

# Consumer attitudes to wholegrain and functional grain products

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**FOOD, CONSUMER  
BEHAVIOUR & HEALTH**  
RESEARCH CENTRE



# Outline of presentation

- Introduction
- Wholegrain and functional foods
- HEALTHGRAIN survey results
  - ✗ Country differences
  - ✗ Gender and age differences
  - ✗ Perceived benefits from different products
  - ✗ Predicting willingness to use functional grain products
- Concluding comments





# Improving diet

- Information and understanding or something else?
- Change behaviour
  - ✘ Increase consumption of a healthy food (e.g. wholemeal bread)
- Change foods
  - ✘ Functional foods, e.g. increase healthy components
- Still need to know the influences on choice even for functional foods





# Consumer wants

- Good taste and sensory quality
- Healthy
- Natural
- Convenient
- Low cost
- Kind to environment





# Wholegrain labels





# Consumer views on wholegrain

- Barriers to wholegrain consumption:
  - ✗ Knowledge of what is wholegrain
  - ✗ Lack of awareness of health benefits
  - ✗ Perception of taste and flavour
  - ✗ Lack of confidence cooking
  - ✗ Cost
  - ✗ Availability
- Wholegrain seen by non-consumers chewy, tough and tasteless (Seal, 2005)





# Functional foods





# Functional grain products





# Functional foods

- Must compete with other foods
- Cannot sacrifice taste and sensory enjoyment except for small number of consumers
- High on perceived healthiness
- Natural?
- Higher cost
- Degree of novelty/familiarity





# Consumers and functional foods

- Taste is a major determinant of acceptance of functional foods and will not be traded for health benefits (Verbeke, 2006)
- Choosing a functional food in one category do not necessarily choose in another food category (Urala & Lahteenmaki, 2003)





# HEALTHGRAIN consumer module

- UK, Finland, Italy, Germany
- Qualitative – focus groups
- **Quantitative – survey**
- Impact of health claims (Liisa Lahteenmaki to present)





# Survey

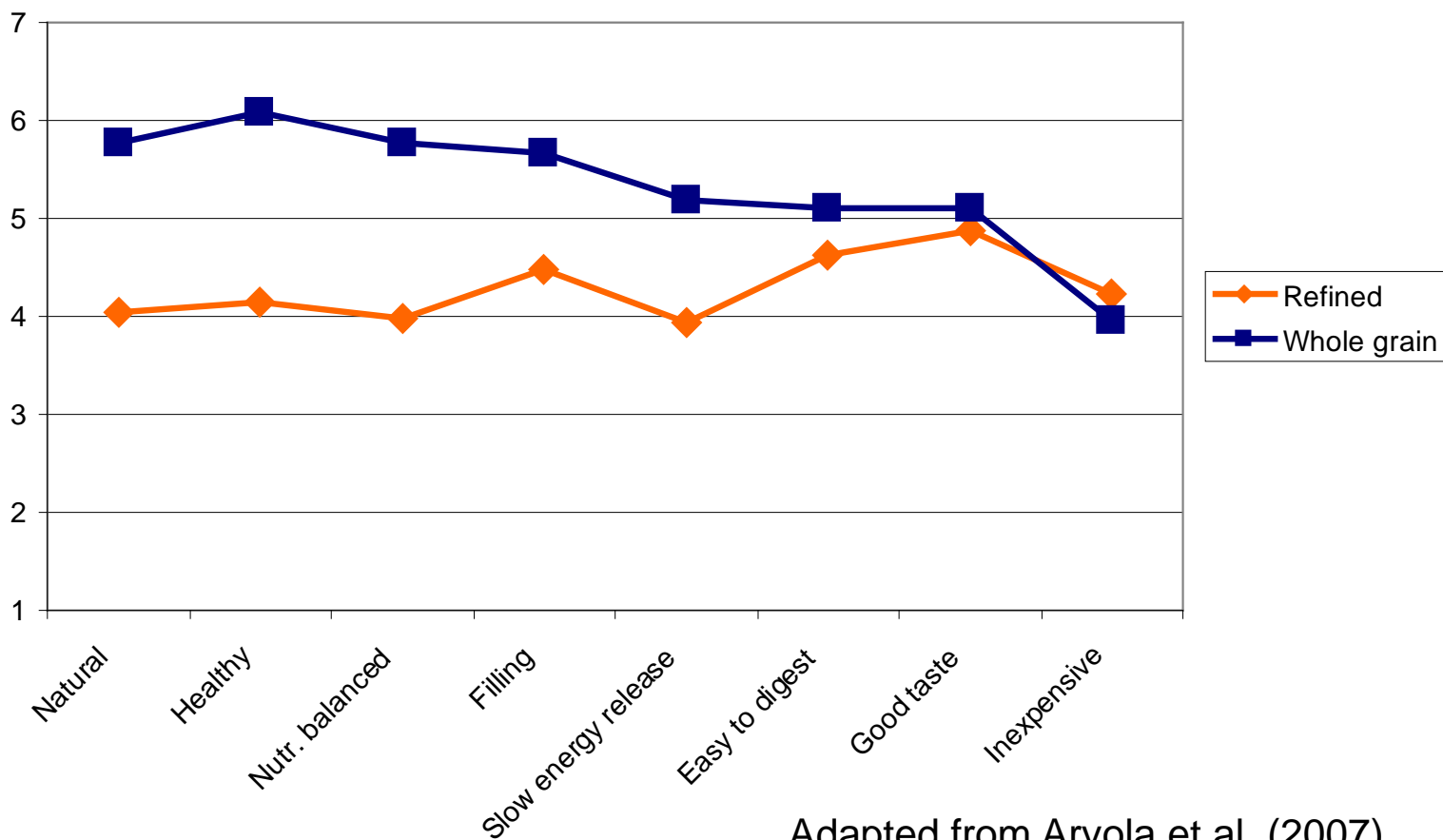
- Survey on approx. 500 people in each of four countries
  - ✗ UK, Italy, Germany and Finland
- Main foods:
  - ✗ bread
  - ✗ pasta
  - ✗ biscuits
- Main modifications:
  - ✗ cholesterol lowering
  - ✗ added fibre
- Health Belief Model





# Ratings of refined and whole grain products – three countries

What you expect refined / whole grain products to be on the following characteristics?  
Pooled data for UK, Italy and Finland

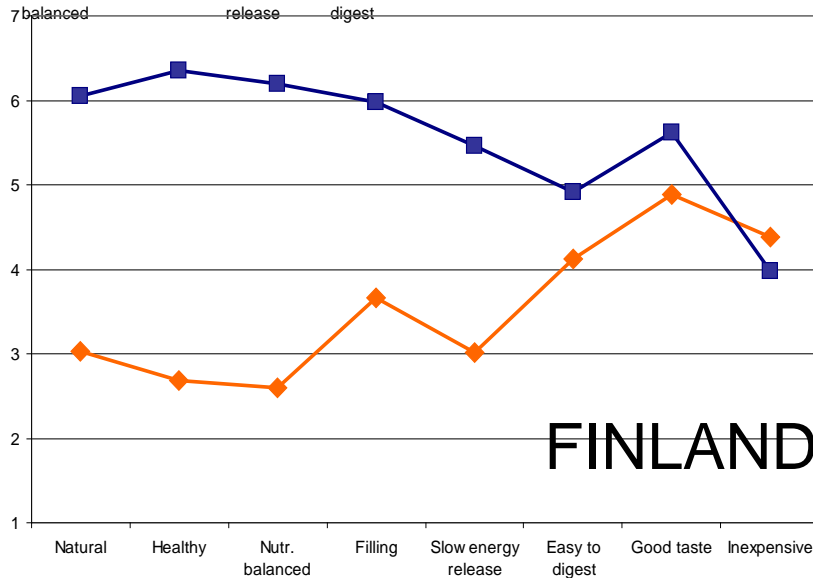
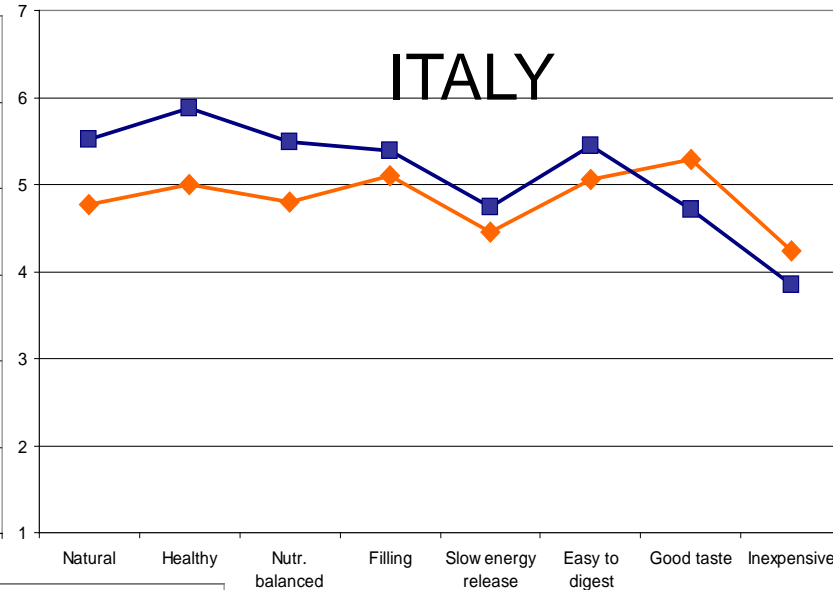
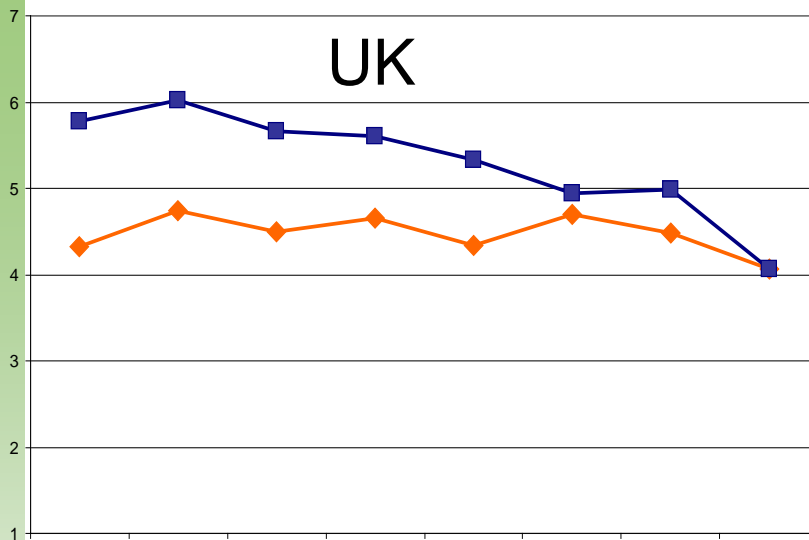


Adapted from Arvola et al. (2007)





# Ratings of refined and whole grain by country



Adapted from  
Arvola et al. (2007)





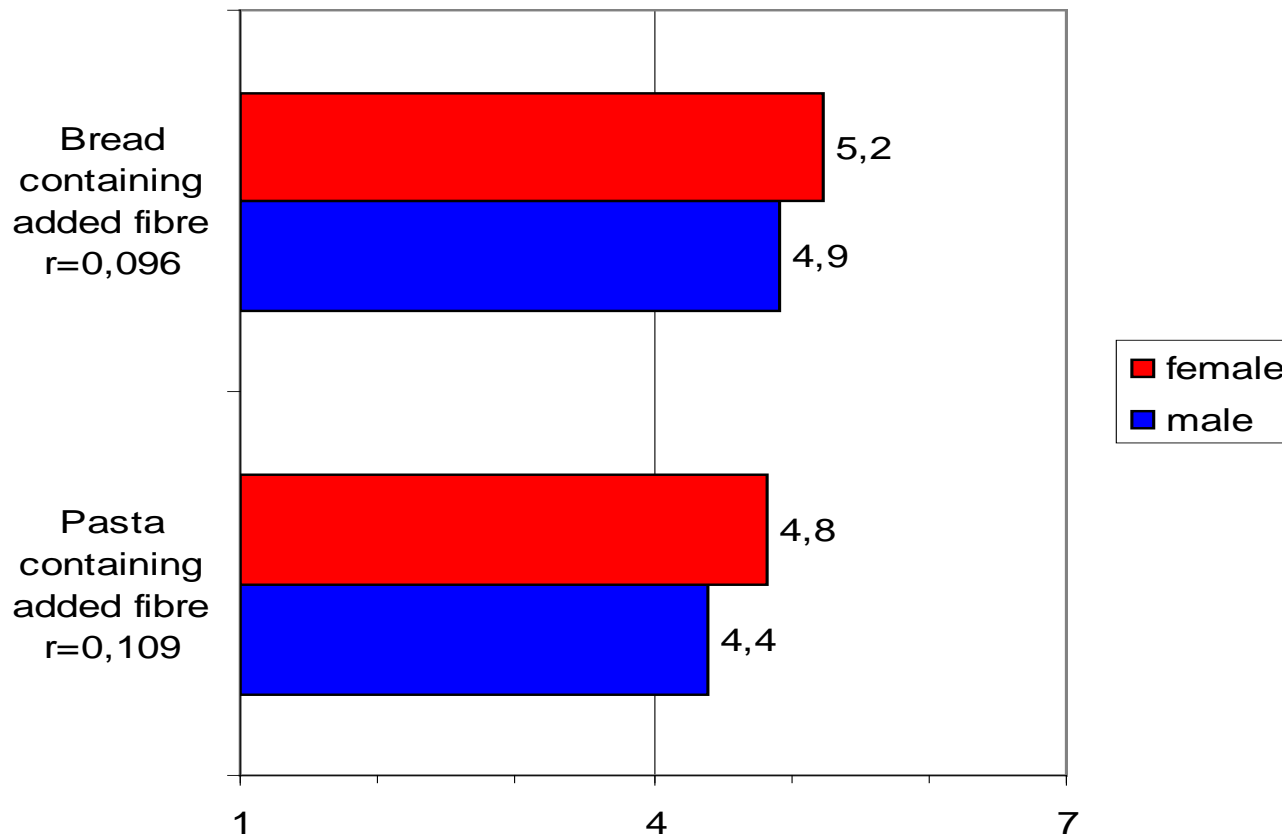
# Gender differences

- Women are more aware of benefits of grain based foods than men
- Women are more health conscious
- Women expect less illness in later life caused by their eating habits
- Men describe themselves as paying less attention to a healthy diet but are conscious of possible health problems arising from this

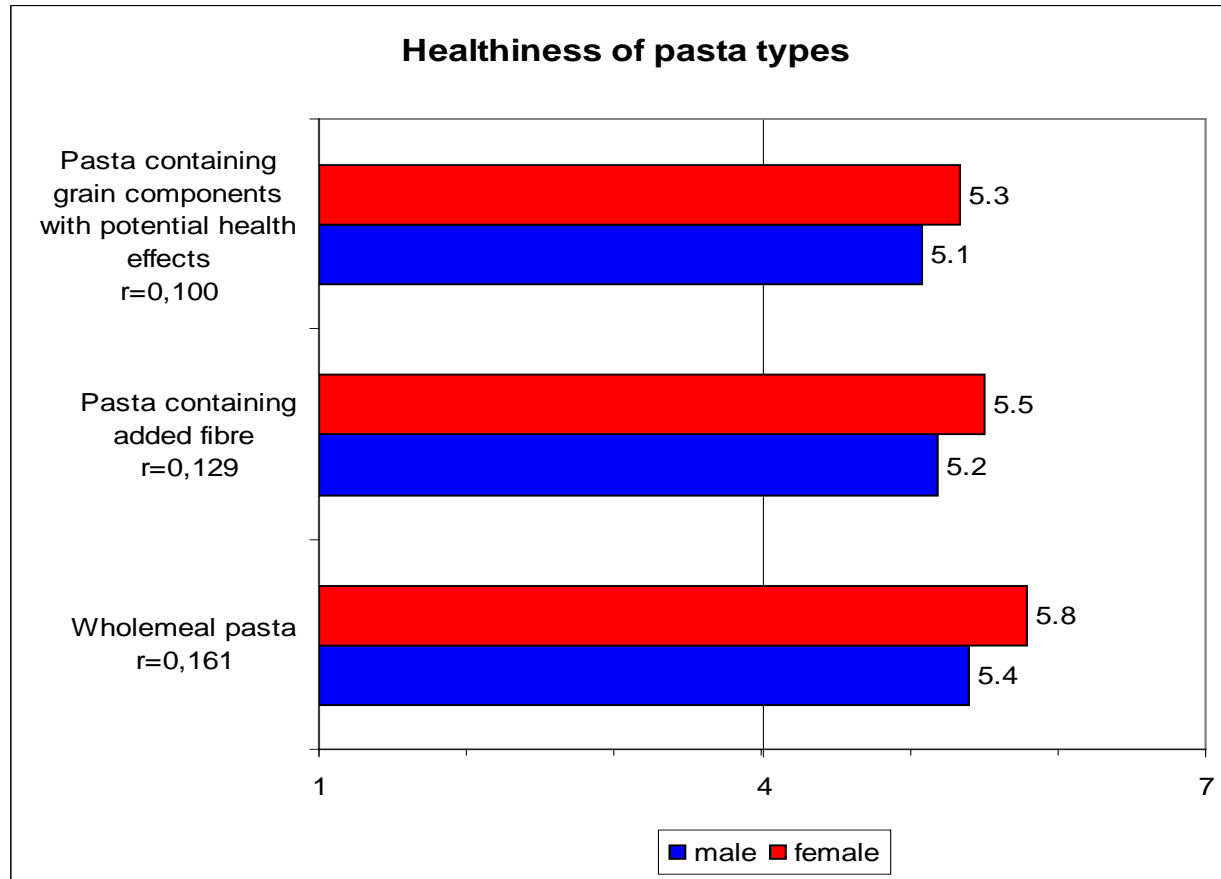


# Gender differences

Would you be willing to use the following products if they were available on the market?



# Healthiness of pasta



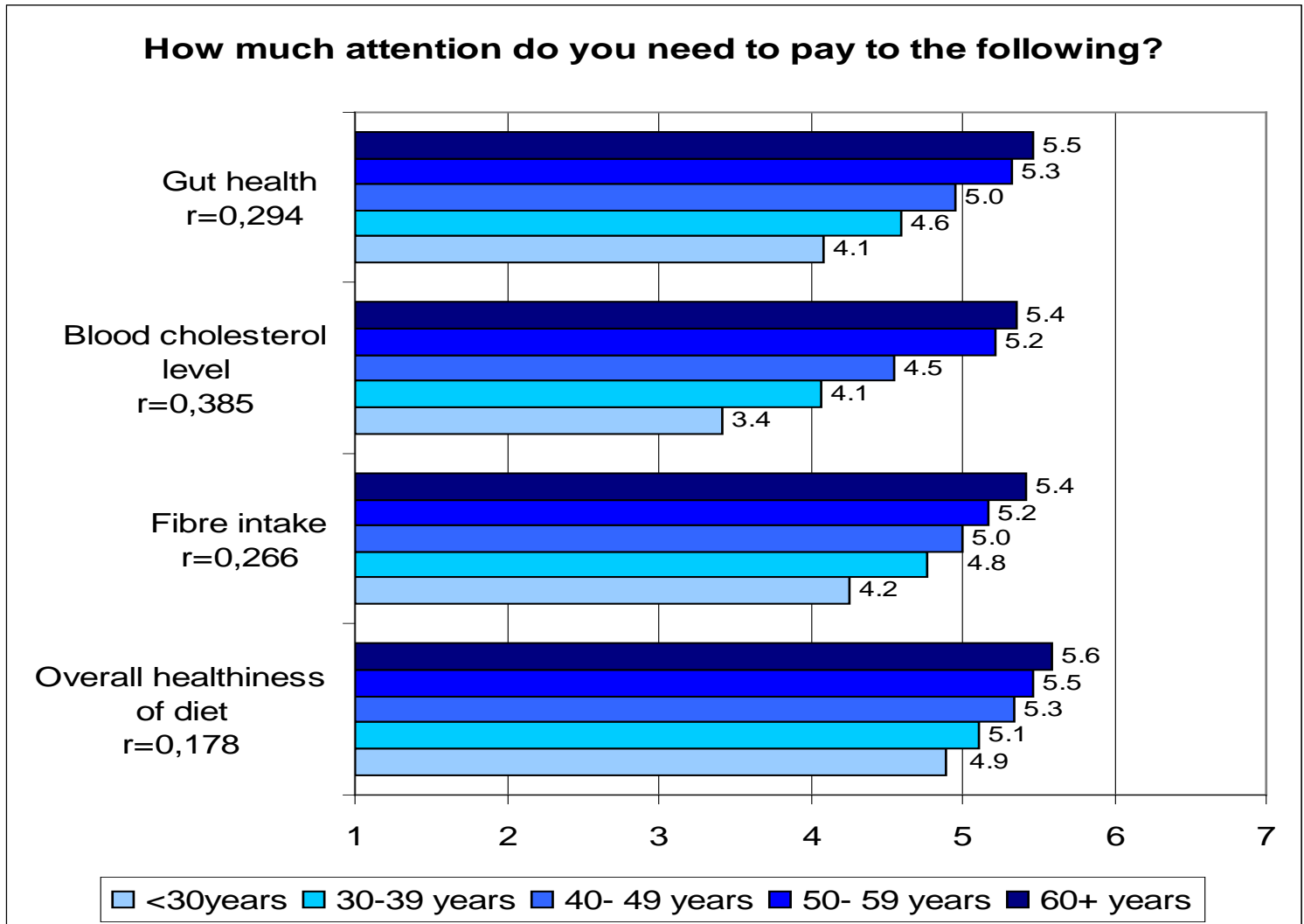


# Age differences

- Older people more concerned about health
- Older people more positive about:
  - ✗ functional foods generally
  - ✗ grain based foods particularly

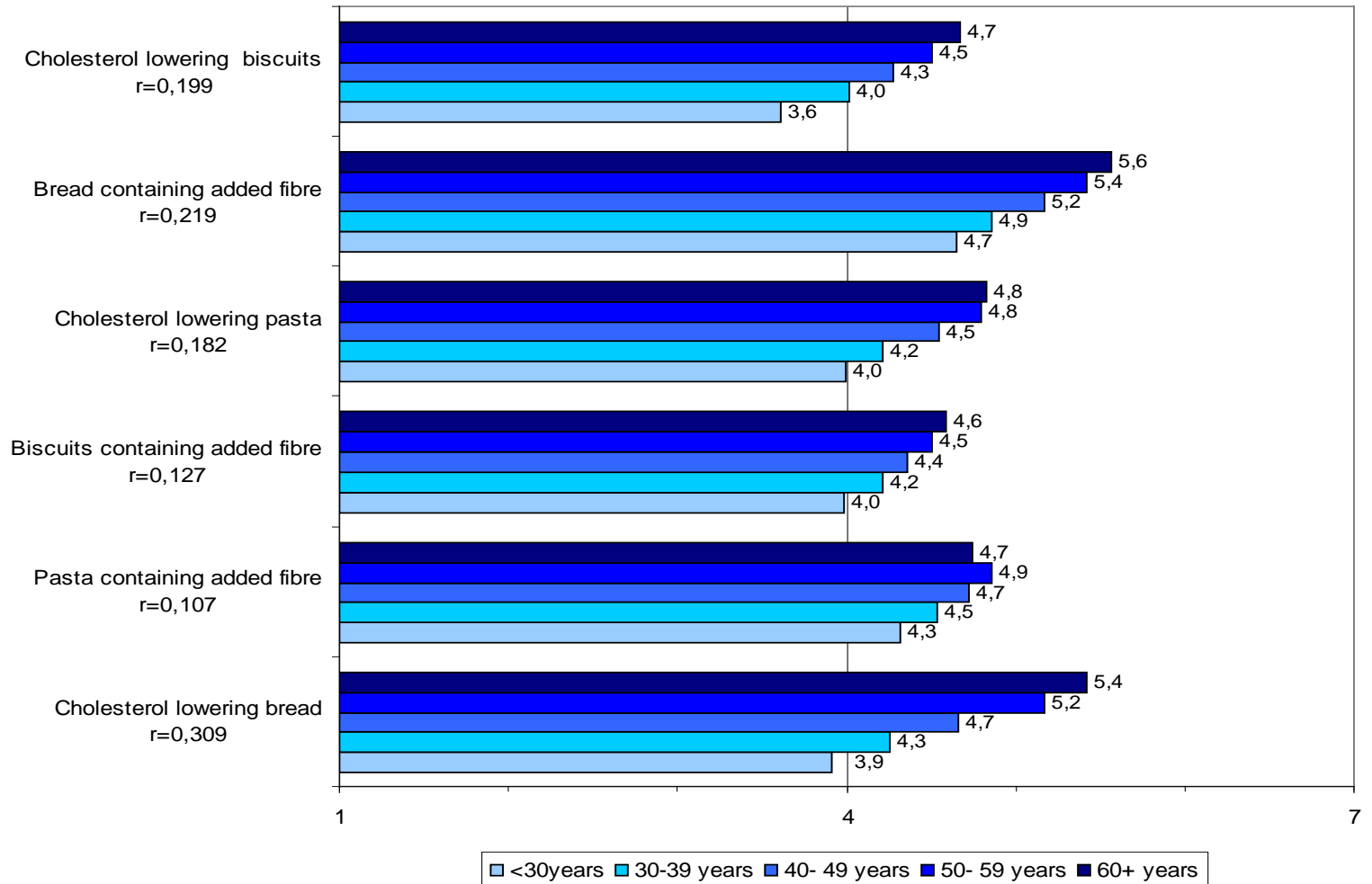


# Age differences



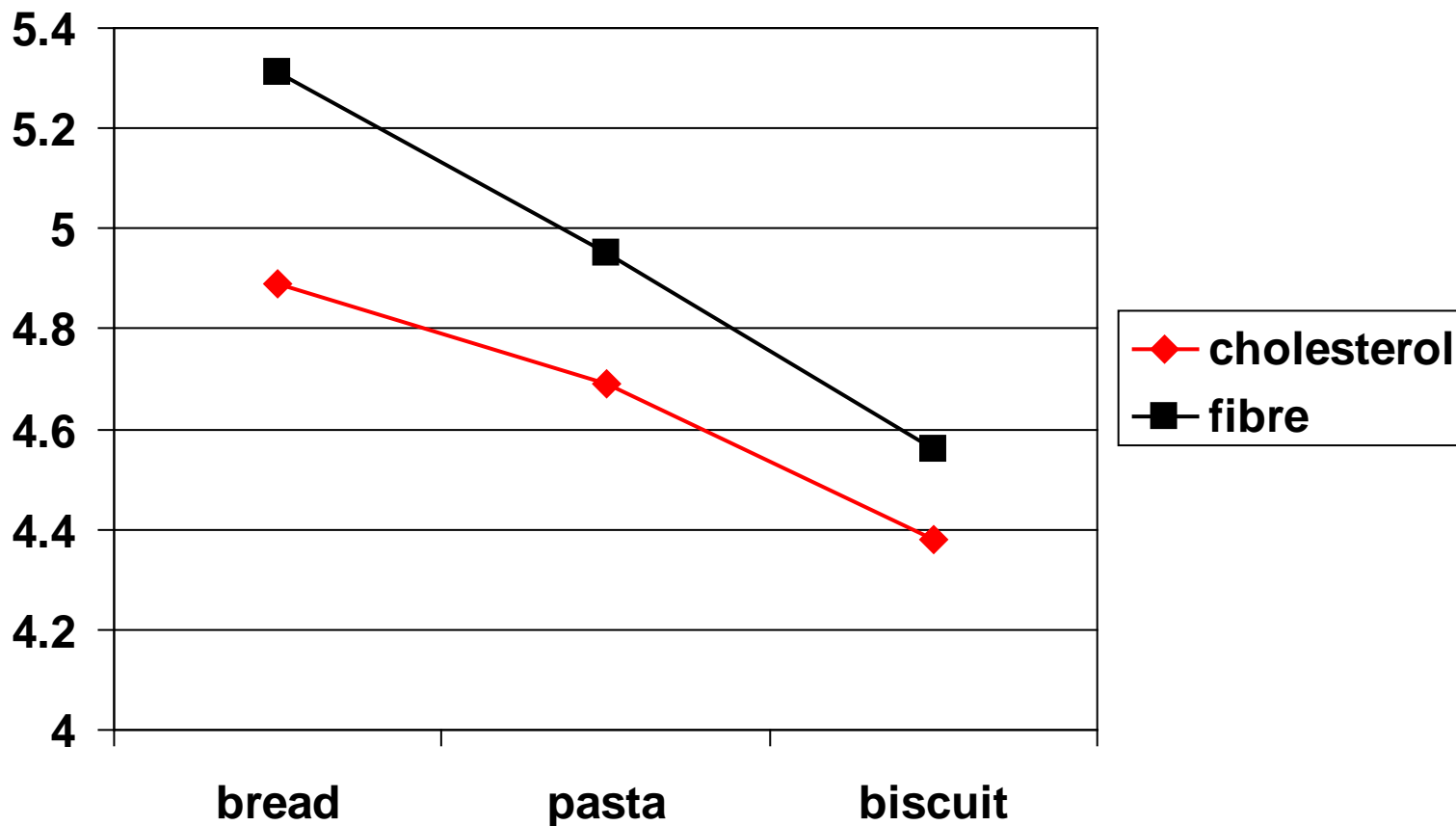
# Age differences

Would you be willing to use the following products if they were available on the market?





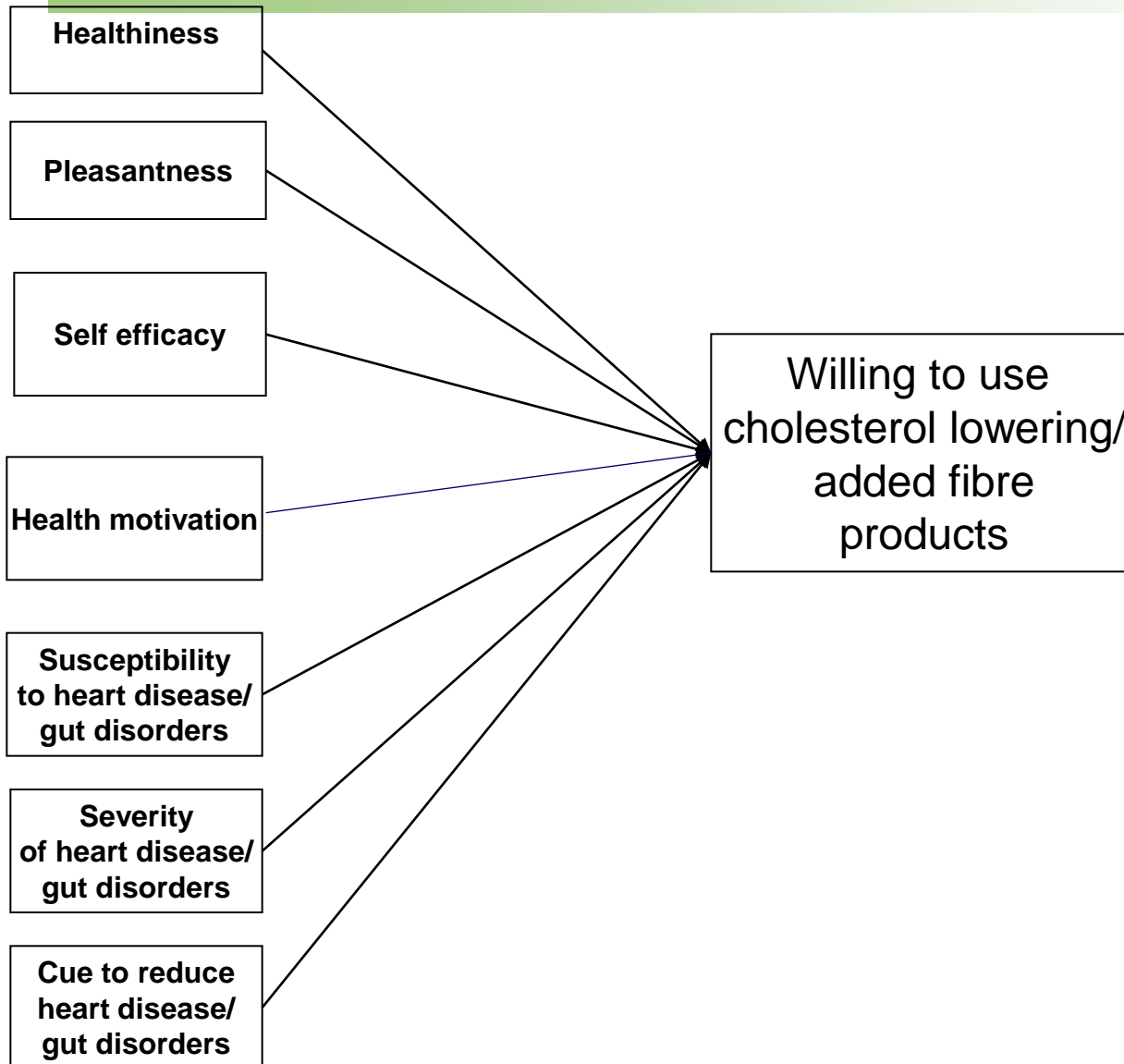
# Perceived benefit – differences between foods



Dean et al. (2007)



# Health Belief Model



## Products

- Bread
- Pasta
- Biscuits



# Health Belief Model for cholesterol lowering bread – significant predictors

	<b>UK</b>	<b>Italy</b>	<b>Finland</b>	<b>Germany</b>
Healthiness	**	**	**	**
Pleasantness	**	**	**	
Self efficacy			**	*
Health motivation	**	**	**	**
Susceptibility 1	*			
Susceptibility 2				
Severity 1				
Severity 2				
Cue to action	*			
R <sup>2</sup>	0.40	0.34	0.53	0.35

\*\* p<0.01; \* p<0.05

Adapted from Vassallo et al. (2009)





# Concluding comments

- Perceptions differ between countries
  - ✘ Refined grain products seen less positively in Finland
- Women and older people more positive about functional grain products
- More positive about modifying bread and pasta than biscuits
- Pleasantness, perceived healthiness and health motivation main influences on willingness to use





# Publications

- Arvola, A., Lahteenmaki, L., Dean, M., Vassallo, M., Winkelmann, M., Claupein, E., Saba, A., & Shepherd, R. (2007). Consumers' beliefs about whole and refined grain products in UK, Italy and Finland. *Journal of Cereal Science*, **46**, 197-206.
- Dean, M., Shepherd, R., Arvola, A., Vassallo, M., Winkelmann, M., Claupein, E., Lahteenmaki, L., Raats, M. M., & Saba, A. (2007). Consumer perceptions and expectations for healthy cereal products. *Journal of Cereal Science*, **46**, 188-196.
- Vassallo, M., Saba, A., Arvola, A., Dean, M., Messina, F., Winkelmann, M., Claupein, E., Lahteenmaki, L., & Shepherd, R. (2009). Willingness to use functional breads: Applying the Health Belief Model across four European countries. *Appetite*, **52**, 452-460.





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- Website: [www.healthgrain.org](http://www.healthgrain.org)

