



Consumer attitudes towards seafood and the marine environment: the role of plastics and other emerging contaminants



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Priority environmental contaminants in seafood:
safety assessment, impact and public perception

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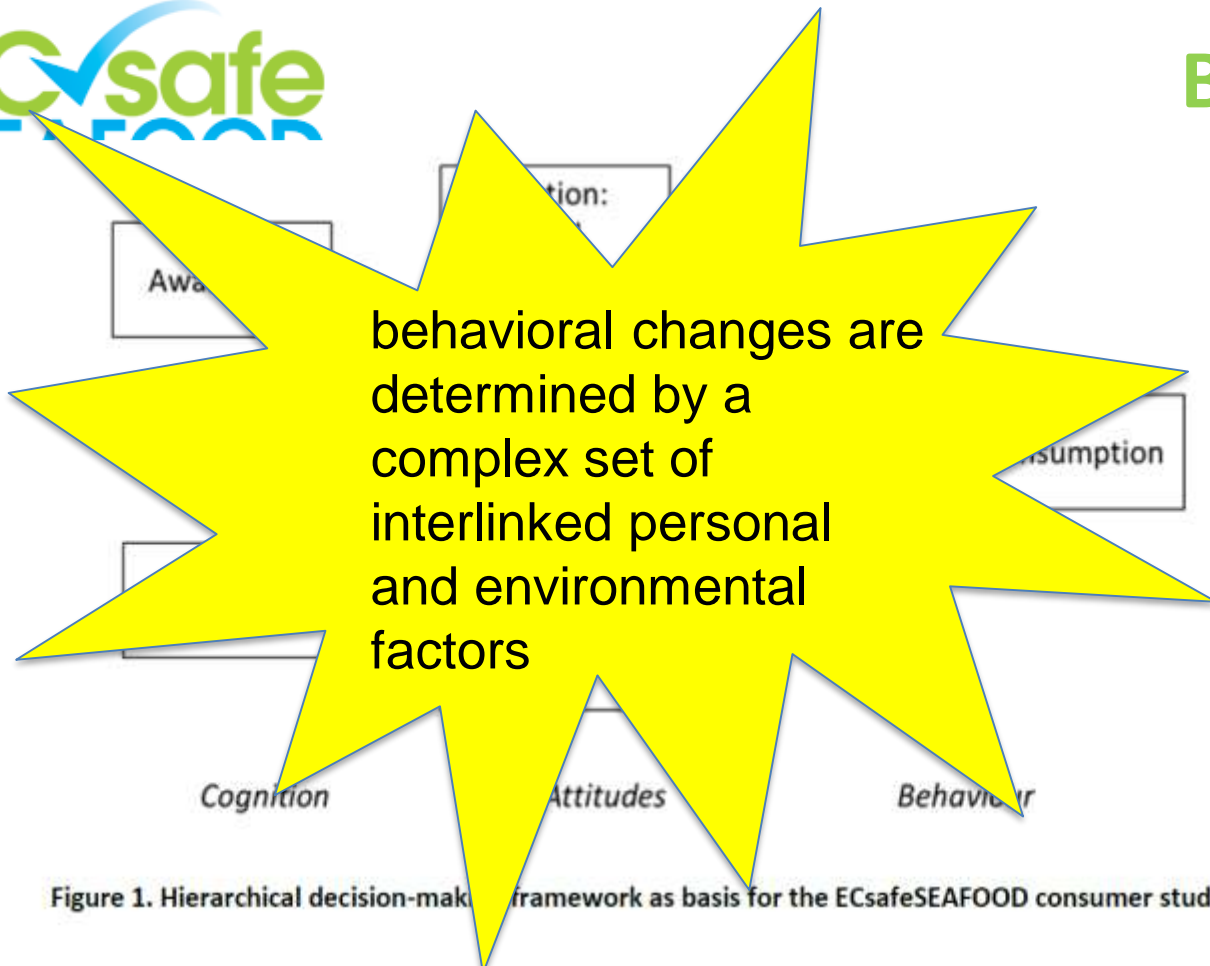
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Introduction: Communication and behaviour

In relation to benefit/risk communication it is important to note that negative news have a stronger impact than messages promoting positive outcomes (Verbeke, Sioen et al. 2005, Verbeke 2008).

Changing the behaviour of consumers towards seafood consumption by means of advisory messages is only possible when consumers are aware of the advisory, know the advisory, and trust the advisory information (Jardine 2003).

A large yellow starburst graphic with multiple points, containing text about behavioral changes.

behavioral changes are determined by a complex set of interlinked personal and environmental factors

Figure 1. Hierarchical decision-making framework as basis for the ECsafeSEAFOOD consumer study

- consumers' perception of seafood and the status of the marine environment,
- their related concerns,
- risk perceptions and confidence in information and information sources.

Consumer study characteristics

- Survey;
- 5 countries (Belgium, Ireland, Italy, Portugal, and Spain);
- 480 respondents per country + 60 from the Canary Islands and 60 from Madeira;
- Samples were nationally representative regarding age and gender.

1. General behaviour, attitudes, and perception regarding seafood;
2. Perceived risks and benefits of seafood, and confidence in control organizations;
3. Use of information sources, trust in information sources, and information needs;
4. General attitude towards the marine environment.

1. General behaviour, attitudes, and perception regarding seafood

1. Consumption: significant differences among countries
2. High intention to eat seafood (above the neutral point = 4)

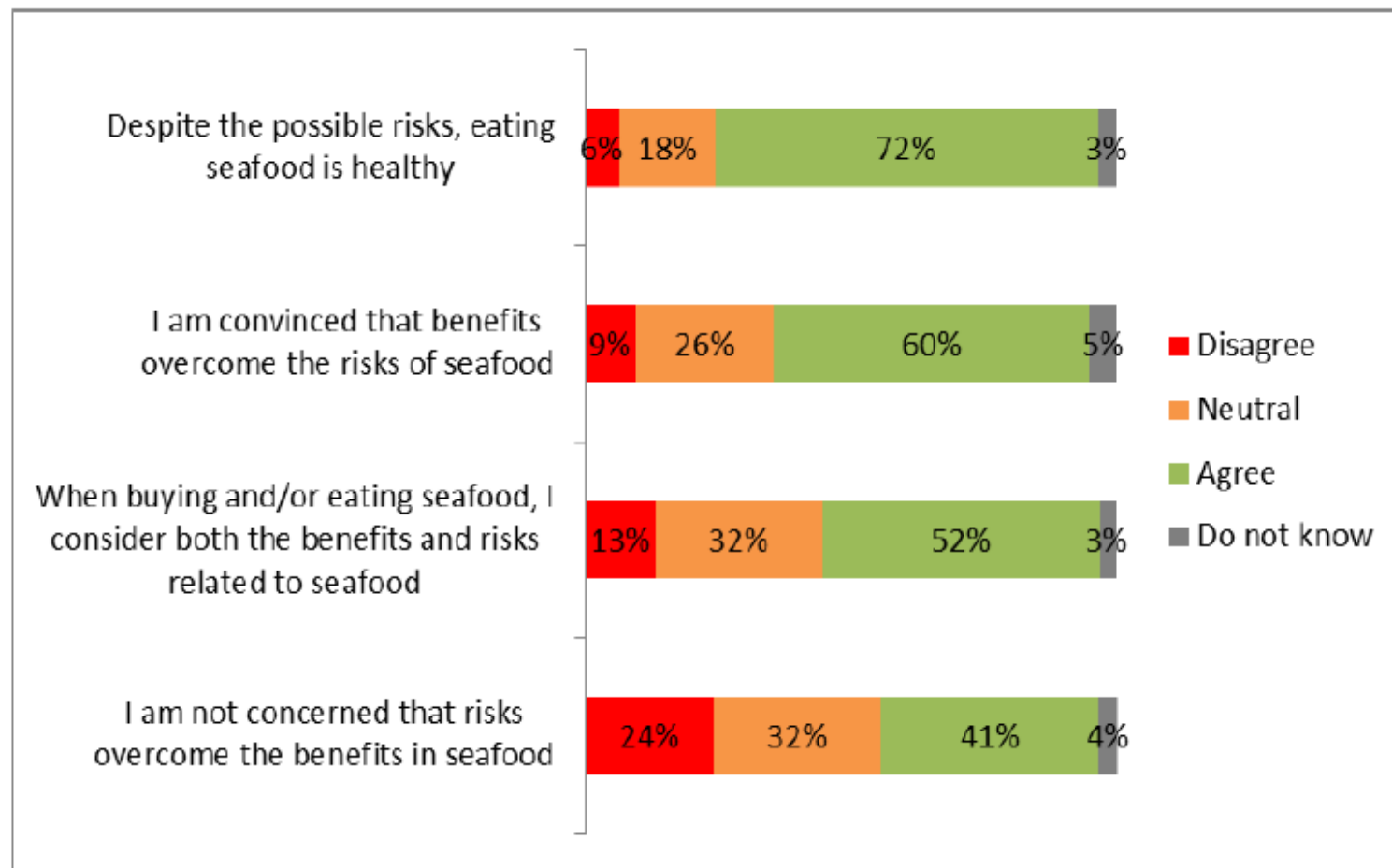
Table 7. Mean ratings on the behavior variables, comparison between the countries

	Ireland	Italy	Belgium	Portugal	Spain	Total
Seafood consumption (number of times per week)	1.61 ^b	2.11 ^c	1.09 ^a	2.78 ^d	2.64 ^d	2.05
Intention to eat seafood (on a 7-point Likert scale)	5.17 ^a	5.11 ^a	5.10 ^a	5.59 ^b	5.70 ^b	5.33

3. Supermarket is the preferred place of buying seafood for the five European countries

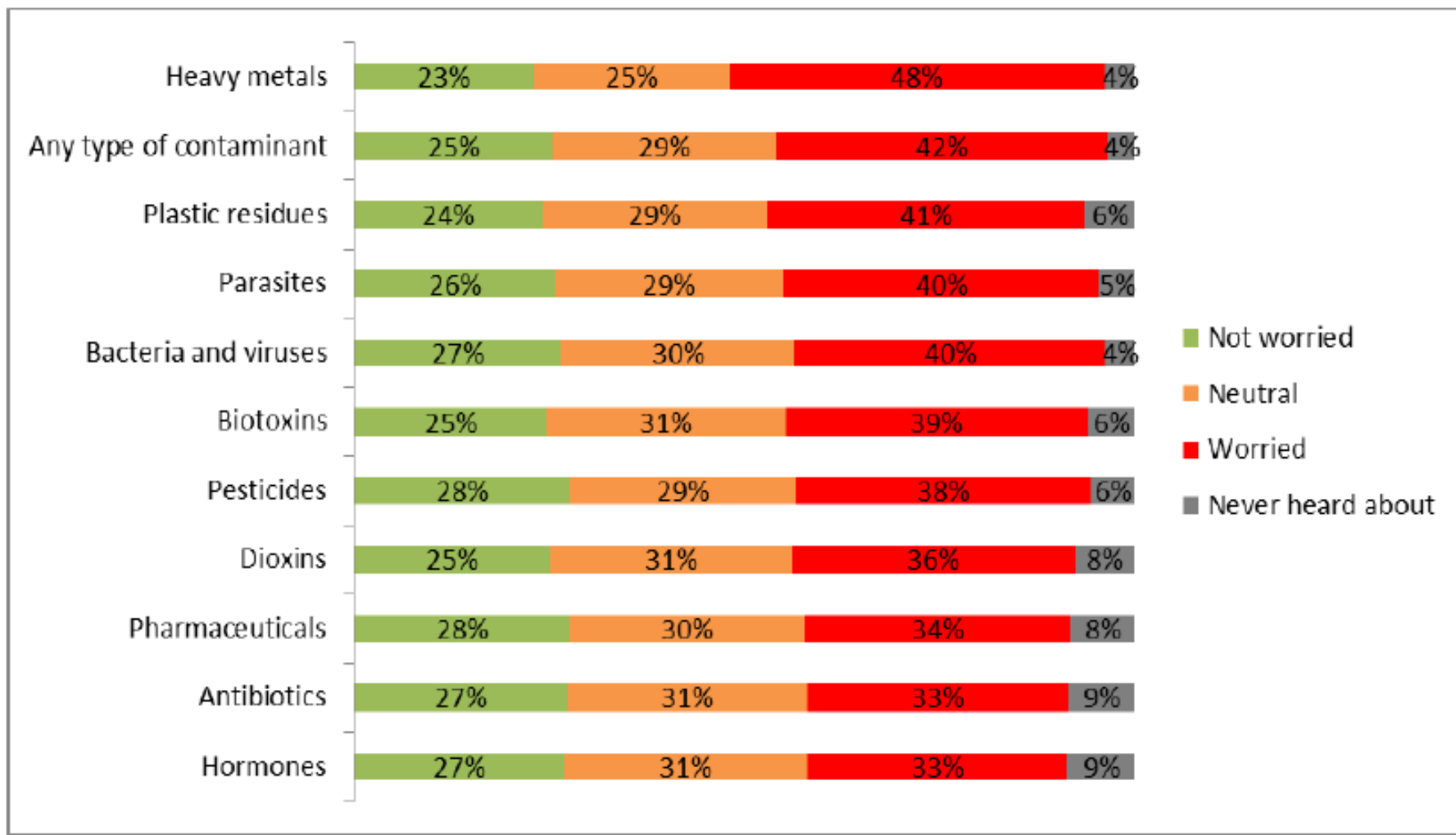
2. Perceived risks and benefits of seafood

Respondents perceive seafood more positive than negative.



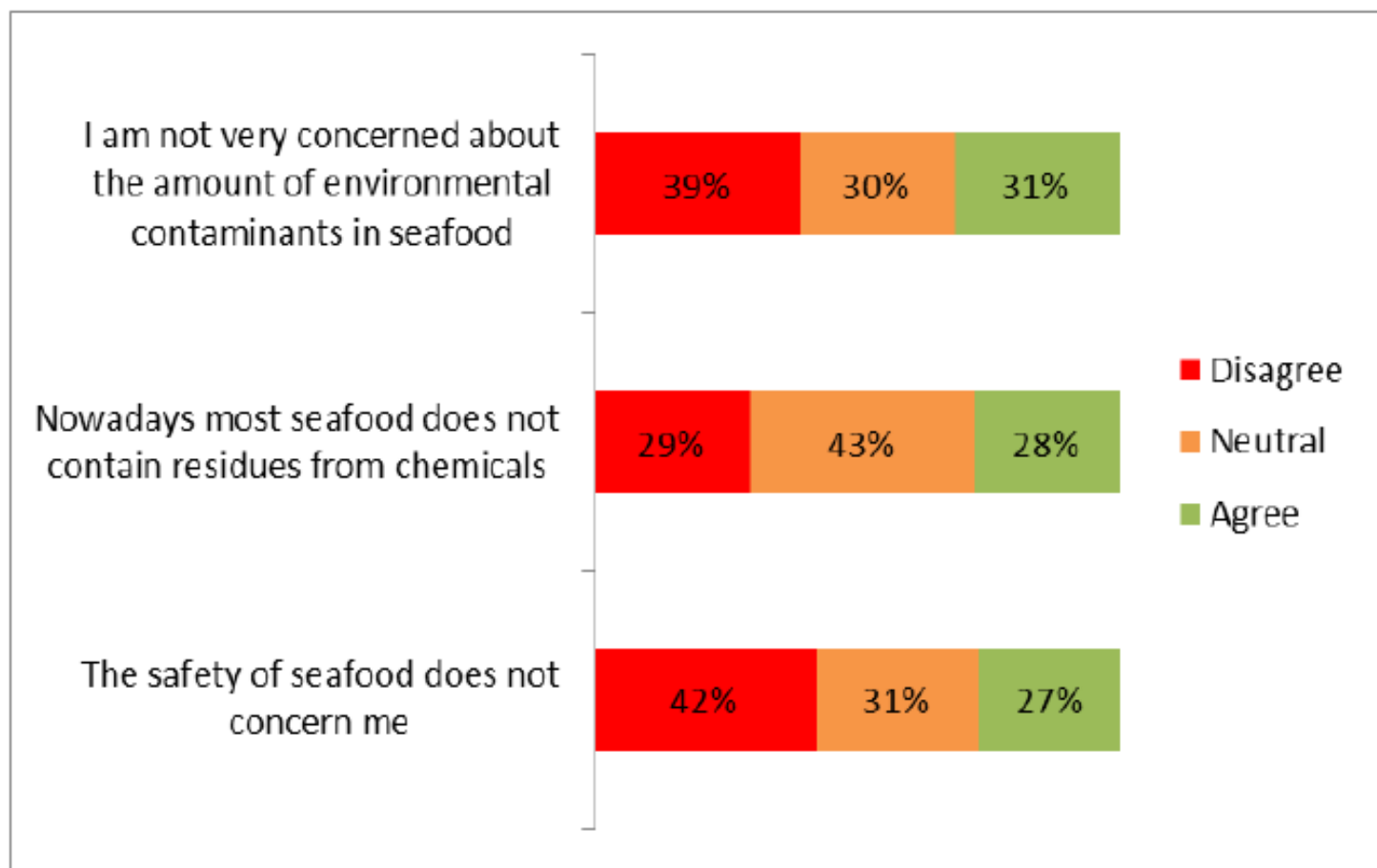
2. Perceived risks and benefits of seafood

Plastic residues (41%) follows heavy metals (48%).



2. Perceived risks and benefits of seafood

Despite the low score on the general risk perception, 42% of respondents are concerned about the safety of seafood.



2. Confidence in control organizations

- Respondents tend to trust the organizations that perform controls of the safety of seafood;
- In general, the national food safety authority (4.86) is the organization in which the respondents have most confidence;
- Followed by EFSA (4.77), and consumer organisations (4.75).

3. Use of information sources, trust in information sources, and information needs

- As an information source, respondents tend to trust the physician/doctor the most, followed by consumer organizations and scientists.
- However, information from science is almost never used.
- Respondents tend to have no trust in the information from the government and seafood industry.
- Family and friends are the information sources that are used mostly, followed by media, and internet.

4. General attitudes towards the marine environment

- More neutral attitude towards the marine environment than seafood.
- Respondents are concerned about marine environmental problems.
- Participants did not have a strong belief in themselves in being capable of making a difference in tackling marine environmental problems.
- However, we observed: higher awareness=higher degree of concern
→ higher belief that an individual can make a difference if a concrete action is proposed

- Respondents have a good attitude towards seafood and more neutral towards the marine environment.
- A certain concern about seafood safety cannot be ignored for plastics (41%) (and heavy metals).
- Another study performed in ECsafeSEAFOOD (91 respondents) highlighted that stakeholders (not consumers) believe that the level of information available especially about plastics is unsatisfying (Tediosi et al., 2015)

We have to bear in mind that

The study was performed in 2013-2014... things might have changed in the meantime.

Anyway, some advice can be given...

- A link exists between the status of the marine environment, and public health and well-being (EC 2012)
- If consumers are aware of the fact that pollution is not just something that happens far away, they may start to hold an attitude towards the environment.
- They might be more willing to pay a higher price for products that are environmentally friendly towards the issue as this may influence their purchasing decisions. →
- A higher awareness of this link may cause consumers to avoid (for example) purchasing plastic packaging, or littering, etc.

1) Information campaigns

2) Promotion of pro-environmental behaviours

- Regular consumption of seafood is recommended, but threats to European and the fish market must be taken into account

- It is important to provide balanced messages referring both to health benefits and risks so that consumers can adjust their seafood consumption

- Health and environmental sustainability as part of seafood consumption advices are of particular interest because of the growing concern about the changing consumers' knowledge, shaping their food choices and dietary patterns (Mørch et al., 2009; Jacobs et al., 2017).

- Clonan, A., Holdsworth, M., Swift, J.A., Leibovici, D., Wilson, P., 2012. The dilemma of healthy eating and environmental sustainability: the case of fish. *Public Health Nutr.* 15 (2), 277–284.
- Jardine, C.G., 2003. Development of a public participation and communication protocol for establishing fish consumption advisories. *Risk Anal.* 23 (3), 461–471
- McGloin, A., Delaney, L., Hudson, E., Wall, P., 2009. Nutrition communication The challenge of effective food risk communication. *Proc. Nutr. Soc.* 68 (2), 135–141.
- Tediosi, A, Fait, G, Jacobs, S, Verbeke, W, Alvarez-Muñoz, D, Diogène, J, Reuver, M, Marques, A, Capri, E (2015). Insights from an international stakeholder consultation to identify informational needs related to seafood safety. *Environmental Research.* 143. 10.1016/j.envres.2015.06.038.
- Verbeke, W. (2008). "Impact of communication on consumers' food choices." *Proceedings of the Nutrition Society* 67(3): 281-288.
- Verbeke, W., I. Sioen, Z. Pieniak, J. Van Camp and S. De Henauw (2005). "Consumer perception versus scientific evidence about health benefits and safety risks from fish consumption." *Public Health Nutrition* 8(4): 422-429.
- Jacobs S, Sioen I, Marques A, Verbeke W. Consumer response to health and environmental sustainability information regarding seafood consumption. *Environ Res.* 2018;161:492-504. doi:10.1016/j.envres.2017.10.052

- Jacobs, S, Sioen, I, De Henauw, S, Rosseel, Y, Calis, T, Tediosi, A, Nadal, M, Marques, A, Verbeke, W (2015) Marine environmental contamination: public awareness, concern and perceived effectiveness in five European countries. Environmental Research, Volume 143, Part B, Pages 4-10
- Jacobs, S, Sioen, I, Pieniak, Z, Henauw, S, Maulvault, A, Reuver, M, Fait, G, Cano-Sancho, G, Verbeke, W (2015). Consumers' health risk–benefit perception of seafood and attitude toward the marine environment: Insights from five European countries. Environmental Research. 10.1016/j.envres.2015.02.029.



- Now or later...

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