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Is seafood consumption modified by culinary TV programmes? Evidence from an European online survey

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Analysis developed in the H2020 research **project SUCCESS**

- Focus on **seafood consumption patterns** in EU countries with various methodologies : surveys, focus groups….
- Additional hypothesis :
  Do TV programmes influence consumption patterns ?

> *"There's no denying the profound effect that MasterChef and the unstoppable Jamie Oliver have had on the way we think about our daily food"* (2014-10-16)

> *"In 2013, a TV documentary on smoked salmon production reduced French consumption significantly according to the producer Delpeyrat" (2016-01-21)*

More and more culinary TV programmes :

From preparation of recipes to competition for the best chef

Popular programmes :

3,500,000 viewers for Master Chef in France

Preliminary study (Le Gallic et Nourry 2015)

Online survey implemented in the University of Brest (France)

273 respondents

14 % of the culinary TV programmes viewers
were influenced by these shows
in their preparation of **seafood products**

1.1. Structure of the Survey

4 parts

Social representations of fish

Words association

3 to 5 words associated to fish

Ranking

From the most to the least important

Valence

Very positive, positive, neutral, negative or very negative

Perceptions

Used to create dummies

- List of paired characteristics

  Fish is expensive 1 2 3 4 5 6 7 Fish is cheap

- List of reasons for not consuming more seafood products

1.1. Structure of the Survey

4 parts

Social representations of fish
- words association, valence & perceptions

Cooking, Consumption and seafood products
- Closed questions, multiple choice

Culinary TV programmes
- Closed question, multiple choice

Socio-economic data
- sex, age, income, city…

Implemented online with Google Docs

1.2. Survey diffusion in European Universities

France	UK	Italy
Paris – AgroParisTech	Plymouth	Palerme
Dunkerque	Londres	Salerne
Lorient	Aberdeen	Sienne
Bordeaux	Brigthon	Pise
Marseille	Nottingham	Bologne
Brest	Oxford	Bergame
Clermont-Ferrand	Sheffield	Parme
Grenoble	Portsmouth	
Lyon	Greenwich	
Montpellier	Gloucester	
Nantes		
Nice		
Tours		
Strasbourg		

1.3. Samples

France	UK	Italy
8 universities	5 universities	3 universities
15/02/2016 to 10/05/2015		
789 respondents	49 respondents	49 respondents

1.3. Samples

French sample :

789 answers obtained
- 25 answers suppressed (students and retired)
= 764 answers

Study based on the question :

In the last 12 months, would you say
that your consumption of seafood products :

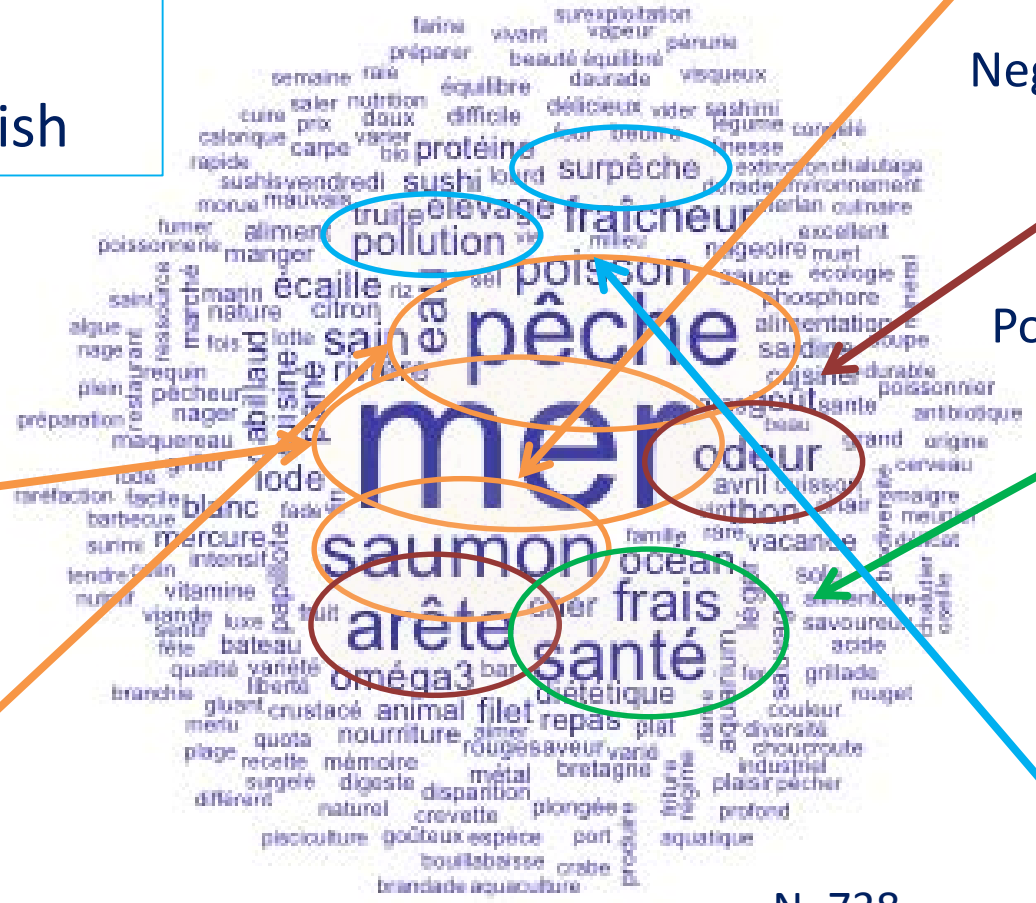
- Increased
- Remained stable
- Decreased

→ **738 answers**

- I do not know
- I do not wish to answer

2.1. Social representations of fish

A rich and diversified universe associated to fish



Fish « model »
SALMON

Negative elements
FISHBONES
SMELL

Positive elements
HEALTH
FRESH

Environmental issue
POLLUTION
OVERFISHING

A seafood product
SEA

linked to a human activity
FISHING

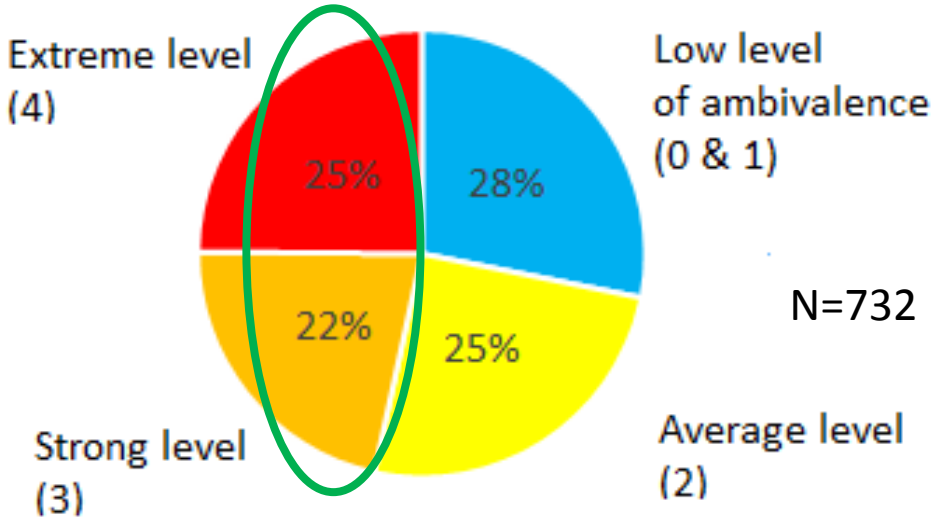
2.1. Social representations of fish

All in all positive…

65 % of **postive** associations

But often opposite

Level of **ambivalence** : gap between the most positive and the most negative valence



if same assesments for each word
--> Level = 0
if very positive and very negative :
--> Level = 4

Ambivalence stronger
for people sensitive to **environmental issues**

2.2. Econometric Analysis

Model

Dependant variable

Answer to the question :

In the **last 12 months**, would you say that **your consumption of seafood products** :

Decreased	Y=0
Remained **stable**	Y=1
Increased	Y=2

Explanatory variables tested

Sex
Age
Household structure
Geographic variable
Income
Seafood consumption frequency
Viewer of culinary TV programmes
Perceptions about price, production conditions, health, culture

2.2. Econometric Analysis

Adjacent Logit :

$$ln\frac{P(Y=k+1/X)}{P(Y=k/X)} = a_{0,k} + \sum_{i=1}^{J} a_{i,k} X_i \quad k = 0,1$$

		Adjacent category logit
Constant	a0,0 --> P(Y=1)/P(Y=0)	0,48
	a0,1 --> P(Y=2)/P(Y=1)	-2,19**
Household with child	eq1 : stable / decreased	-0,14
	eq2 : increased / stable	-0,65***
Coastline	eq1 : stable / decreased	0,50*
	eq2 : increased / stable	0,12
Perception on price	eq1 : stable / decreased	-0,94***
	eq2 : increased / stable	0,13
Perception on prod. Conditions	eq1 : stable / decreased	-0,40*
	eq2 : increased / stable	0,26
Perception on health	D1 : eq1 : stable / decreased	1,58 ***
	eq2 : increased / stable	0,56
	D2 : eq1 : stable / decreased	0,68
	eq2 : increased / stable	0,06
TV culinary prog. View	eq1 : stable / decreased	0,54**
	eq2 : increased / stable	0,12
	LR Test - Constant Only	53,34 ***
	LR Test - Proportional Odds	7,58

*** 1%, ** 5 %, * 10%

- Analysis of seafood consumption patterns
  - with an **online survey**
  - incorporating questions on **social representations** of fish
  - adressed to **universities staff**
- Research hypothesis :

Do TV programmes influence consumption patterns ?

--> **Interesting results** for the French sample

Culinary TV shows can help maintaining seafood consumption

- Avenues of research

Data analysis to be continued

--> Words association :

Are there different universes ? According to which variable(s) ?

--> Econometric work :

Integration of additional **explanatory variables** ?

Study on **sub-samples** : geographic ? Ambivalence level ?

Other **dependant variable** : fish consumption frequency ?

European sample ?


Thank you for your attention !

Annex 1

Descriptive Statistics

Age and Sex Distribution

	Male	Female	No answer	Total	%
18-34	40	130		170	*23,04*
35-44	54	156	2	212	*28,73*
45-54	65	161	1	227	*30,76*
55 and more	53	74		127	*17,21*
No answer		2		2	
Total	212	523	3	738	
%	*28,73*	*70,87*			

Annex 1

Descriptive Statistics

Geographic Distribution

	Number	%
Paris and its region	100	13,55
North East	369	50,00
North West	120	16,26
South West	30	4,07
South East	118	15,99
No answer	1	0,14
Total	738	

	Number	%
With coastline	241	32,66
Without	495	67,07
No answer	2	0,27
Total	738	

Net Income Distribution
(for the household)

	Number	%
Less than 1200 €	14	1,90
1201 to 2400 €	136	18,43
2401 € to 3600 €	187	25,34
3601 € to 4800 €	167	22,63
More than 4800 €	176	23,85
No answer	58	7,86
Total	738	

Annex 2

Econometric Analysis

Cumulative Logit :

$$ln\frac{P(Y>k/X)}{P(Y\leq k/X)} = a_{0,k} + \sum_{i=1}^{J} a_{i,k} X_i \quad k = 0,1$$

		Cumulative logit
Constant	a0,0 --> P(Y>0)	0,63
	a0,1 --> P(Y>1)	-2,56**
Household with child	eq 1 : P(stable and increased)	0,22
	eq 2 : P(increased)	-0,68***
Coastline	eq 1 : P(stable and increased)	0,51
	eq 2 : P(increased)	0,18*
Perception on price	eq 1 : P(stable and increased)	-0,93***
	eq 2 : P(increased)	-0,29
Perception on prod. Conditions	eq 1 : P(stable and increased)	-0,41*
	eq 2 : P(increased)	0,21
Perception on health	D1 :eq 1 : P(stable and increased)	1,61 ***
	eq 2 : P(increased)	0,8
	D2 :eq 1 : P(stable and increased)	0,68
	eq 2 : P(increased)	0,01
TV culinary prog. View	eq 1 : P(stable and increased)	0,53**
	eq 2 : P(increased)	0,19
	LR Test - Constant Only	52,88 ***
	LR Test - Proportional Odds	6,77

*** 1%, ** 5 %, * 10%

Annex 3

Social Representations : Cluster

biodiversité
liberté
équilibre
nature
espèce
beauté
quota
marin
pêcheur
alimentaire
nourriture
grand
extinction
recette
plongée
plat
qualité
variété
iode
vivant
semaine
fois
culinaire
vie
surexploitation
saint
nutritif
préparation
aquatique
protéine

santé
fraîcheur
goût
pollution
protéine
élevage
mercure
odeur
surpêche
finesse
intensif
sauvage
gras
saveur
mémoire
écologie
variété
calorique
léger
alimentation
oméga3
profond
disparition
nutrition
régime
naturel
acide
luxe
fête
iode
vitamine

sain
cher
varié
rare
difficile
cuisson
frais
savoureux
cuisiner
facile
digeste
rapide
préparer
prix
diversité
diététique
plaisir
beau
varier
fin
goûteux
équilibré
nutritif
excellent
produire
délicat
durable
léger
délicieux
oméga3

mer
pêche
écaille
océan
griller
bateau
arête
animal
crustacé
aquarium
rivière
filet
port
fruit
cuisine
frais
couleur
nageoire
marché
tendre
surgelé
plage
farine
fade
bouillabaisse
aquaculture
algue
pêcheur
sushi
iode

eau
avril
poisson
nager
doux
rouge
phosphore
vendredi
sante
mer
aliment
pisciculture
nageoire
vin
carpe
requin
écaille
manger
poissonnerie
surimi
muet
arête
rivière
grillade
plongée
mauvais
pêche
pané
bio
aquaculture
saint
crabe

saumon
cabillaud
thon
sardine
papillote
beurre
pané
truite
crevette
sole
dorade
maquereau
merlan
colin
choucroute
restaurant
citron
sushi
raie
meunier
merlu
sushis
lotte
friture
vapeur
blanc
légume
daurade
bar
rouget