, sensors to be worn, amount of blood drawn, etc.). This information is intended to inform the committee of the procedures used in the study and their potential risk. Please do not respond with “see attached” or “not applicable.”

An urban district, Weiyang, was selected randomly from Xi'an's nine districts and four counties as the study site from which, 1,008 households will be randomly chosen. The sample will not include basement households because the majority of those who live in these places are immigrant workers who are not registered as permanent residents of Xi'an. Potential participants will be invited orally to take part in the interviews.

A structured questionnaire will be used as the measuring instrument. It is composed of four parts: (1) the respondents' media use habits; (2) attitude toward the media's coverage of Wuchang rice issue; (3) their perceptions of risk related to this event; and (4) demographic information.

The data will be analyzed using SPSS v. 18.

10. For studies involving deception or where information is intentionally withheld from participants, such as the full purpose of the study, please explain how persons will be deceived or what information will be withheld. Additionally, a waiver of the applicable elements of consent will be needed. Please complete the Waiver of Elements of Consent form. If this question is not applicable, please type N/A in the response cell.

This study does not involve deception. Neither will information be withheld in this study.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	11. Does your project require the use of a health care provider's records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone's treatment record (electronic or paper) during the study, you must complete and submit the Application for Use of Protected Health Information .
------------------------------	--	--

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	12. Does this project involve an investigational new drug (IND)? Number:
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	13. Does this project involve an investigational device exemption (IDE)? Number:
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	14. Does this project involve DEXA/CT scans or X-rays?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	15. Does this project involve pathology or diagnostic specimens? If Yes , indicate whether specimens will be collected prospectively and/or already exist "on the shelf" at the time of submission of this review form. If prospective, describe specimen procurement procedures, indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the participant's identity. If this question is not applicable, please type N/A in the response cell.
------------------------------	--	--

Part G: Consent Process

A copy of any translated informed consent documents and an English version should be submitted with the application. Provide the name of the individual who translated the consent documents and their qualifications for translating consent documents below.

If the consent process does not include documented (signed) consent, please request a [Waiver of Documentation of Consent](#). If any information about the study is intentionally withheld or misleading (i.e., deception is used), a [Waiver of Elements of Consent](#) must be requested. Links to the forms for requesting waivers are also available at the IRB website.

16. Describe the consent process for adult participants (those who are age 18 and older). Include information about who will obtain consent from participants; how/when consent will be obtained in relation to actual data gathering; whether someone other than the subject will provide consent (e.g., a legally authorized representative); etc.
The researcher will issue an oral invitation to potential interviewees. They will be told that their participation in the study should be completely voluntary. They will be assured that their responses will be kept confidential, and that they may refuse to participate or suspend the interview at any time. Their agreement to participate in the interviews is a tacit indication that they understand the objectives of the study, and their rights as study participants.

17. If your study involves minor children, please explain how parental consent will be obtained prior to enrollment of the minor(s).

N/A

18. Please explain how assent will be obtained from minors (younger than 18 years of age) prior to their enrollment. Also, please explain if the assent process will be documented (e.g., a simplified version of the consent form, combined with the parental informed consent document). According to the federal regulations assent "...means a child's affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

N/A

Part H: Data Analysis

19. Describe how the data will be analyzed (e.g., statistical methodology, statistical evaluation, statistical measures used to evaluate results).

Two graduate student will be trained to code the interview responses. Data will be analyzed using a standard statistical software package, SPSS v. 18.

Part I: Risks

The concept of risk goes beyond physical risk and includes risks to participants' dignity and self-respect as well as psychological, emotional, legal, social or financial risks.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	20. Is the probability of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	21. Is the magnitude of the harm or discomfort greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

22. Describe any foreseeable risks or discomforts to the participants and how they will be minimized and precautions taken. **Do not respond with N/A.** If you believe that there will not be risk or discomfort to participants, you must explain why.

There is no foreseeable risk to respondents who will be asked their perceptions and attitudes toward the fake high-quality Wuchang rice scandal in Xi'an in personal interviews.*

Office for Responsible Research* PI indicated that as this incident occurred more than a year ago, it is no longer considered a high priority in the media or on the government agenda. Additionally, as participants are not individually identified, responses will be kept confidential, and interviews are conducted at participants' homes, there is little to no risk of civil liability, or damage to their reputation and/or employability. (For PI Email 1/3/2012, p.6)

23. If this study involves vulnerable populations, including minors, pregnant women, prisoners, the cognitively impaired, or those educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

N/A

Part J: Compensation

Yes No 24. Will participants receive compensation (including course credit/extra credit) for their participation? If **Yes**, please describe compensation plans below.

Note: Do not make the payment an inducement—only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (For example, volunteers will receive \$5.00 for each of the five visits in the study or a total of \$25.00 if they complete the study. If a participant withdraws from participation, he/she will receive \$5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

Every participant will receive a small gift that costs less than 5 RMB.

Part K: Confidentiality

25. Describe below the methods that will be used to ensure the confidentiality of data obtained. For example, describe who will have access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data or specimens will be retained, what (if any) identifiers will be retained, etc.

Only the principal investigator and the major professor will be able to see and analyze data that will be gathered. The dataset will be stored in the Greenlee School's secure server. Data entry and analysis will be conducted in the School's Graduate Hub, which can be accessed only by graduate students and faculty. The Greenlee School server is password-protected. The database will be retained for three years after which it, together with identifiers, will be deleted and destroyed.

Part L: Registry Projects

Yes No 26. Does this project establish a registry? If **Yes**, please provide the registry name below.

Note: To be considered a registry: (1) the individuals must have a common condition or demonstrate common responses to questions; (2) the individuals in the registry

might be contacted in the future; and (3) the names/data of the individuals in the registry might be used by investigators other than the one maintaining the registry.

Checklist for Attachments

Listed below are the types of documents that should be submitted for IRB review. Please check **and attach** the documents that are applicable for your study:

- Federal grant application (only for federally funded research)
- A copy of the informed consent document or letter of introduction containing the elements of consent
- A copy of the forms requesting waivers of elements of consent or documentation of consent, where applicable
- A copy of the assent form if minors will be enrolled
- Data-gathering instruments (including surveys)
- Recruitment fliers, phone scripts, or any other documents or materials participants will see or hear

The original signed copy of the application form and one set of accompanying materials should be submitted for review.

ENVIRONMENTAL HEALTH AND SAFETY INFORMATION

PART M: HUMAN CELL LINES

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Does this project involve human cell or tissue cultures (primary OR immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is Yes, please answer question A below and attach copies of the documentation.
---	--

A. Please list the specific cell lines/strains to be used, their source and description of use.

CELL LINE	SOURCE	DESCRIPTION OF USE

B. Please refer to the ISU <i>Bloodborne Pathogens Manual</i> , which contains the requirements of the OSHA Bloodborne Pathogens Standard. Please list the specific precautions to be followed for this project below (e.g., retractable needles used for blood draws):

Anyone working with human cell lines/strains that have not been documented to be free of bloodborne pathogens is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual.

PART N: HUMAN BLOOD COMPONENTS, BODY FLUIDS OR TISSUES

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Does this project involve human blood components, body fluids or tissues? If Yes, please answer all of the questions in the "Human Blood Components, Body Fluids or Tissues" section.
---	--

A. Please list the specific human substances used, their source, amount and description of use.

SUBSTANCE	SOURCE	AMOUNT	DESCRIPTION OF USE
<i>E.g., Blood</i>	<i>Normal healthy volunteers</i>	<i>2 ml</i>	<i>Approximate quantity, assays to be done.</i>

B. Please refer to the ISU <i>Bloodborne Pathogens Manual</i> , which contains the requirements of the OSHA Bloodborne Pathogens Standard. Specific sections to be followed for this project are:



Anyone working with human blood components, body fluids or tissues is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual.

Survey Questionnaire

Part I Media use habits

1. Where do you get information about scientific issues and topics? *(Please select all that applies.)*

- (1) newspapers
- (2) television
- (3) radio
- (4) online sources
- (5) friends
- (6) family
- (7) neighbors
- (8) people of authority (e.g., government personnel, elected officials)

2. How often do you read newspapers? *(Please choose only one answer.)*

- (1) Everyday
- (2) Every two or three days
- (3) Once a week
- (4) I never read newspapers

3. What newspapers do you read on a regular basis? *Please list the newspapers below.*

_____	_____
_____	_____
_____	_____
_____	_____

4. When you are reading a newspaper, what sections do you read most often? *(Please select all that applies.)*

- (1) National news
- (2) International news
- (3) Local news
- (4) Entertainment
- (5) Sports
- (6) Health
- (7) Others

5. To what extent do you think the following information channels are trustworthy sources of information about science and risk issues in general? Please indicate your evaluation on a scale of 1 to 7 where 1 is “distrust totally” and 7 is “trust fully.”

	Distrust totally 1	Trust fully 7
a. Newspapers	_____	_____
b. Television	_____	_____
c. Radio	_____	_____
d. Online news	_____	_____
e. Government officials and reports	_____	_____
f. Friends	_____	_____
g. Family members	_____	_____
h. Neighbors,	_____	_____

6. To what extent do you think the following information channels are experts in scientific and risk issues in general? Please indicate your evaluation on a scale of 1 to 7

where 1 is “not an expert at all” and 7 is “highly expert.”

	No expertise 1	High expertise 7
a. Newspapers	_____	_____
b. Television	_____	_____
c. Radio	_____	_____
d. Online news	_____	_____
e. Government officials and reports	_____	_____
f. Friends	_____	_____
g. Family members	_____	_____
h. Neighbors	_____	_____

Part II. Attitudes toward media’s coverage of the fake Wuchang rice issue

7. Have you heard about the fake Wuchang rice incident?

(1) Yes

(2) No

8. How did you learn about this issue? *(Please select all that applies.)*

(1) Newspapers

(2) Television

(3) Radio

(4) Online news

(5) Governmental reports

(6) Friends

(7) Family members

(8) Neighbors

(9) Others

9. About how many stories about the topic have you read? _____ stories

10. To what extent do you think the newspapers did a good job of informing you about the fake rice topic? On a scale of 1 to 7 where 1 is bad and 7 is good, where do you position yourself on each of these items?

a. The papers provided information about the existence of the risk issue.

Bad Good
1 7

b. The papers provided information about how to protect myself from potential risks.

Bad Good
1 7

c. The papers provided information about what the government is doing to protect the public.

Bad Good
1 7

d. In general, the papers were highly informative about this particular risk event.

Bad Good
1 7

Part III Perception of risk

Knowledge. For each of the items below, please choose only one answer.

11. Have you heard about the fake Wuchang rice issue in Xi'an?

(1) Yes

(2) No

12. Do you know what type of flavoring was added to the product?

(1) Yes

(2) No

13. Do you know what health problems this type of rice could cause?

(1) Yes

(2) No

14. Do you know how to distinguish between fake Wuchang rice from authentic Wuchang rice?

(1) Yes

(2) No

Attitude. For each of the items below, please choose only one answer.

15. To what extent do you find this issue acceptable?

Unacceptable	Acceptable
1	7
_____ : _____ : _____ : _____ : _____ : _____	

16. Do you think this issue will have deleterious effects?

Will have no effect at all	Will have serious negative effects
1	7
_____ : _____ : _____ : _____ : _____	

17. To what extent do you find this issue dreadful?

Not dreadful at all	Highly dreadful
1	7
_____ : _____ : _____ : _____ : _____	

25. Will this incident prevent you from buying Wuchang rice in the future?

(1) Yes

(2) No

26. Have you suggested to the government ways by which the culprits should be punished?

(1) Yes

(2) No

27. Have you suggested to the government ways by which the rice industry can be regulated to prevent these practices?

(1) Yes

(2) No

28. Did you complain to the media about these malpractices?

(1) Yes

(2) No

29. Did you suggest to the media ways by which they can improve their performance in reporting risks?

(1) Yes

(2) No

30. What else did you do to protect you and your family from threats like this? Please list the procedures.

Part IV/ Demographic information

31. Are you a permanent Xi'an resident?

(1) Yes

(2) No

32. How many years have you been living in Xi'an? _____ years

33. In general, how would you describe the job you hold now?

34. What is the highest formal education you have completed?

(1) Less than high school graduate

(1) High school graduate

(2) Vocational school/ technical school/ junior college

(3) Undergraduate education

(4) Graduate education and higher

35. What was your age on your last birthday? _____ years

36. What is your gender?

(1) Male

(2) Female

37. How much total income after taxes did your household earn in 2010? Please estimate

the combined income for all household members from all sources.

(1) Less than ¥ 50,000

(2) ¥ 50,000 to ¥ 99,999

(3) ¥ 100,000 to 149,999

(4) ¥150,000 to ¥199,999

(5) ¥200,000 to ¥249,999

(6) ¥250,000 to ¥300,000

(7) More than ¥300,000

(8) Do not know.

问卷调查

第一部分 媒体使用习惯

1. 您从哪种渠道获取关于科学事件的信息的？（请选择您所有的答案）

- (1) 报纸
- (2) 电视
- (3) 广播
- (4) 网上
- (5) 朋友
- (6) 家人
- (7) 邻居
- (8) 权威人士（例如，政府工作人员，官员）

2. 您阅读报纸的频率为何？（请只选择一个答案）

- (1) 每天
- (2) 每两到三天
- (3) 每周一次
- (4) 我从来不读报纸

3. 您经常阅读哪些报纸？请写出报纸的名称。

_____	_____
_____	_____
_____	_____
_____	_____

4. 当您阅读报纸时，哪个版面您会经常关注？（请选择您所有的答案）

- (1) 国内新闻
- (2) 国际新闻
- (3) 本埠新闻
- (4) 娱乐
- (5) 体育
- (6) 健康
- (7) 其他

5. 在多大程度上您认为以下信息来源在科学以及含有危险因素的事件当中的报道中更为可信。请标注出您的评估指数，从1至7代表“完全不相信”到“完全相信”。

	完全不相信								完全相信
	1								7
a. 报纸	_____	:	_____	:	_____	:	_____	:	_____
b. 电视	_____	:	_____	:	_____	:	_____	:	_____
c. 广播	_____	:	_____	:	_____	:	_____	:	_____
d. 网上新闻	_____	:	_____	:	_____	:	_____	:	_____

e. 政府官员及报告 _____

f. 朋友 _____

g. 家庭成员 _____

h. 邻居 _____

6. 在多大程度上您认为以下信息来源在科学以及含有危险因素的事件当中的报道中更具权威。请标注出您的评估指数，从1至7代表“完全不权威”到“完全权威”。

完全不权威 完全权威
1 7

a. 报纸 _____

b. 电视 _____

c. 广播 _____

d. 网上新闻 _____

e. 政府官员及报告 _____

f. 朋友 _____

g. 家庭成员 _____

h. 邻居 _____

第二部分 对于媒体报道五常“香精”大米，您对媒体的态度如何

7. 您听说过五常掺假大米的事情吗？

- (1) 是
(2) 否

8. 您是从哪种渠道听说这件事情的？（请选择您所有的答案）

- (1) 报纸
(2) 电视
(3) 广播
(4) 网上新闻
(5) 政府报告
(6) 朋友
(7) 家庭成员
(8) 邻居
(9) 其他

9. 您大概阅读过多少篇有关五常“香精”大米的新闻报道？ _____ 篇

10. 对于五常“香精”大米的新闻报道，您认为报纸是否起到了很好的宣传通知的作用？从1至7代表由坏至好，对于每一个问题请您将您对每一个问题的评价填写在不同的横线上。

a. 报纸提供了关于食品安全事件存在性的报道。

坏 好
1 7

b. 报纸向读者提供了如何保护自己远离潜在食品安全危机的信息。

坏 好
1 7

c. 报纸向读者提供了政府如何保护民众的信息。

坏 好
1 7

d. 从总体上讲，报纸对于五常“香精”大米的事件做到了提供大量的信息。

坏 好
1 7

第三部分 对于危险的看法

知识 以下问题，请只选择一个答案

11. 您听说过西安的五常“香精”大米事件吗？

- (1) 是
(2) 否

12. 您知道添加的哪种香精吗？

- (1) 是
(2) 否

13. 您知道这样添加香精的大米会引起何种健康问题吗？

- (1) 是
(2) 否

14. 您知道该如何区分添加香精的五常大米和真正的五常大米吗？

- (1) 是
(2) 否

态度 以下问题，请只选择一个答案

15. 您认为这件事情是否可以接受？

可以接受 不可以接受
1 7

16. 您认为该事件会产生不利的的影响吗？

完全不会有影响 会有严重的负面影响
1 7

17. 您在何种程度上认为该事件很可怕？

- 不可怕 非常可怕
1 7
: : : : : : : :
18. 您在何种程度上理解该事件?
完全不理解 完全理解
1 7
: : : : : : : :
19. 您认为专家在何种程度上知道食用香精大米对人体健康的影响?
完全不了解 完全了解
1 7
: : : : : : : :
20. 您认为政府在何种程度上控制了此次事件的发展?
无法控制 完全掌控
1 7
: : : : : : : :
21. 对于您来说大米污染事件是否是件过去完全没有接触过的事情?
完全没有接触 接触过
1 7
: : : : : : : :

行为习惯 以下问题，请只选择一个答案

22. 您是否拒绝过购买五常大米?
(1) 是
(2) 否
23. 您是否向政府抱怨过五常“香精”大米事件?
(1) 是
(2) 否
24. 当您得知五常“香精”大米事件之后，若您家还有剩余的无常大米，您是否扔掉了您家里所剩的五常大米?
(1) 是
(2) 否
25. 该事件会导致您在将来选择不购买五常大米吗?
(1) 是
(2) 否
26. 您是否向政府建议过应当惩罚哪些不法商贩或者团伙?
(1) 是
(2) 否
27. 您是否向政府建议过应当如何调控大米市场以防止此类事件再次发生?
(1) 是
(2) 否
28. 您是否向媒体抱怨过这类不法行为?
(1) 是
(2) 否
29. 您是否向媒体建议过他们应当提高他们报道此类事件当中的表现?

- (1) 是
(2) 否

30. 您还采取什么措施来保护您和您的家人远离此类的威胁？请列出您所有的措施。

_____	_____
_____	_____
_____	_____
_____	_____

第四部分 受访者基本信息

31. 您是西安市永久居民吗？

- (1) 是
(2) 否

32. 您在西安已经居住了多少年了？_____年

33. 您如何描述您现在的工作？_____

34. 您的最高学历为何？

- (1) 低于高中文化水平
(2) 高中毕业
(3) 职业学校/技校/职业学院
(4) 本科毕业
(5) 硕士学历或更高

35. 您的年龄。_____岁

36. 您的性别是什么？

- (1) 男
(2) 女

37. 您整个家庭在2010年税后的年收入为何？请将您家里所有成员的所有来源的收入相加。

- (1) 少于 50000 元
(2) 50000 元至 99999 元
(3) 100000 元至 149999 元
(4) 150000 元至 199999 元
(5) 200000 元至 249999 元
(6) 250000 元至 300000 元
(7) 多于 300000 元
(8) 不清楚

REFERENCES

Advertising Offer. (n.d.). Introduction to *Huashang* newspaper. Retrieved from http://www.ggbjw.com/baojia/201101/13233_30.html

Anderson, W. A. (2000). The future relationship between the media, the food industry and the consumer. *British Medical Bulletin*, 56(1), 254-268.

Asia Rooms. (n.d.). Xi'an's population. Retrieved from <http://www.asiarooms.com/en/travel-guide/china/xian/xian-overview/xian-population.html>.

Bai, L., Ma, C., Gong, S., & Yang, Y. (2007). Food safety assurance systems in China. *Food Control*, 18(5), 480-484.

Bakir, V. (2006). Policy agenda setting and risk communication: Greenpeace, Shell, and issues of trust. *The International Journal of Press/Politics*, 11(3), 67-88.

Benton, M., & Frazier, P. J. (1976). The agenda setting function of the mass media at three levels of information holding. *Communication Research*, 3(3), 261-274.

Brimer, L. (2004). Chemical food safety, public awareness and risk communication. *British Food Journal*, 106(1), 23-37.

Brom, F. W. A. (2002). Weten en Eten, een verkenning vanuit de ethiek van kennisvragen opgeroepen door nieuwe ontwikkelingen op voedselgebied (On knowledge and food, an ethical exploration of questions raised by recent developments in the food sector). Utrecht, Germany: Centrum voor Bio-ethiek en Gezondheidsrecht.

Century Chinese International Media Consultation Inc. (2011). General rankings of Xi'an newspapers for the second half in 2011. Retrieved from <http://www.chinesebk.com/shuju/doushi/xian/201112/15472.html>.

Chang, S. H. (2009). The influence of media frames on the public's perception of biofuels. Unpublished master's thesis, Iowa State University, Ames, IA.

China Daily. (2010, July 14). The sour smell of scented rice. Retrieved from http://www2.chinadaily.com.cn/cndy/2010-07/14/content_10102476.htm.

Chinese Rice Net. (2010). "Tribute rice": Authentic Wuchang rice shows in spring festival goods exhibition. Retrieved from <http://www.dami.cn/dami/2011/012/201101200902445475.html>.

Chongqing Morning News. (2011). Seventy percent say they do not feel safe about Chinese food. Retrieved from <http://news.163.com/11/0102/02/6PC333BQ0001124J.html>.

Cohen, B.C. (1963). *The press and foreign policy*. Princeton, NJ: Princeton University Press.

Coleman, C. L. (1993). The influence of mass media and interpersonal communication on societal and personal risk judgments. *Communication Research*, 20(4), 611-628.

Cook, F. L., Tyler, T. R., Goetz, E. G., Gordon, M. T., Proress, D., Leff, D. R., & Molotch, H. L. (1983). Media and agenda setting: Effects on the public, interest group leaders, policy makers, and policy. *The Public Opinion Quarterly*, 47(1), 16-35.

Eveland Jr., W. P., McLeod, J. M., & Horowitz, E. M. (1998). Communication and age in childhood political socialization: An interactive model of political development. *Journalism and Mass Communication Quarterly*, 75(4), 699-718.

Fischhoff, B., Slovic, P., Lichtenstein, S., Read, S., & Combs, B. (1978). How safe is safe enough? A psychometric study of attitudes toward technological risks and benefits. *Policy Sciences*, 9, 127-152.

Fleming, K., Thorson, E., & Zhang, Y. (2006). Going beyond exposure to local news media: An information-processing examination of public perception of food safety. *Journal of Health Communication, 11*(8), 789-806.

Food and Agriculture Organization (FAO). (2003). *Expert consultation on food safety: Science and ethics*. Rome, Italy: FAO.

Food and Agriculture Organization/World Health Organization (FAO/WHO). (1998). *Report of the joint FAO/WHO expert consultation on the application of risk communication to food standards and safety matters*. Geneva, Switzerland: WHO.

Food Business. (2012, April 16). Rice wholesale price. Retrieved from <http://www.21food.cn/news/price.jsp?category=%C1%B8%D3%CD%CB%C7%C1%CF&product=%B4%F3%C3%D7>

Food Standards Agency (FSA). (2001). *Strategic plan 2001–2006: Putting consumers first*. London: FSA.

Food Standards Agency. (n.d.). Sudan dye. Retrieved from <http://www.eatwell.gov.uk/healthissues/factsbehindissues/sudandyes/#elem231155>.

Frewer, L. J. (2003). Trust, transparency, and social context: Implications for social amplification of risk. In N. Pidgeon, R. E. Kasperson & P. Slovic (Eds.), *The social amplification of risk* (pp. 123-137). New York, NY: Cambridge University Press.

General Office, People's Government of Xi'an Municipality. (2010a). The general situation of Xi'an City. Retrieved from http://www.xa.gov.cn/zwgk/content/content_zwzy1570421_1.htm.

General Office, People's Government of Xi'an Municipality. (2010b). The population of Xi'an. Retrieved from http://www.xa.gov.cn/zwgk/content/content_zwzy1402761_1.htm.

Heilongjiang.dbw.cn. (2008). Why Wuchang rice tastes better. Retrieved from <http://heilongjiang.dbw.cn/system/2008/05/29/051292788.shtml>.

Hollis, M. (1998). *Trust within reason*. Cambridge, England: Cambridge University Press.

Huashang Net. (n.d.). About us. Retrieved from <http://biz.hsw.cn/gywm/index.shtml>.

Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Goble, R., Kasperson, J. X., & Ratick, S. (1988). The social amplification of risk: A conceptual framework. *Risk Analysis*, 8(2), 177-187.

Kerlinger, N. F. (1973). *Foundations of behavioral research*. New York: Holt, Rinehart and Winston.

Kim, R. B. (2009). Meeting consumer concerns for food safety in South Korea: The importance of food safety and ethics in a globalizing market. *Journal of Agricultural and Environmental Ethics*, 22, 141-152.

Li, J. (2010). The impact of media and public perceptions of fake high-quality rice in China. Unpublished graduate paper, Iowa State University, Ames, IA.

Maga, J. A. (1995). Types of food additives. In J. A. Maga & A. T. Tu (Eds.), *Types of food additives* (pp. 1-9). New York, NY: Marcel Dekker Inc.

McCombs, M. (2002). The agenda setting role of the mass media in the shaping of public opinion. Retrieved from http://www.infoamerica.org/documentos_pdf/mccombs01.pdf .

McCombs, M. (2004). *Setting the agenda: The mass media and public opinion*. Malden, MA: Polity Press.

McCombs, E. M., & Shaw, D. L. (1972). The agenda setting function of mass media.

Public Opinion Quarterly, 36(2), 176-187.

McQuail, D., & Windahl, S. (1993). *Communication Models*. London: Longman.

Meijboom, F. L. B., Visak, T., & Brom, F. W. A. (2006). From trust to trustworthiness: Why information is not enough in the food sector. *Journal of Agricultural and Environmental Ethics*, 19, 427-442.

Miller, J. M., & Krosnick, J. A. (2000). News media impact on the ingredients of presidential evaluations. *American Journal of Political Science*, 44, 301-315.

Poppe, C., & Kjaernes, U. (2003). *Trust in food in Europe: A comparative study. Professional Report No. 5*. Oslo, Norway: The Swedish Institute for Opinion Surveys (SIFO).

Qing Daily. (n.d.). *Qing Daily: A brief introduction*. Retrieved from <http://www.sanqindaily.com/Info/About.Asp>.

Rodriguez, L. (2007). Impact of risk communication on the acceptance of irradiated food. *Science Communication*, 28(4), 476-500.

Rogers, E. M., & Dearing, J. W. (1988). Agenda-setting research: Where has it been, where is it going? In J. A. Anderson (Ed.), *Communication yearbook 11* (pp. 555-594). Newbury Park, CA: Sage.

Romano, D. (2005). Food risk communication and consumers' trust in the food supply chain. TRUST QLK1-CT-2002-02343, 2nd Progress Report – R2, Florence. Retrieved from http://www.trust.unifi.it/Y2_TRUST_Report_R8.pdf.

Savadori, L., Savio, S., Nicotra, E., Rumiati, R., Finucane, M., & Slovic, P. (2004). Expert and public perception of risk from biotechnology. *Risk Analysis*, 24(5), 1,289-1,299.

Slovic, P. (1987). Perception of risk. *Science*, 236(4799), 280-285.

- Slovic, P. (1992). Public perceptions of risk. *Risk Management*, 39(3), 54-58.
- Slovic, P. (1993). Perceived risk, trust, and democracy. *Risk Analysis*, 13(6), 675-682.
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1982). Why study risk perception? *Risk Analysis*, 2(2), 83-93.
- Soubao. (2011). The top three newspapers in terms of circulation in Shaanxi. Retrieved from <http://www.soubaoad.com/purchase/recommend/40184.shtml>.
- Swaine Jr., R. L. (1995). Flavoring agents. In J. A. Maga & A. T. Tu (Eds.), *Types of food additives* (pp. 269-378). New York, NY: Marcel Dekker, Inc.
- Tanaka, K. (2008). Seven samurai to protect “our” food: The reform of the food safety regulatory system in Japan after the BSE crisis of 2001. *Agriculture and Human Values*, 25, 567-580.
- Taylor-Clark, K., Koh, H., & Viswanath, K. (2007). Perceptions of environmental health risks and communication barriers among low-SEP and racial/ethnic minority communities. *Journal of Health Care for the Poor and Underserved*, 18(4), 165-183.
- Tencent News. (2012). The highest price of Wuchang rice in Heilongjiang reaches 199 yuan/ jin, whereas the peasants only sold them for 2 yuan/jin. Retrieved from <http://news.qq.com/a/20120103/000043.htm>
- Tonghua Xijiang Rice Industry. (n.d.). Heliongjiang Wuchang punishes local rice industry. Retrieved from <http://www.21food.cn/news/price.jsp?category=%C1%B8%D3%CD%CB%C7%C1%CF&product=%B4%F3%C3%D7>
- The Weiyang District Government. (n.d.). Community information. Retrieved from <http://www.weiyang.gov.cn/zwgk/sqxxgk/index.shtml>.

Winter, J. P., & Eyal, C. H. (1981). Agenda setting for the civil rights issue. *Public Opinion Quarterly*, 45(3), 376-383.

Xi'an Evening Post. (n.d.). *Xi'an Evening Post: A brief introduction*. Retrieved from http://www.xiancn.com/quality/ind_wb.html.

Xi'an Statistics. (n.d.). Xi'an general situation. Retrieved from <http://www.xatj.gov.cn/xagl/sort01/1.html>.

Wimmer, R. D., & Dominick, J. R. (2006). *Mass media research: An introduction*. Belmont, CA: Thomson-Wadsworth.

Zhang, X. (2005). Chinese consumers' concerns about food safety. *Journal of International Food & Agribusiness Marketing*, 17(1), 57-69.

Zhengwu 30 fen. (2010, July 16). Shenzhen, China. Retrieved from <http://www.s1979.com/a/news/china/2010/0716/51494.shtml>.