Consumer acceptance of genetically modified food products in Europe

Professor Klaus G. Grunert
MAPP, The Aarhus School of Business

MAPP

- Centre for Market Surveillance, Research and Strategy for the Food Sector
- Funded by both public money and industry
- Research on GMO acceptance funded by European Union and Nordic Industrial Council

Background

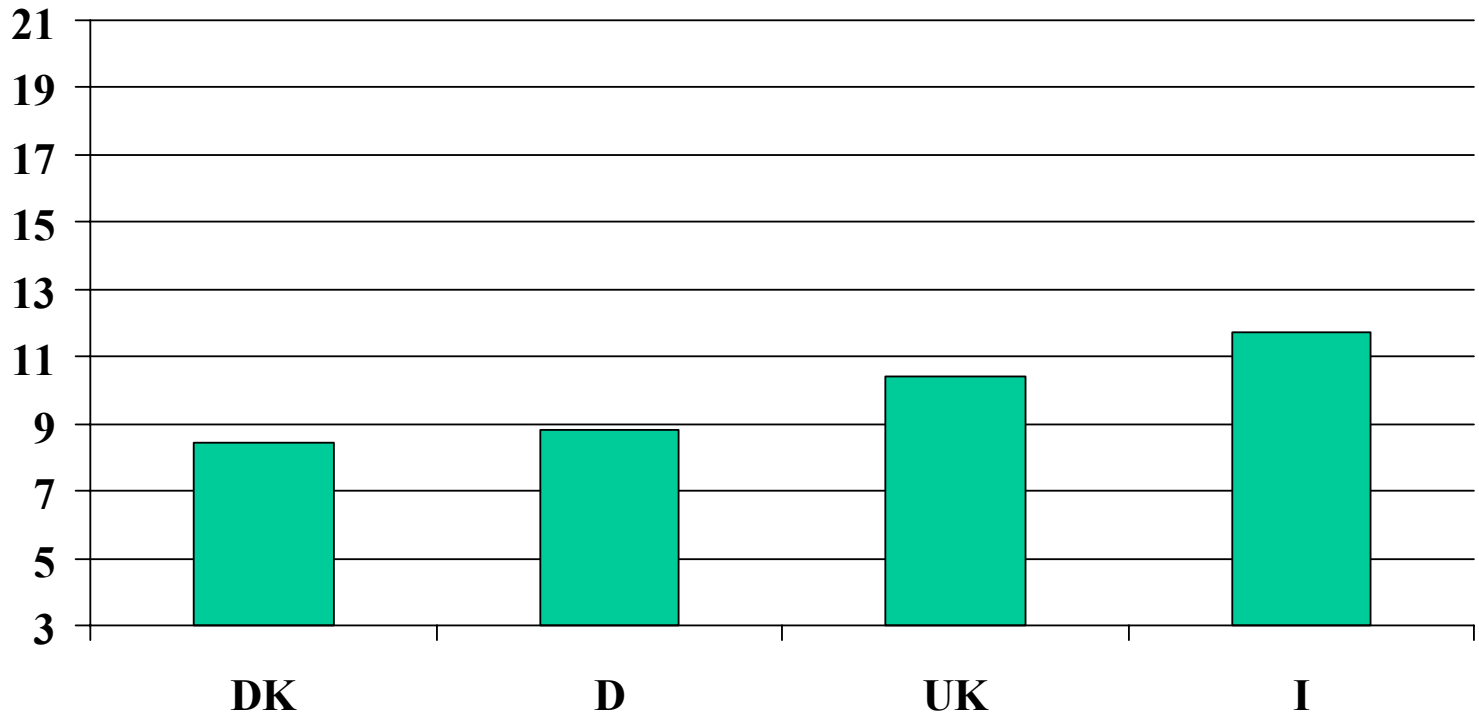
- Enthusiasm about possibilities of GMO applications in industry and among scientists
- Considerable public debate
- Alertness on the retailer side
- Considerable scepticism on the consumer side

Four questions

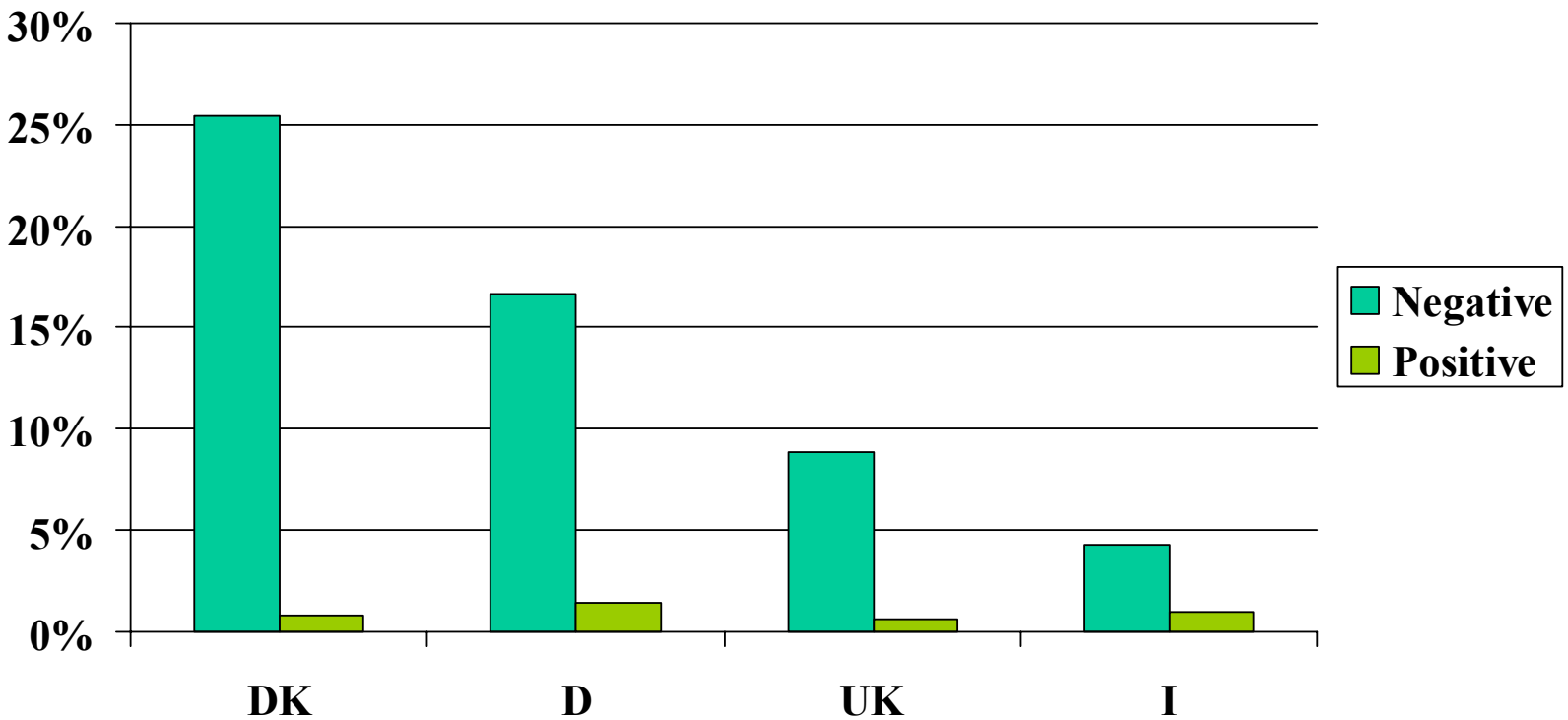
- How negative are consumer attitudes to GMO applications in food?
- How much do these attitudes affect product evaluation and purchase behaviour?
- How deeply rooted are these attitudes?
- Can the attitudes be changed by more information?

Attitudes to genetic modification in food production

(min. 3; max. 21)



Extreme attitudes



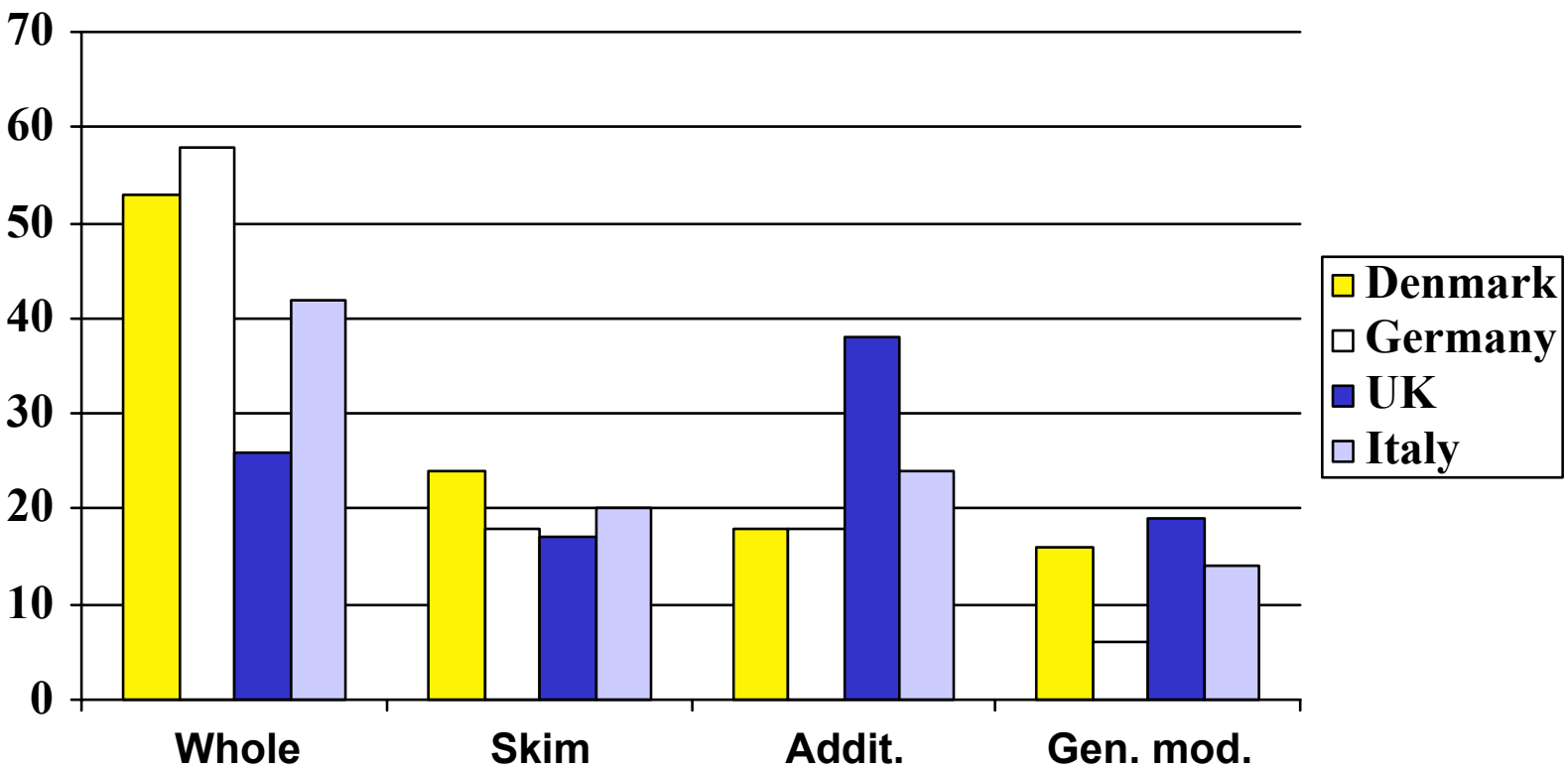
How negative are consumer attitudes to GMO applications in food?

- Attitudes are quite negative
- There are differences between countries
- There are differences according to the type of GMO application
- Attitudes are more positive to application in, e.g., medicine

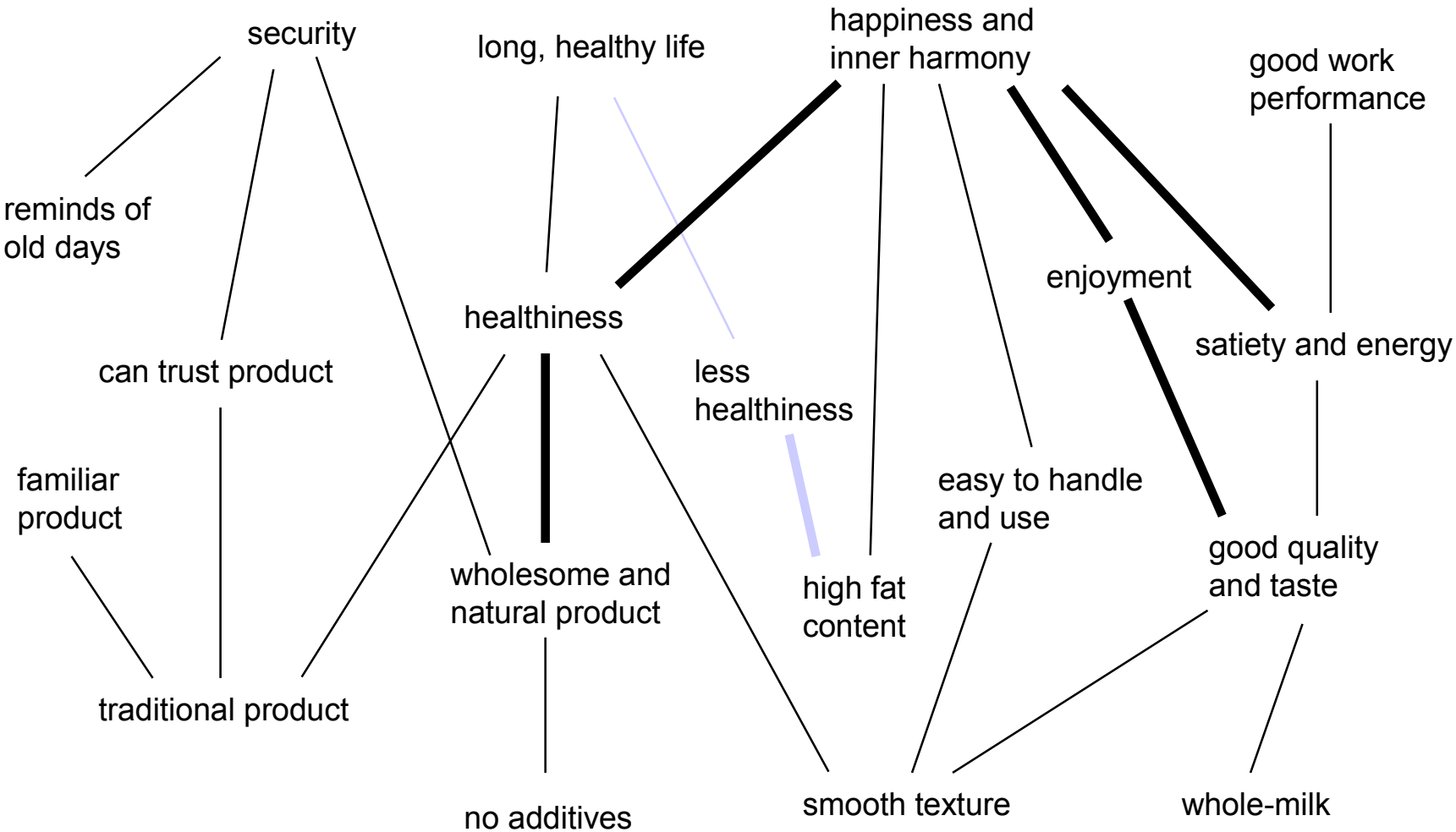
Product examples - yoghurt

Acronym	Fat content	Production method	Additives	Texture
'Whole'				

Most preferred yoghurt



Whole-milk yoghurt - Denmark



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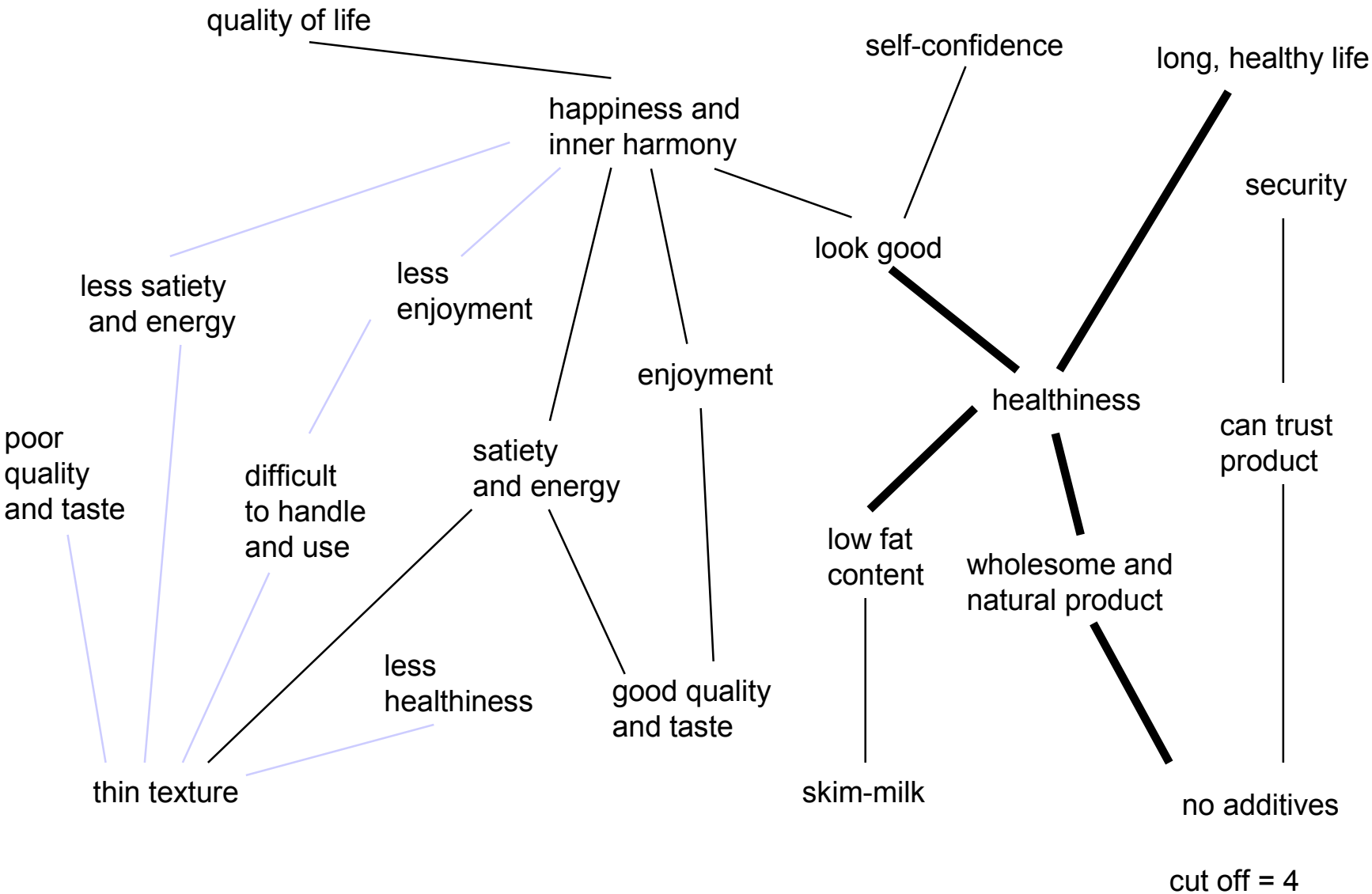
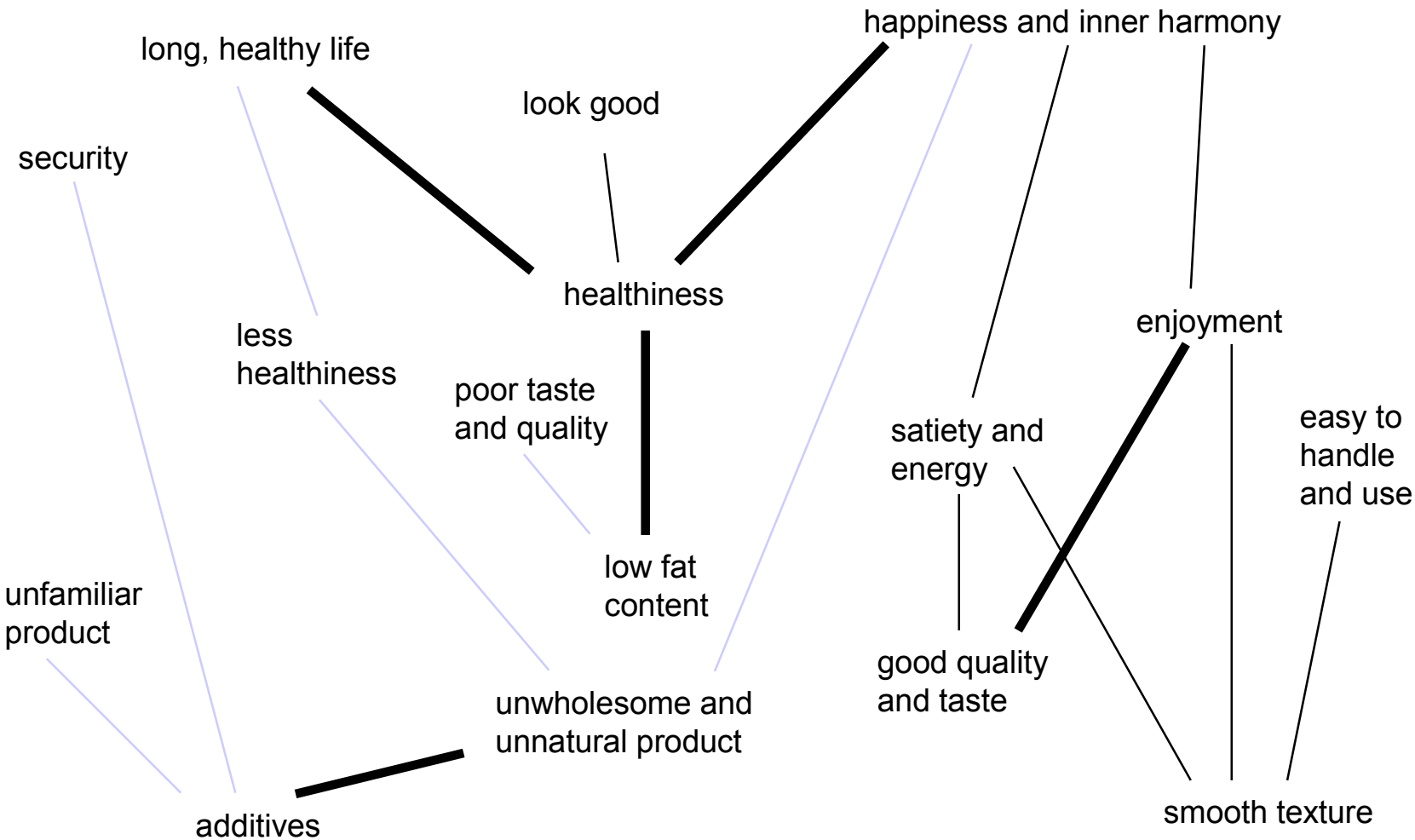
Skim-milk yoghurt - Denmark



Yoghurt with additives - Denmark



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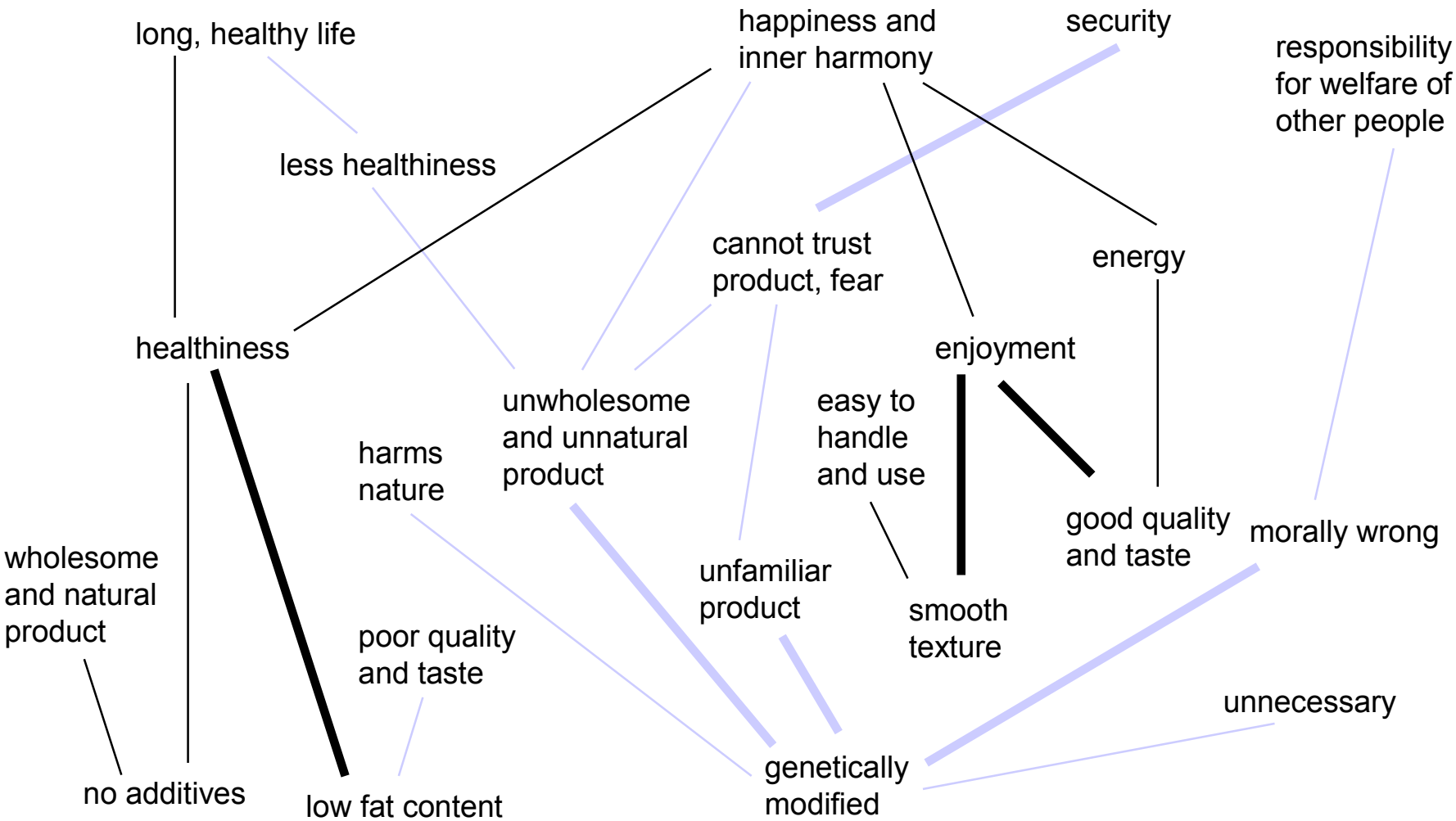
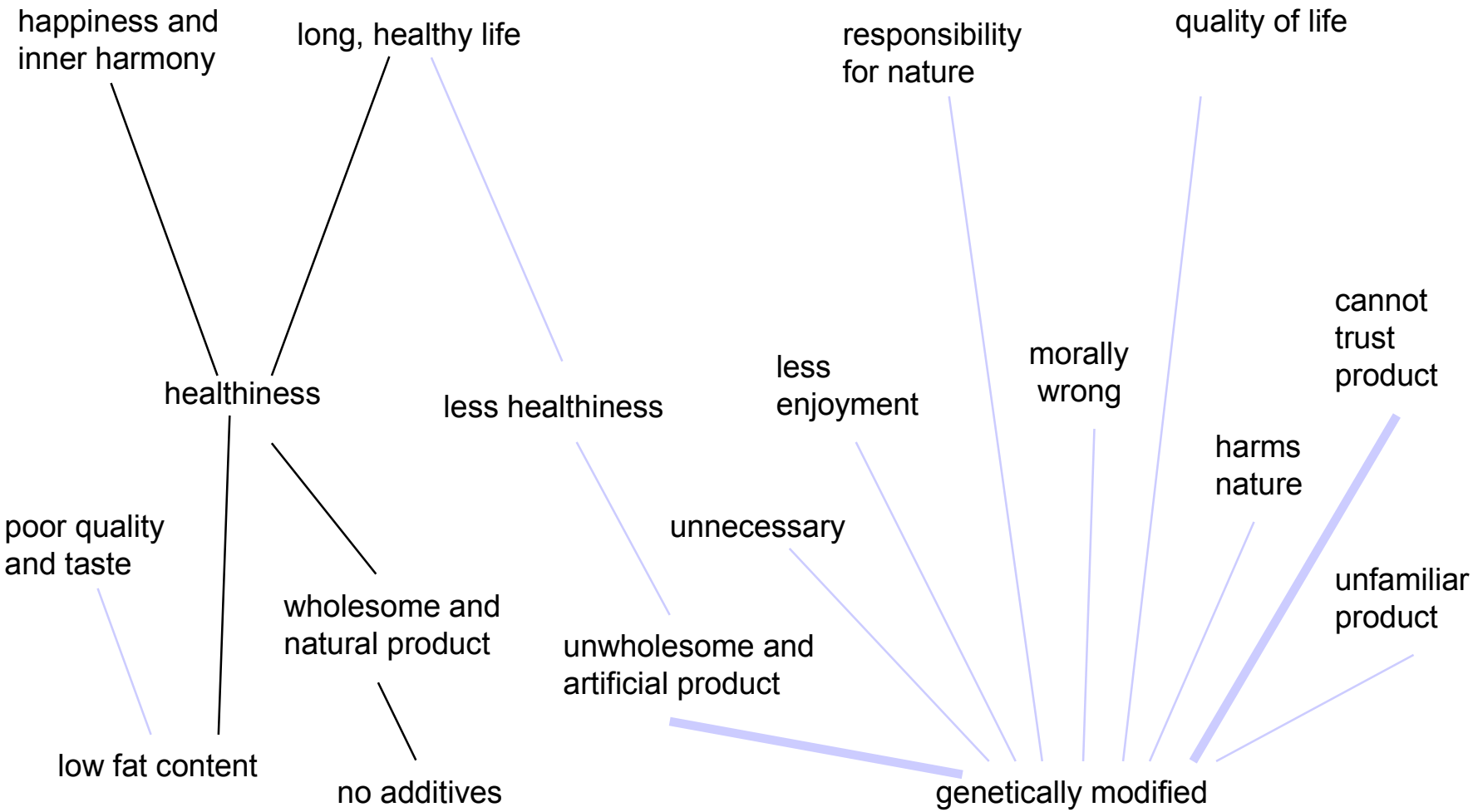
Genetically modified yoghurt - Denmark



Genetically modified yoghurt - Germany



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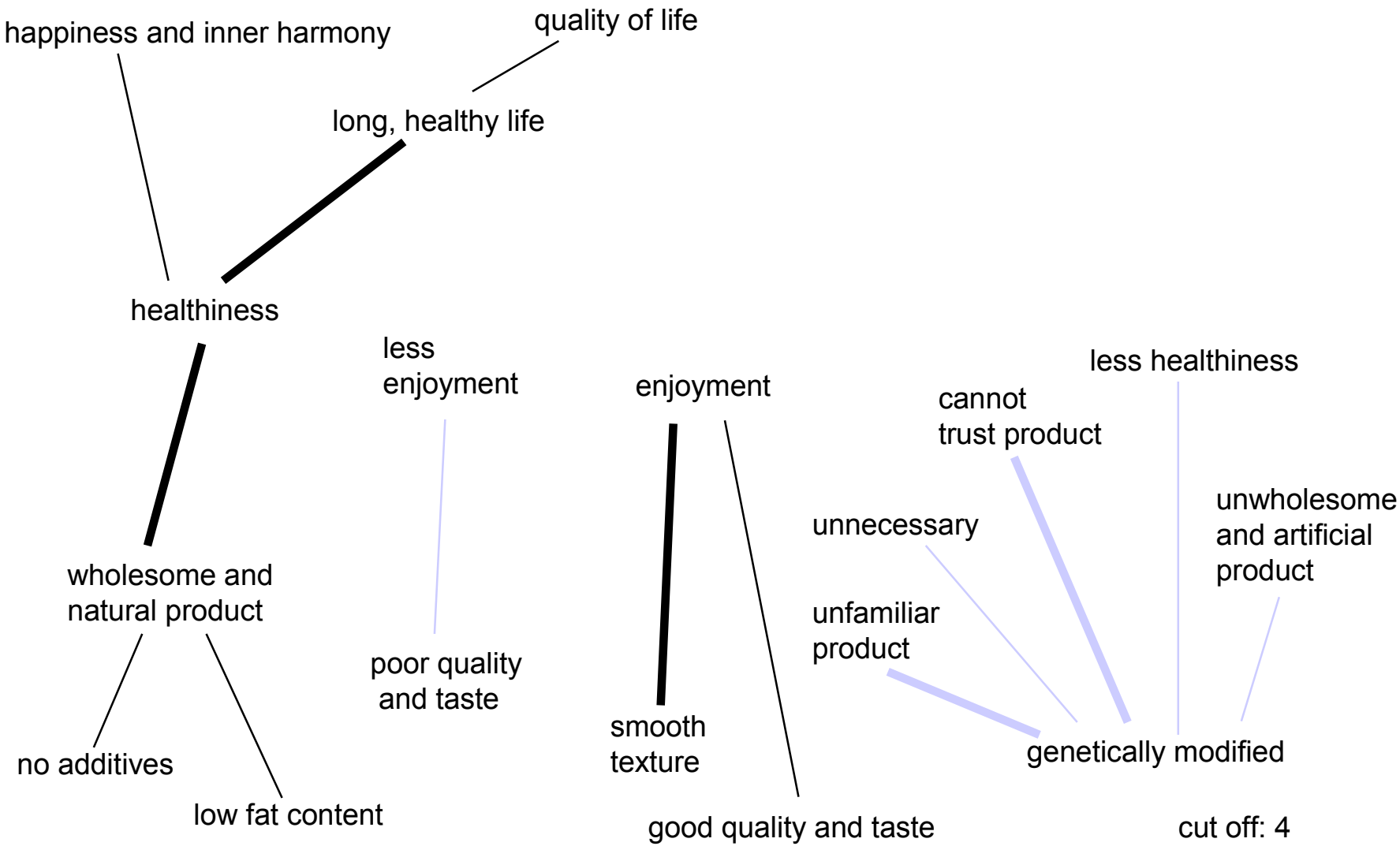
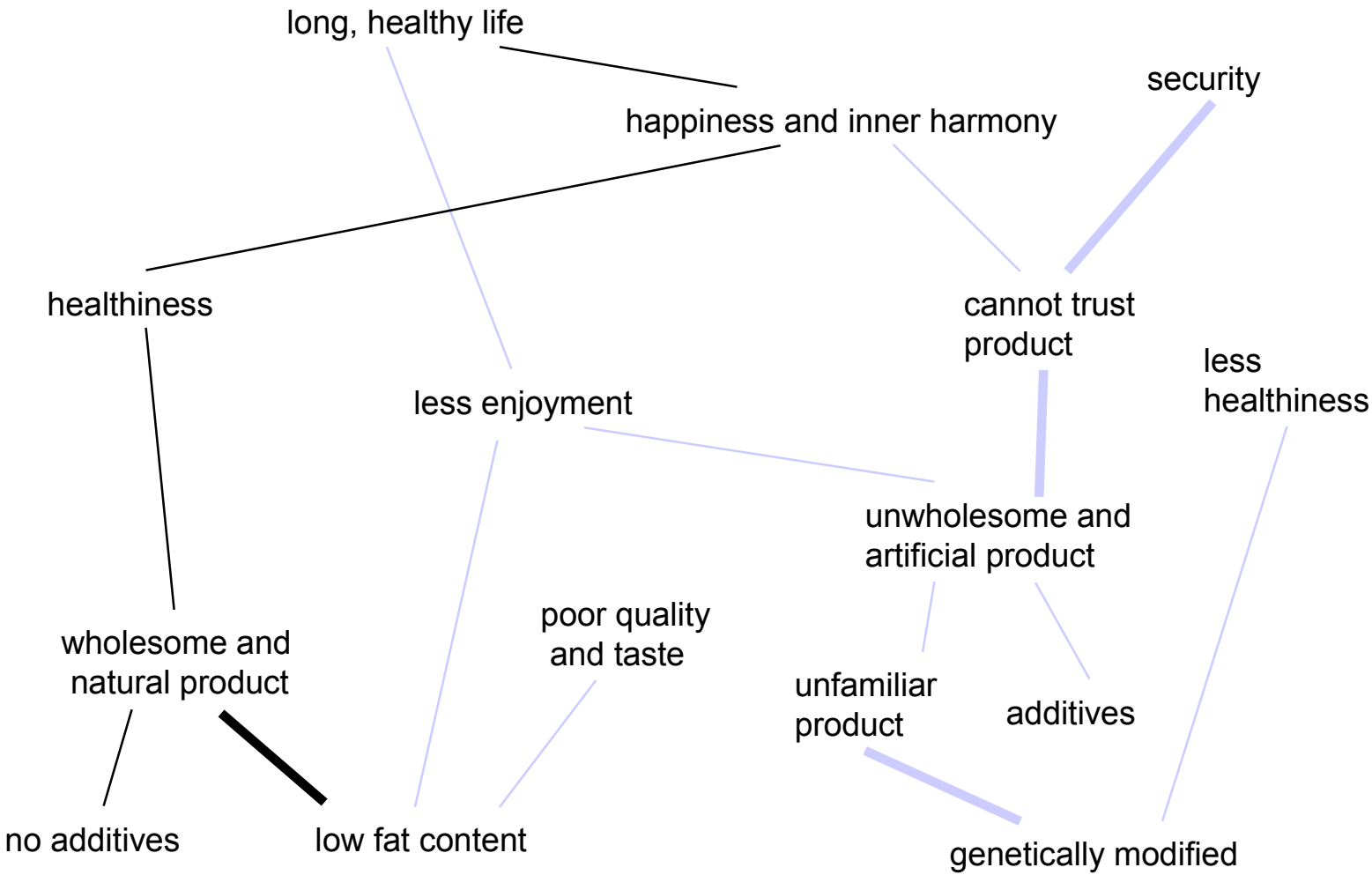
Genetically modified yoghurt - UK



Genetically modified yoghurt - Italy



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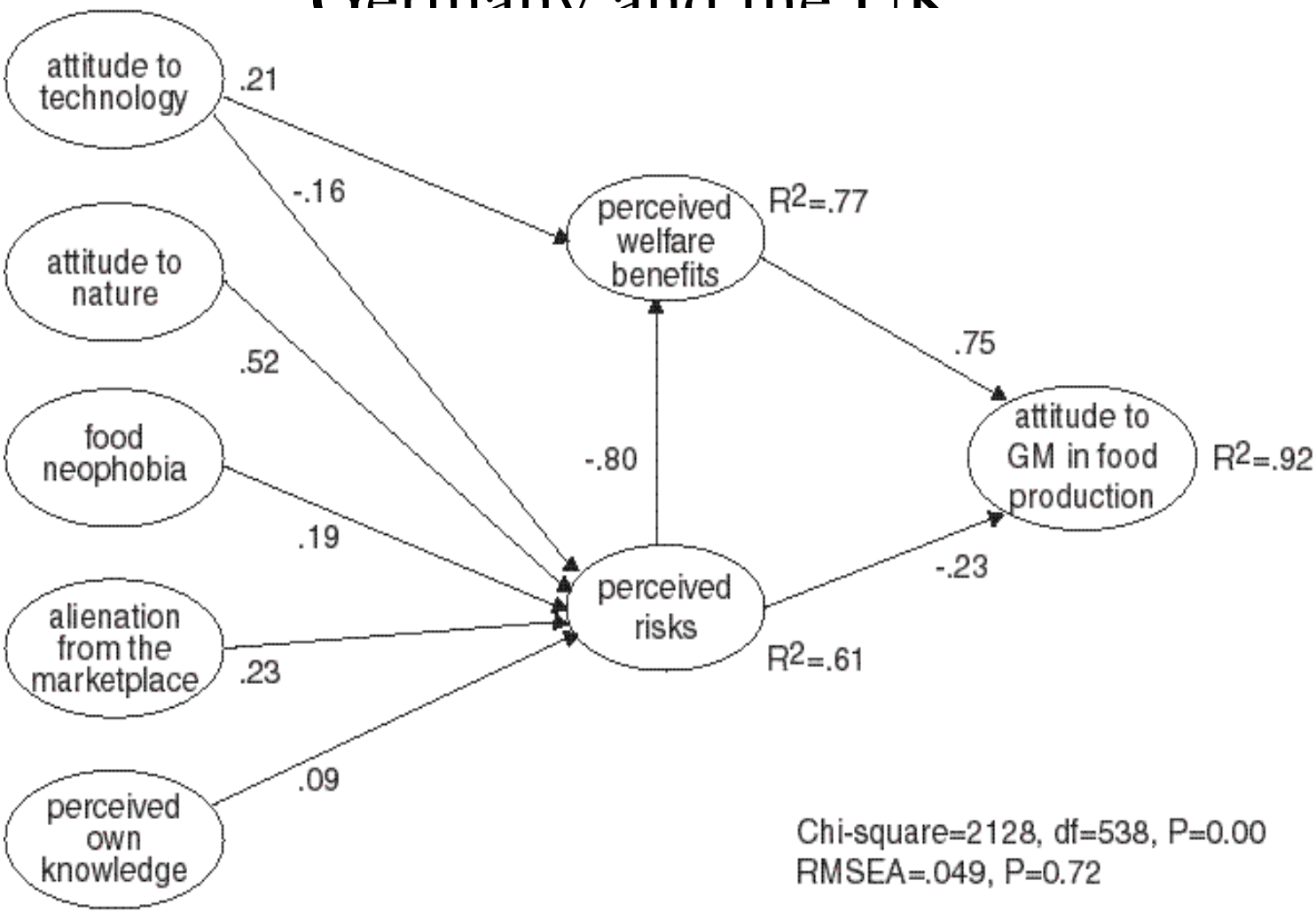
How much do these attitudes affect product evaluation and purchase behaviour?

- Diffuse, but sweeping negative associations to GMO overcompensate product benefits
- The perception of benefits is ’framed’ by the perception of risks and the general attitude to GMO in food
- For many GMO applications in food, benefits are perceived to be marginal, abstract, or only on the producer’s side

Estimated attitude model – Denmark, Germany and the UK



How deeply rooted are these attitudes?

- Consumer attitudes to GMO in food production are related to more basic attitudes to nature, to technology
- Consumer attitudes to GMO in food production are also related to the fact that consumers don’t understand modern food production, that they feel ’alienated’ from the marketplace

	Balanced/ general information	Product-specific information	Conventional product advertising
Amount of information	medium	low	low
Focus and specificity	technology, consumer policy	product	product
Main proponents	industry associations	consumer organizations, retailers	communication managers in life sciences and food processing companies
Preferred channels	brochure	package label, info sheet	print advertisement, media
Primary target variables	knowledge, trust	knowledge	product evaluation
Evaluations communicated	partially	no	yes

Information Materials

Balanced/General Information

A glossy brochure was prepared, containing four sections with general information about:

- "What is genetic modification?"
- "The supporters and opponents of genetic modification – and their interests"
- "Arguments for and against genetic modification"

Product Information

Information about *Brewmaster's Korbacher*

This beer is produced by means of genetic modification. Genetically modified yeast is used in order to brew beer in a more environmentally friendly way while still ensuring high quality beer.

Genetic modification of the yeast means that beer no longer needs to be stored for several weeks to maturate. This shortens the total production time to about one week. The shortened production process leads to a better use of natural resources; the need for production equipment is reduced, and much less energy is needed to produce the beer.

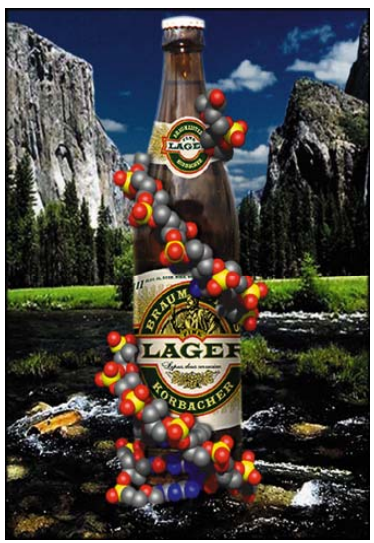
The gene that is used in the genetic modification is extracted from a food-derived micro-organism. The yeast is completely removed from the beer and all the foreign genetic material eventually left in the beer is destroyed by pasteurisation so that no genetic material is present in the end product.

The shorter beer production process increases the quality consistency of the beer, so that the quality of the beer is the same as in beer that is produced in traditional ways, only the beer quality remains more constant.

Innovativeness Ad

Discussions won't save energy resources.

Biotechnology will.



Hence we have developed this beer. The new brewing technology requires 70% less energy.

Less energy. Less resource consumption. Lower environmental burden.

There is still so much to do. But we should begin somewhere.

Come with us.

Step into a new era.

Braumeister‘s Korbacher.

Social Values Ad

Talk won‘t benefit the environment - genetic modification will.

Therefore we have developed this beer. Because of genetic modification we have used 70% less energy to produce it.

Less energy. Less ressource consumption. Less environmental burden.

For the benefit of yourself and others. And you even save money with it.

Of course, there is still much to do.

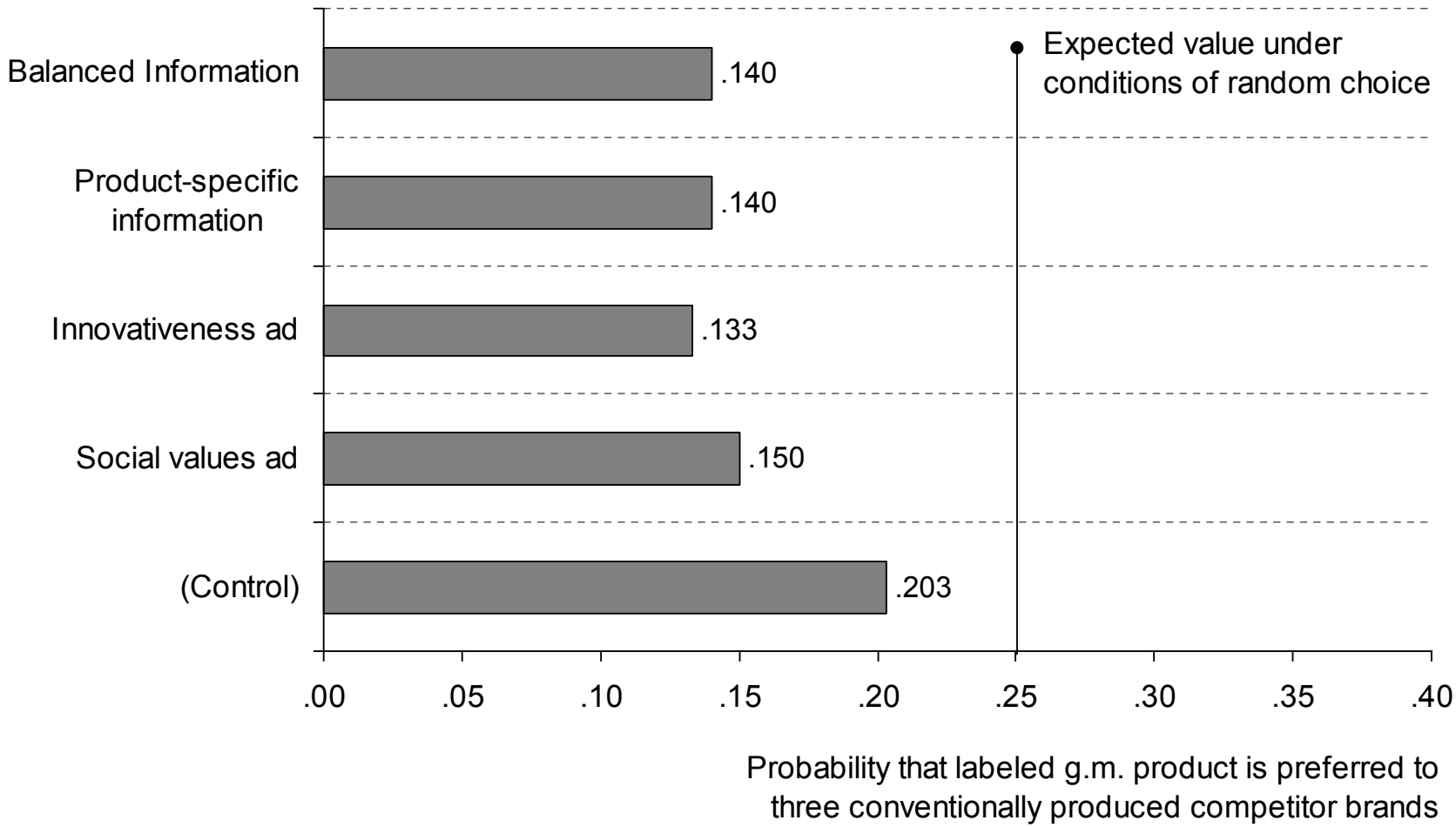
But we should begin somewhere.

Braumeister‘s Korbacher.

Results

Attitude Change

- None of the strategies could change consumers‘ attitudes.


Balanced Information
.140
Product-specific information
.140
Innovativeness ad
.133
Social values ad
.150
(Control)
.203
Expected value under conditions of random choice
.00
.05
.10
.15
.20
.25
.30
.35
.40
Probability that labeled g.m. product is preferred to three conventionally produced competitor brands

Product Choice

- All strategies had a uniform attitude activation effect that decreased consumers‘ preferences for genetically modified foods.
- The effect was independent of design and evaluative tendency.
- Product labelling alone did not yield the attitude activation effect.

Can the attitudes be changed by more information?

- Not easily, not in the short run
- Giving more information activates existing attitudes and decreases likelihood of purchase of GMO food products

Major messages

- Consumers' attitude to genetically modified food products is very negative
- The negative attitude is linked to uncertainty and a host of diffuse negative risk perceptions
- The negative attitude is linked to more fundamental underlying attitudes
- The negative attitude has a strong effect on purchase intentions
- Perceptions of product benefits are barred by the perceptions of risks
- Information mainly activates existing attitudes

Perspectives

- It does not look likely that consumer attitudes to GMO in food production will change quickly
- Food producers have to accept that consumers are becoming increasingly interested in how food products are produced - even when that does not make a difference for qualities of the final product