

DIFFERENCES IN GERMAN CONSUMER CONCERNS OVER SUGGESTED HEALTH AND FOOD HAZARDS

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Introduction

Security belongs to the basic needs of human beings, but there is no life without risk. Coping with hazards of external origins, including ingestion of foods, is part of biological adaptation. Humans have quite an ability to create and to control risks; this includes the cognitive possibilities to predict real and imaginary future hazards.

The observed increase of longevity in the population of industrialised countries can be considered as an indication of overall success in risk prevention. However, these developments do not coincide with increased feelings of security; rather, in contrast, there is some evidence that felt health hazards are increasing. Within the last few decades, in the opinion of the German public, food related health hazards have increased considerably.

Food and nutrition experts state that there are excellent standards of food quality. They rank faulty food handling and poor eating habits as the main hazards. In contrast, the public fears "chemicals in foods" most (Ames et al 1987, Diehl 1992, Lee 1989). Despite convincing factual evidence on the low risk of observed levels of food contamination, many mass media reports on these issues create feelings of insecurity regarding eating foods.

In order to obtain up-to-date information on suggested health and food hazards, a national survey was conducted in November 1992 in reunified Germany. Since in the former two different German countries, different political systems and societies have influenced health and food hazards (both factual and fictitious), the actual perceived situation in these two parts requires careful comparison.

This survey belongs to a recently started research program which is intended to observe and to evaluate nutrition information given to the German public by different agencies (e.g., governmental health authorities) and media (e.g., newspapers, journals and TV). For this purpose, some investigations will be done longitudinally, e.g., parts of this survey will be repeated annually.

Method

A representative sample of respondents over 14 years of age from both parts of German ($n = 2500$; 2000 in the former "Federal Republic of Germany"—West Germany, 500 in the former "German Democratic Republic"—East Germany) was gained by a random route method. Personal interviews were carried out by interviewers from a commercial marketing company (GFM-GETAS, Hamburg). A study-specific questionnaire was included as part of an "Omnibus-Survey." There were two lists for ranking 10 health hazards and 14

food and nutrition hazards. Coding and basic statistics were done by GFM-GETAS; raw data were given to our institute for further evaluation of the data.

Ranking of Health Hazards

The results indicate important regional differences in the ranking of the hazards (Table 1). There were more perceived threats within the West German sample than among the East Germans' responses (3.6 health risks vs. 2.8).

Table 1. Responses of German consumers (over 14 years, $n = 2000$ in West Germany, $n = 500$ in East Germany; November/December 1992; in percent) on the following question: "Questions of health are frequently discussed in the media and on television. What do you feel is a special danger to your health? (present list)"

Health Hazard	West Germany	East Germany
Radioactivity	64	32
Air	50	43
Traffic	42	46
Cigarettes	38	40
Food/beverages	33	10
Climate	31	24
Pharmaceuticals	29	20
Job-related stress	28	26
Noise	24	19
Water	22	13

Among West Germans, the major perceived health hazard was radioactivity (indicated by 64%), followed by air pollution and traffic hazards. Food hazards ranked fifth. For the East Germans, traffic hazards ranked first. Radioactivity ranked fourth, and food was a concern for only 10% (rank 10; Table 1). The East Germans ranked all the hazards less, except traffic and smoking (this seems rather realistic).

In West Germany there were major regional differences. The areas with the highest concerns were Hesse and Rhineland-Palatinate (4.2 health hazards in general, and all individual hazards; e.g., food hazard indicated by 40% compared to the average of 28%) and Bavaria (e.g., food hazard indicated by 44%).

People in urban areas ranked the health hazards more highly than those living in rural areas (3.8 vs. 3.1 health hazards).

Men and women ranked the health hazards similarly, though women appear to have been a bit more concerned about individual hazards. (They nominated a mean of 3.5 health hazards compared to 3.3 for men.) They feared traffic hazards more (48% vs. 37%), but job-related stress less (23% vs. 32%).

Younger people were more concerned about "radioactivity," "cigarettes," "climate" and "job-related stress" than older people; generally, they were more con-

cerned than older people (3.6 hazards vs. 3.2 hazards). "Noise" was of slightly more concern for older people, however.

People in higher income groups tended to be more concerned than those in low income groups (3.6 hazards vs. 3.1). Only "noise" showed an opposite trend. Civil servants had the highest concerns (3.7 health hazards); manual workers were least concerned (3.3 health hazards). "Water" was the only hazard which manual workers were more concerned about than civil servants (20% vs. 16%).

In West Germany, the perceived health hazards decreased between 1990 and 1992 (Table 2). The major risks remained rather stable, although many people gained more confidence about water supplies. In contrast, concerns about job-related stress and pharmaceuticals increased slightly.

Table 2. Comparison in responses of West German consumers in 1990 (GFM-GETAS-Panel 1990) and 1992 (over 14 years, n = 2000; in percent) on the following question: "Questions of health are frequently discussed in the media and on television. What do you feel is a special danger to your health? (present list)"

Health Hazard	1992	1990
Radioactivity	64	69
Air	50	68
Traffic	42	49
Cigarettes	38	43
Food/beverages	33	37
Climate	31	29
Pharmaceuticals	29	14
Job-related stress	28	15
Noise	24	29
Water	22	40

Ranking of Food Hazards

The most concerns about suggested food hazards in West Germany were related to food contamination (e.g., pesticides—52%). Perhaps because of mass media reports on salmonellosis outbreaks, microbiological concerns were also highly ranked (e.g., spoiled food—47%, Table 3). East Germans ranked the microbiological issues as most important (46%), followed by "chemicals in food" (pesticides—33%).

Again, the East Germans had fewer concerns (3.1 vs. 3.8 in West Germany), and their ranking of food risks seems closer to those of the experts.

With regard to regional differences, Hesse and Rhineland-Palatinate did not appear to differ from the rest of the country in their views of the food hazards, except for their higher rankings of "pesticide/insecticides." However, Bavarians' mean rankings of the food hazards were much higher than the average (4.5 vs. 3.6 hazards).

Again, people living in big cities were more concerned about food hazards than those in rural areas (4.0 vs. 3.3 hazards). The main differences between

Table 3. Responses of German consumers (over 14 years, n = 2000 in West Germany, n = 500 in East Germany; November/December 1992; in percent) on the following question: "There are also many news items pointing at certain risks related to food quality and nutrition. What do you feel is quite a risk for the people in our country? (present list)"

Food Hazard	West Germany	East Germany
Residues of pesticides and insecticides in food	52	33
Spoilt food	47	46
Mycotoxins	45	44
Residues of veterinary drugs and of hormones	45	22
Irradiated food	38	24
Food additives	29	31
Cholesterol	23	24
Genetically changed food	18	7
Eating too much/unbalanced ("wrong food habits")	18	19
Alcohol	16	25
Unprocessed, raw food	16	13
Natural toxins	15	11
Biotechnically changed food	11	6

these groups were related to industrial food processes, e.g., "pesticides/insecticides" (61% vs. 36%), "veterinary drugs/hormones" (47% vs. 26%), and "genetically changed foods" (21% vs. 10%). The only risks perceived more highly in the rural areas were associated with "natural toxins" and "raw foods."

Women were slightly more concerned than men about food (3.7 vs. 3.5 hazards). However, they were more highly concerned about "spoilt foods" (50% vs. 43% in men).

In general, the influence of age on the perception of food health hazards appeared to be minimal, although younger people had higher concerns regarding "food additives," "pesticides/insecticides" and "genetically/biotechnically changed foods." In contrast, the older segment of the population were relatively more concerned about "spoilt foods," "mycotoxins" and "cholesterol."

The number of perceived food health risks was slightly higher in the higher income groups (3.8 vs. 3.5 items in the lower income groups). High levels of concern were associated with "chemicals in food" and "spoilt foods."

As with the general hazards, civil servants tended to be more concerned about the food hazards than manual workers (4.1 vs. 3.4 hazards). They were particularly concerned about "spoilt foods," "pesticides/insecticides," "natural toxins," "wrong food habits" and "cholesterol," but relatively less concerned about "irradiated foods" (nominated by 30%).

Household composition appeared to be unrelated to both perceptions of health and food and nutrition hazards.

Conclusions

Germans appear to be highly concerned about general health, and food and nutrition hazards. According to health and food experts, the greatest causes for concern are associated with aspects of food hygiene and food habits (Diehl 1992, Lee 1989). Although consumers ranked the hazards posed by "spoilt foods" and "mycotoxins" highly, they ranked "chemicals in foods" more highly, and grossly underrated "wrong food habits." Similar results have been found elsewhere (for example in the USA: Slovic 1987, Schafer et al 1993).

It is interesting to note that East Germans' perceptions were more in line with the views of the experts. This may be related to their exposure to the mass media; before reunification they had been less exposed to the mass media. It will be interesting to see whether this East-West gap is closed in future surveys.

People who can be regarded as better informed (higher income, urban, younger) tended to be more concerned about hazards in ways which were quite different from the experts' views.

These findings suggest that public acceptance of the messages of nutrition programs is unlikely. The segment of the population who can be regarded as opinion leaders does not have sufficient trust in food safety. Scientific information programs alone, even though correct, are unlikely to reduce consumers' concerns about health and food hazards. Those efforts have to be complemented by programs which help to gain consumers' confidence by relating to practical experiences of household food handling.

The traditional practical experiences and capabilities of handling perishable food along the whole food chain (from planting to harvesting, storing, processing and preparing) is disappearing in modern societies.

They are being replaced by theoretical, specialised and disintegrated information about food. Modern humans know foods more by reading (external cognitive information) than through their own senses (direct, internal, experiential information). Perhaps as a result, they often create horrific scenarios out of pieces of puzzling food information. Confidence about their capabilities to control hazards is probably best gained through holistic, practical experience of handling foods.

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