

Maybe this is something good?

Consumer responses to cultured proteins



Christian A. Klöckner
Kenneth Vilhelmsen

Survey

- Three countries (Norway, Denmark, Finland)
- Norwegian part financed by Protein 2.0
- Online survey

Sample

Country





n=1207



n=1203



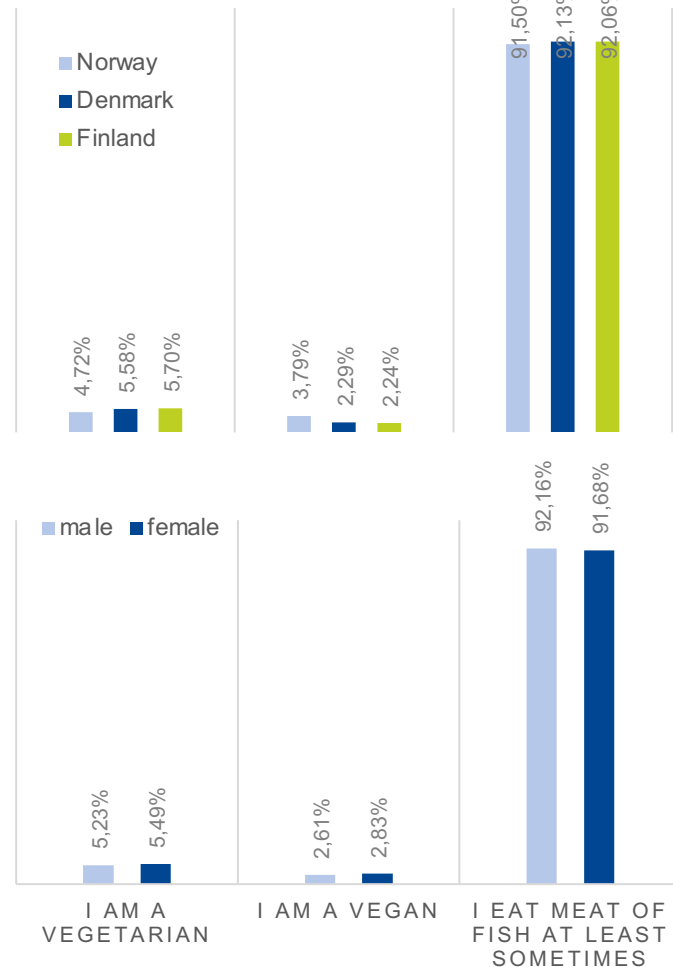
n=1452

		Norway	Denmark	Finland
Gender		n=616	n=593	n=725
		n=587	n=610	n=727
Age	17-29 y	n=225	n=235	n=275
	30-39 y	n=203	n=179	n=248
	40-49 y	n=213	n=192	n=230
	50-59 y	n=219	n=206	n=253
	60-69 y	n=171	n=171	n=250
	70-85 y	n=176	n=220	n=196

Diet

	Vegan	Vegetarian	Meat/fish-eater
Norway	46	57	1104
Denmark	28	67	1108
Finland	32	83	1337
Male	50	101	1783
Female	54	106	1763

The table shows the absolute number of persons with the specific diet.





Milk, Meat, and Fish From the Petri Dish—Which Attributes Would Make Cultured Proteins (Un)attractive and for Whom? Results From a Nordic Survey

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Cultured meat, fish, or dairy produced *in vitro* are discussed as one of the most substantial disruptions the food sector might encounter in the coming decades. These cultured proteins are proposed as a potential solution to the detrimental effects industrial food farming and fishing have on the environment and animal welfare as they would allow people to continue consuming meat, fish, or dairy products while at the same time substantially reducing the burden for the planet. For most people, however, this technology is still unknown, and it is largely unclear how they position themselves toward it. This paper presents the results of a representative survey ($N = 3,864$) in three Nordic countries (Norway, Denmark, and Finland). After briefly introducing the technological background, respondents spontaneously assessed their general attitude toward cultured proteins, their willingness to try them, and the likelihood that changes in 24 features of cultured protein would improve the respondents' attitude toward cultured protein products. The results showed that people in the studied countries have a neutral to a slightly positive view of cultured protein products. More familiarity seems to improve acceptance. Males, younger people, and vegans/vegetarians are particularly positive. The anticipated attitude change profiles showed that meat-eating identity, social norms, environmental concern, and country yielded the clearest profile differences, whereas health identity, age, innovativeness, income, education, and gender have smaller effects. People on a vegan or vegetarian diet cared less about most of the positive and negative aspects of cultured proteins compared to meat-eaters, with the exception of environmental and ethical aspects.

Keywords: cultured proteins, cultured meat, attitude change, willingness to try, psychological variables

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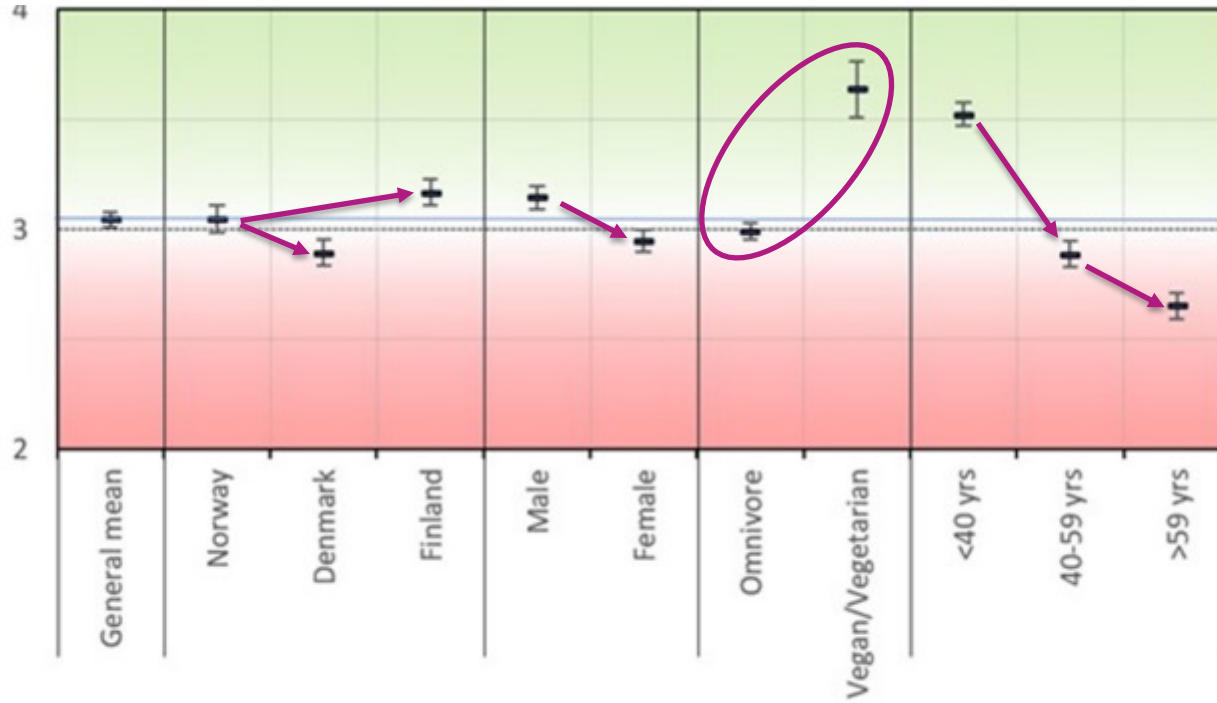


FIGURE 1 | Mean ratings of the general attitude of cultured protein by consumers. The thin blue line represents the general mean across all respondents. The error bars represent 95% credibility intervals.

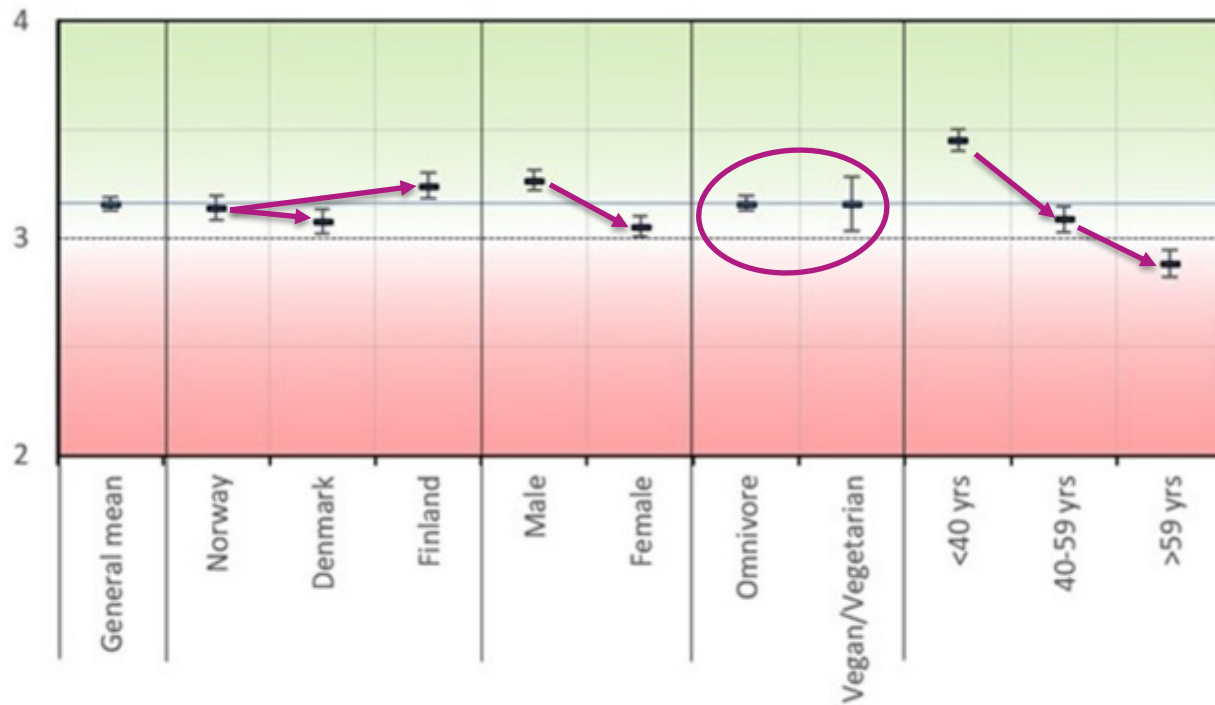


FIGURE 2 | Mean ratings of the intention to consume cultured protein. The thin blue line represents the general mean across all respondents. The error bars represent 95% credibility intervals.

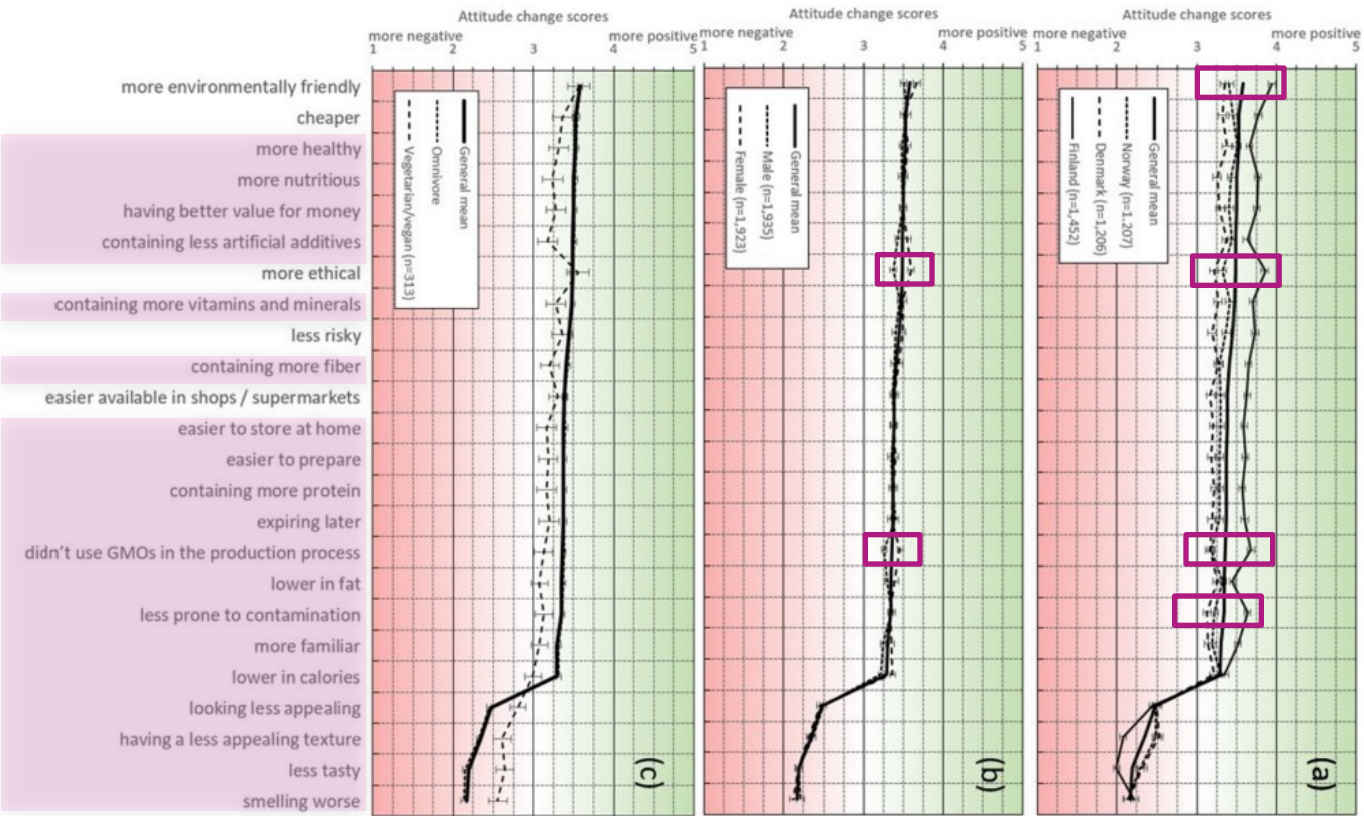
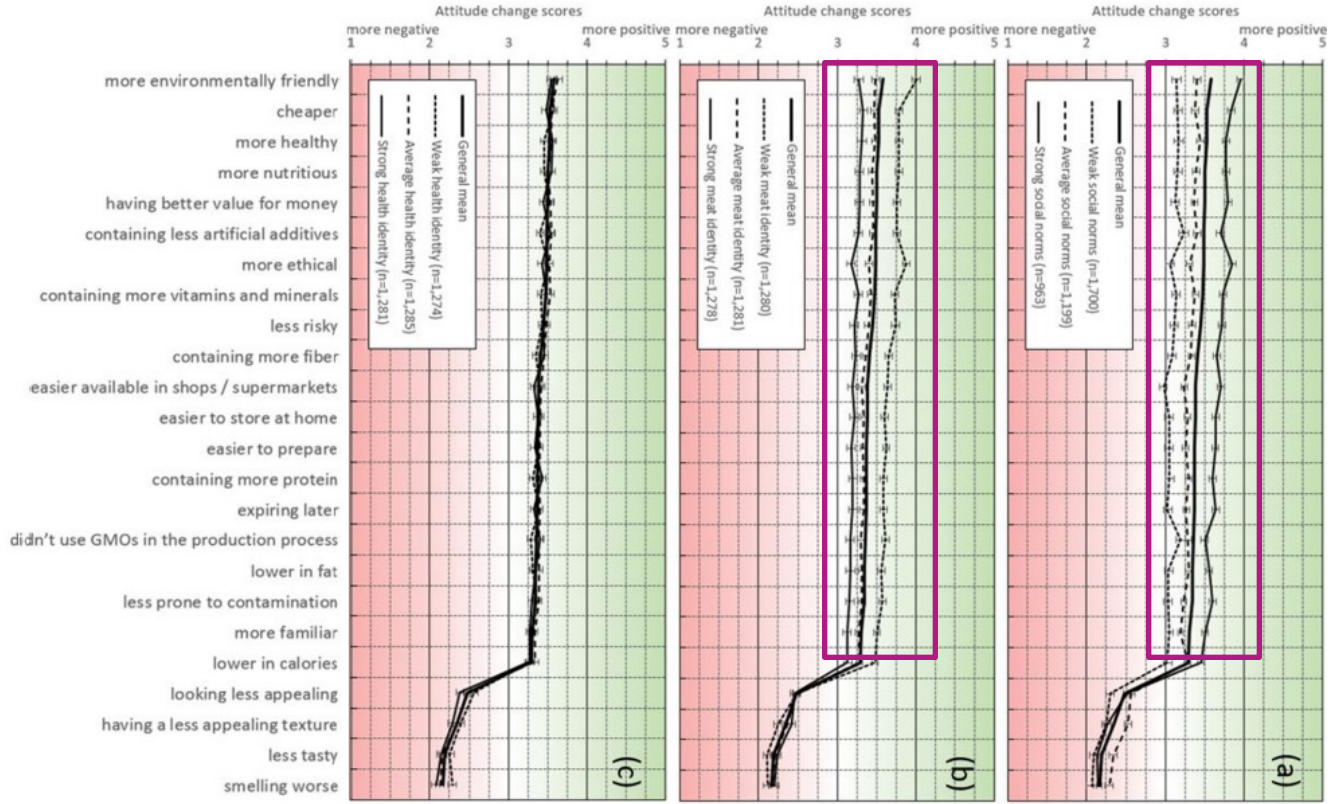


FIGURE 4 | Differences between countries (a), gender (b), and diet (c). The error bars represent 95% credibility intervals estimated with Bayesian estimation.

FIGURE 7 | Differences between social norm levels (a), meat identity (b), and health identity (c). The error bars represent 95% credibility intervals estimated with Bayesian estimation.



Predictors of the intention to consume cultured protein in three Nordic countries

Predictor set 1:

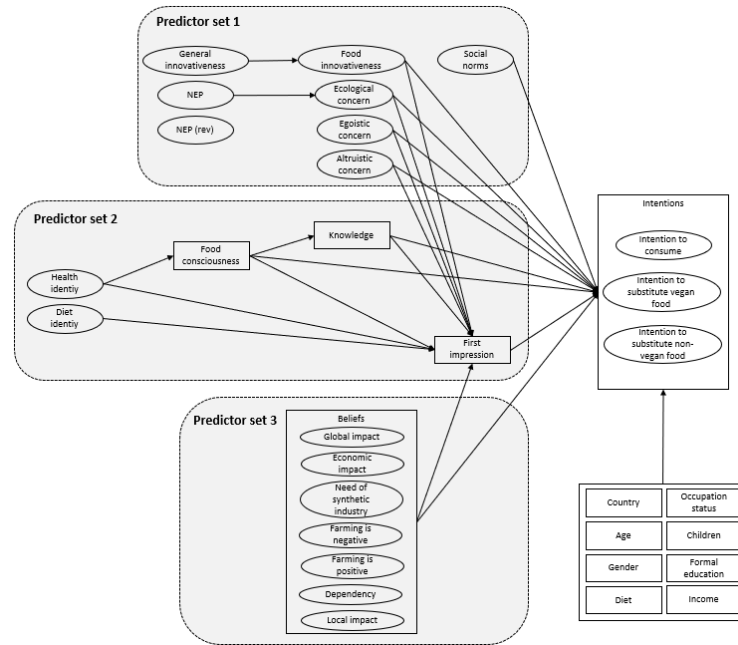
General psychological constructs

Predictor set 2:

Psychological constructs related to food consumption

Predictor set 3:

Beliefs about cultured proteins



Findings

- High NEP → High ecological concern
- Concern not related to intentions, but worse first impression
- High Innovativeness → Higher food innovativeness
- Food innovativeness → Better first impression, higher intention to substitute
- Social norms → Higher intentions to try/consume, intention to sub
- First impression → Higher intention to try/consume, intention to sub
- Knowledge → First impression, higher intention to substitute veg.
- Global positive belief → Higher intention to substitute
- Global negative belief → Worse first impression and less likely to substitute
- Positive economic effect → More likely to try/consume, first impression
- Farming is positive → Less likely to try/consume, substitute
- Farming is negative → Less likely to try/consume, substitute
- Need for industry → More likely to try/consume, first impression
- Demographic → Country, age, gender (female), diet (vegan, vegetarian), education

Thank you

A thick, light gray curved line starts from the bottom center and curves upwards and to the right, ending near the top right corner of the frame. The background is a solid dark gray.