



Consumer's concern for food waste

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**Montpellier Supagro - UMR MOISA
Chaire Unesco en alimentations du monde**

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The aim of the Unesco Chair in World Food Systems (2011) project is to increase and disseminate academic and empirical knowledge on *world food systems, their diversity, their dynamics and their human and environmental impacts.*



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Chaire UNESCO
en alimentations du monde
France



Centre international
d'études supérieures
en sciences agronomiques

Research team

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□ Where ?



Montpellier Supagro International Center for Higher Education
in Agricultural Sciences

□ Research unit ?

MOISA (Markets, Organizations, Institutions and Players' Strategies)

□ Research team ?

REGAAL (Research on food governance at consumers /companies /food chains level)

Main questions : - What are the expectations of consumers regarding sustainability for food products ?

- How do other food chain actors take it into account ?

Consumer's Concern for Food Waste

Presentation based on G. Le Borgne's current work for PhD

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1- Introduction

2 - Consumer's Concern for Food Waste (CCFW) - General approach

3- Results: validation of the CCFW scale and test of the model

4 - Discussion and implications

5- Going further

1. Introduction

What is food waste?

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- FAO: distinction between the unintended "food losses" at the beginning of the supply chain from producer through to processing and manufacturing, and "food waste" towards the end (from retail and final consumption) where the food discarded is more likely to be a result of an intended decision, particularly in relation to consumers.
- WRAP: "Food waste is any food (or drink) produced for human consumption that has, or has had, the reasonable potential to be eaten, together with any associated unavoidable parts, which are removed from the food supply chain."

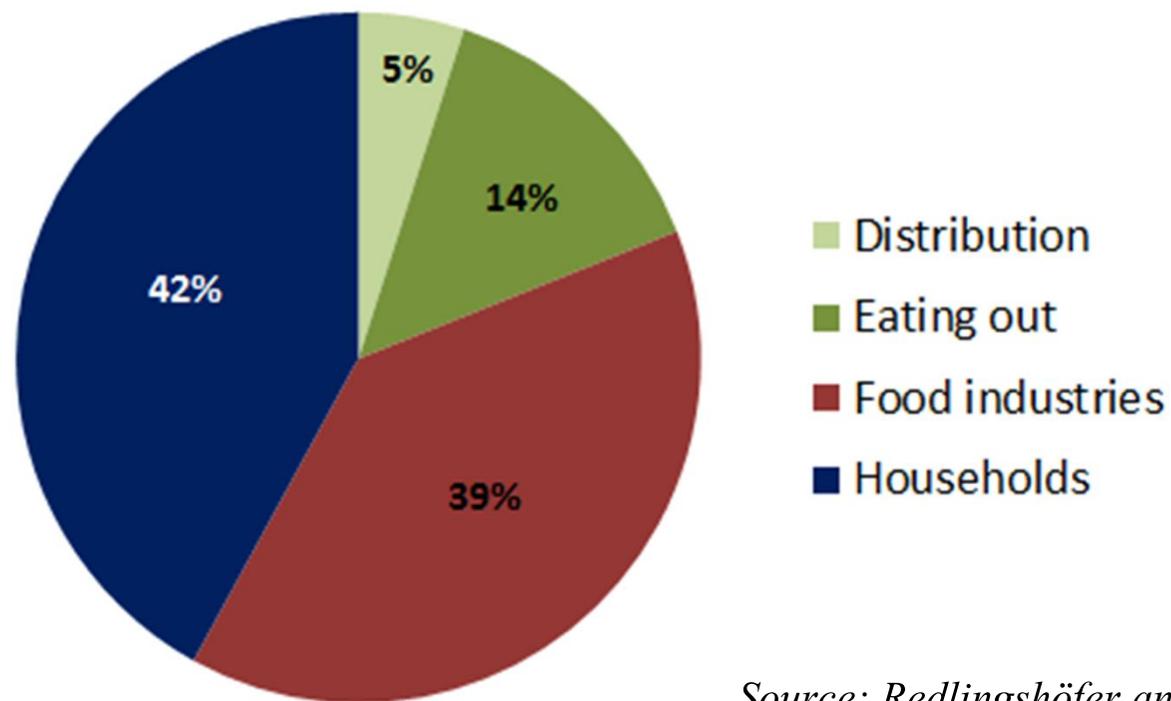
1. Introduction

Context

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- A high level of food waste, particularly at households' level:

E.U. : along the food chain: 179kg/pers./year (2012)

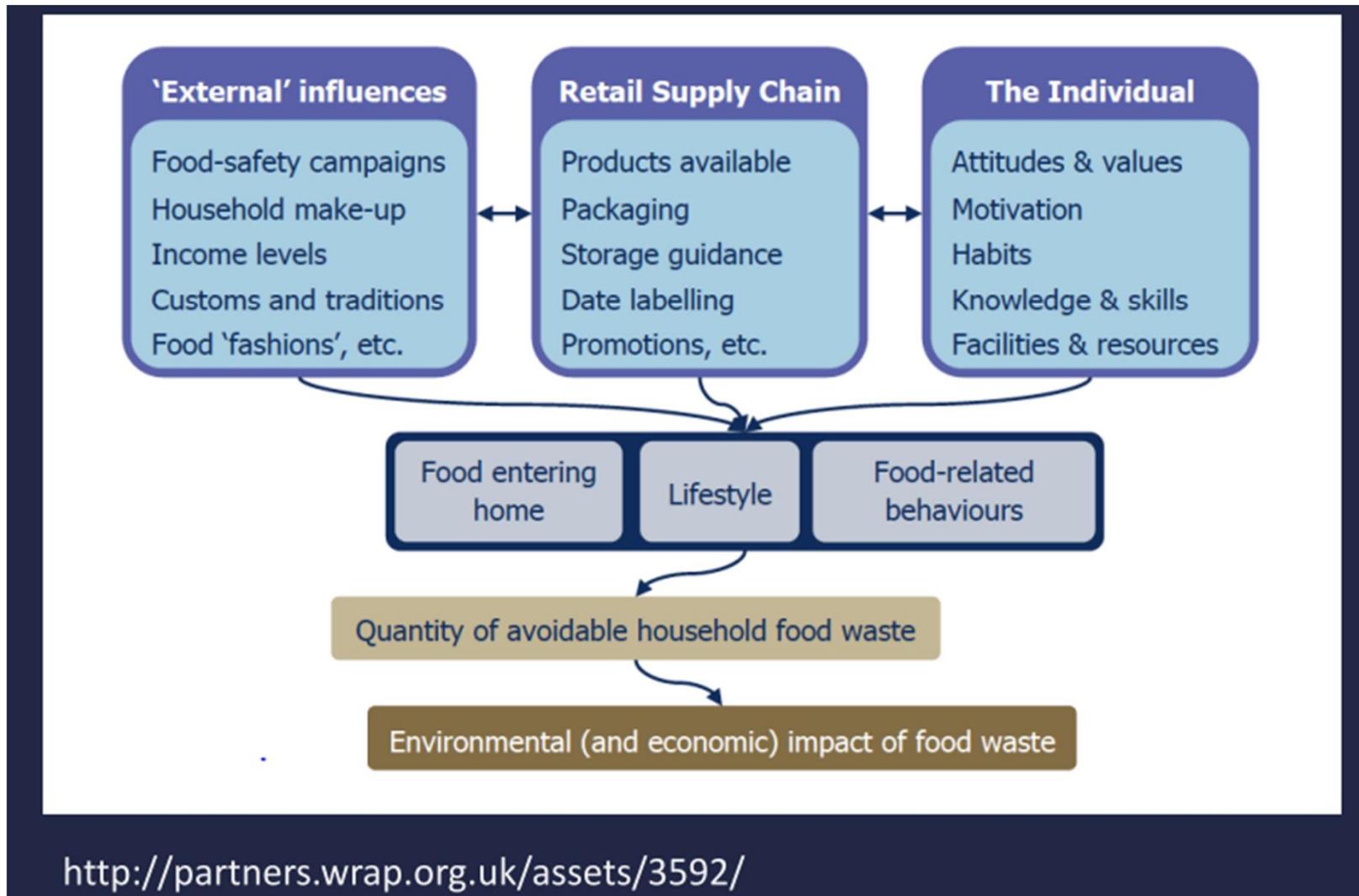


Source: Redlingshöfer and Soyeux. Dualine, 2011.

1. Introduction.

Factors explaining food waste

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1. Introduction

What responsibility for the consumer ?

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“ Consumers’ choices about food quantities are affected by perception biases (Chandon and Wansink, 2006), and influenced by marketing techniques (e.g. Neslin and Van Heerde, 2009)

➤ *Just et Wansink, 2008: « All-You-Can-Eat pricing paradox »*

A field experiment at an all-you-can-eat pizza restaurant shows that a 50% discount on the price of the meal led customers to consume 27.9% less pizza (2.95 vs. 4.09 pieces).

1. Introduction

What responsibility for the consumer ?

Though, consumers are averse to wastefulness (Arkes, 1996)

...particularly as regards food products (Bolton and Alba, 2012)

“ A lack of time, convenience, and domestic skills (Evans, 2012)

1. Introduction

A theoretical lack

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- “ Studies on the motivations for not wasting (Quested and al., 2013), Graham-Rowe and al., 2014)
- “ Studies on the impact of some behaviors on the quantities wasted by households (Hoj, 2011), Stefan and al., 2013)

No assessment of consumer's level of concern about food waste.

- Is food waste a serious issue ?

- Does it affect me to experience a wastage of food ?

It is necessary to have a measure of consumer's

« concern for food waste »

2. Consumer's Concern for Food Waste. General approach

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Definition (CCFW) :

Fact of giving importance to the issue of food waste and to its consequences and, to be affected by food waste.

What it includes

- Several levels (myself, my relatives, the others, planet earth... (Hansla et al., 2008))
- General intentions to limit one's food wastage

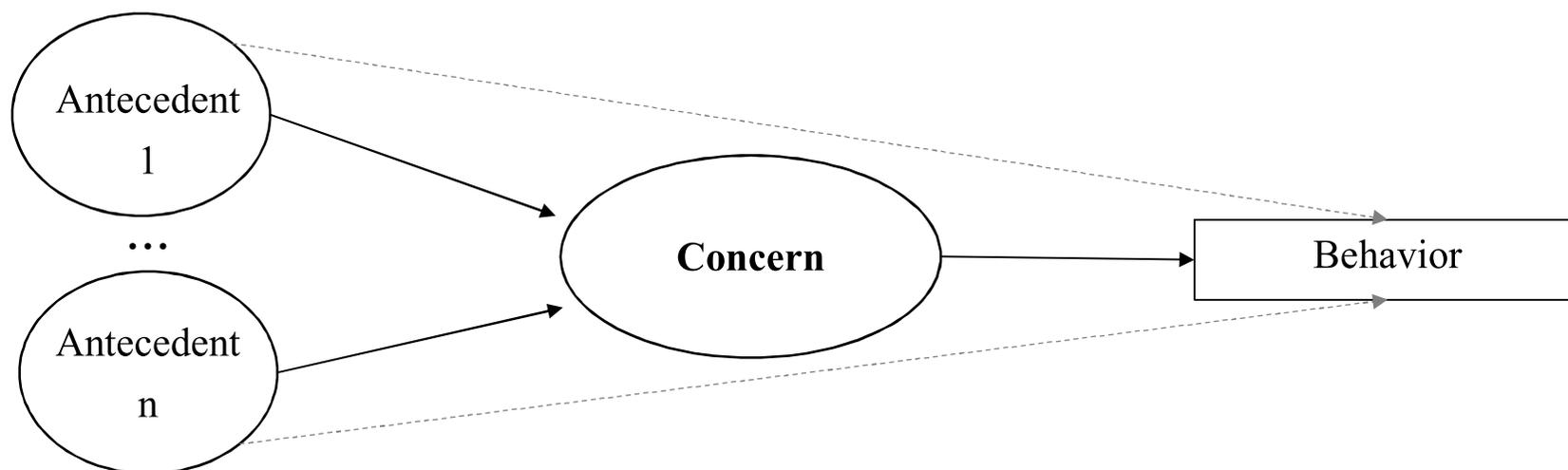
What is not included

- Perceived Behavioral Control, Perceived Efficiency, Belief in other's cooperation...
- Behaviors, and intentions of specific behaviors

2. Consumer's Concern for Food Waste. General approach

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A variable designed to be a **mediator**



2. Consumer's Concern for Food Waste. General approach

Qualitative survey

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- Exploratory interviews:

20 semi-directive interviews of consumers.

Theme: food consumption and food habits, purchase behavior, perception of food waste. Thematic analysis

- Qualitative investigation on the Web:

Analysis of 251 comments of Internet users reacting to communications on food waste.

-Expression of concern/sensibility for food waste

-Antecedents of Concern

2. Consumer's Concern for Food Waste. General approach.

Results from the qualitative study

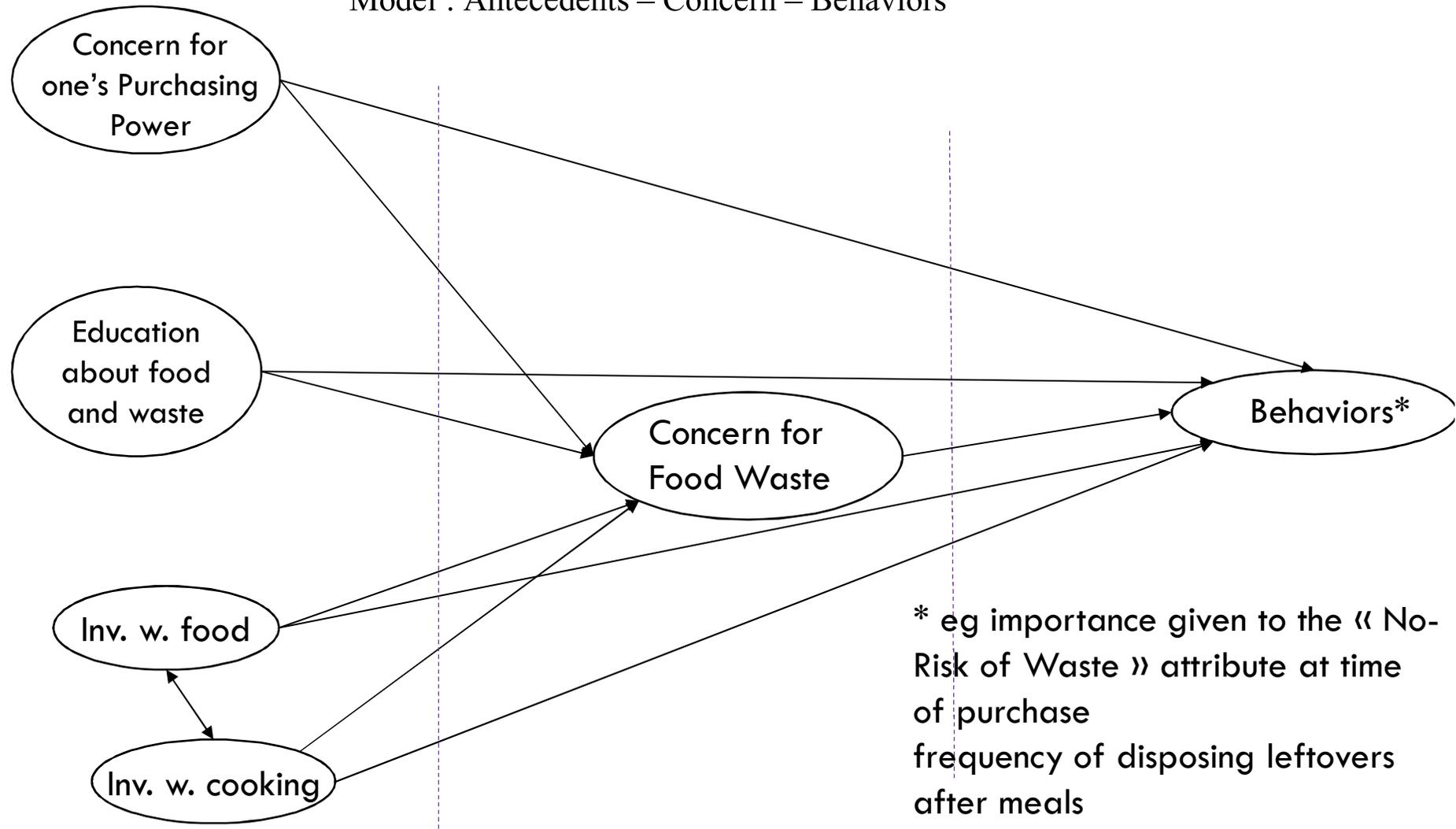
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- Various consequences of food waste perceived by consumers.
 - “It's a waste of money !” ; “When I waste food, I feel guilty (...), I'm very affected” ; “Damn, some people are starving, and they'd be happy to eat this !”.
- Various ways to express concern
 - about one's own wastage of food: in my family, throwing food away is frowned upon”),
 - about others wasting food: “when I see what some people throw away, it really hurts me”,
 - about food waste in general: “knowing that so much food is wasted throughout the world is...quite disturbing”.

2. Consumer's Concern for Food Waste. General approach

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Model : Antecedents – Concern – Behaviors



2. Consumer's Concern for Food Waste. General approach

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Collection of quantitative data

Survey 1: 290 respondents. Exploratory factor analysis.

Emergence of a 2-dimensional structure of Concern for Food Waste

Survey 2: 1018 respondents. Confirmatory factor analysis.

- Discriminant validity (two distinct variables ?)
- Predictive validity

3. Results.

Structure of CCFW: A 2-dimensional Concern for Food Waste

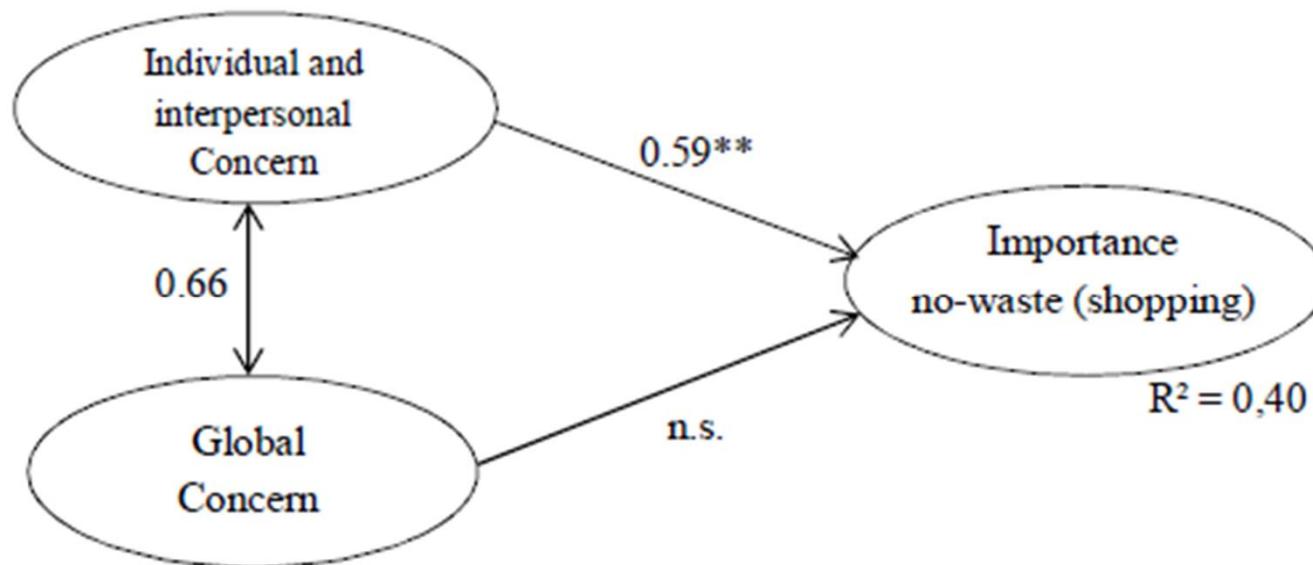
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Latent variables	Reliability	Items	Loadings	of c.v.
Individual Concern (57% var.)	= 0,80 = 0,81	I would feel ashamed if someone saw me getting rid of edible food	0,771	0,580
		Managing food properly in order to waste as less food as possible is a real concern for me	0,710	
		I am really affected when I see someone throwing edible food away	0,801	
Global Concern (15%)	= 0,78 = 0,78	Food waste poses problems for waste management in cities	0,693	0,544
		Today, food waste is a great issue in France	0,747	
		Food waste has really harmful consequences on planet earth	0,771	

3. Results

Predictive Validity

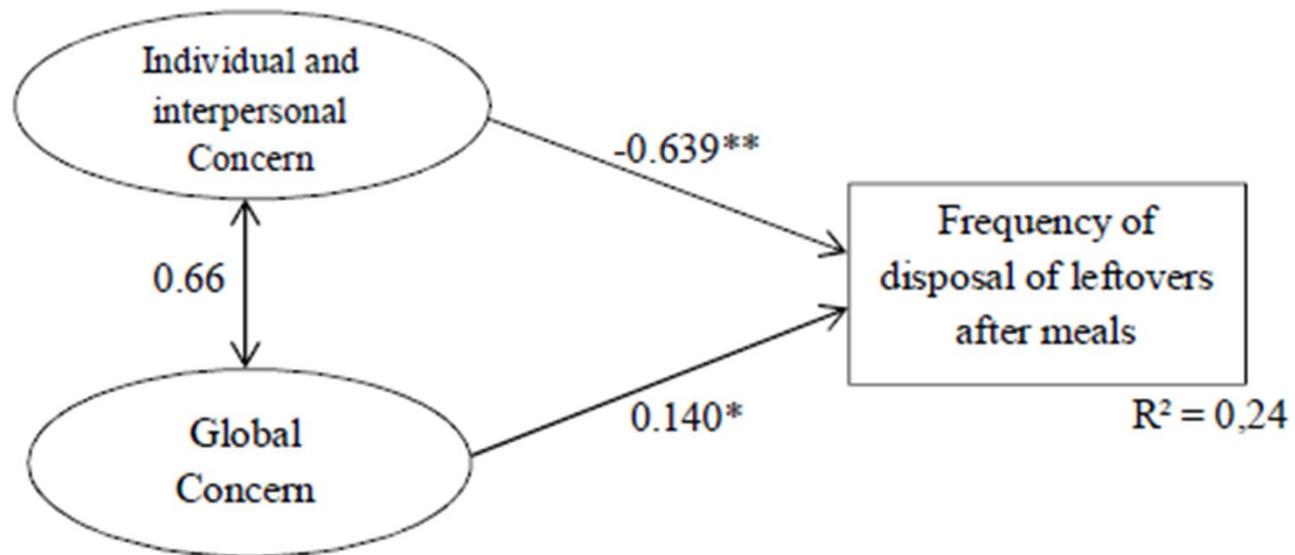
Effect of the two types of concern on the importance given to the « No-Risk of Waste » attribute at time of purchase.



3. Results

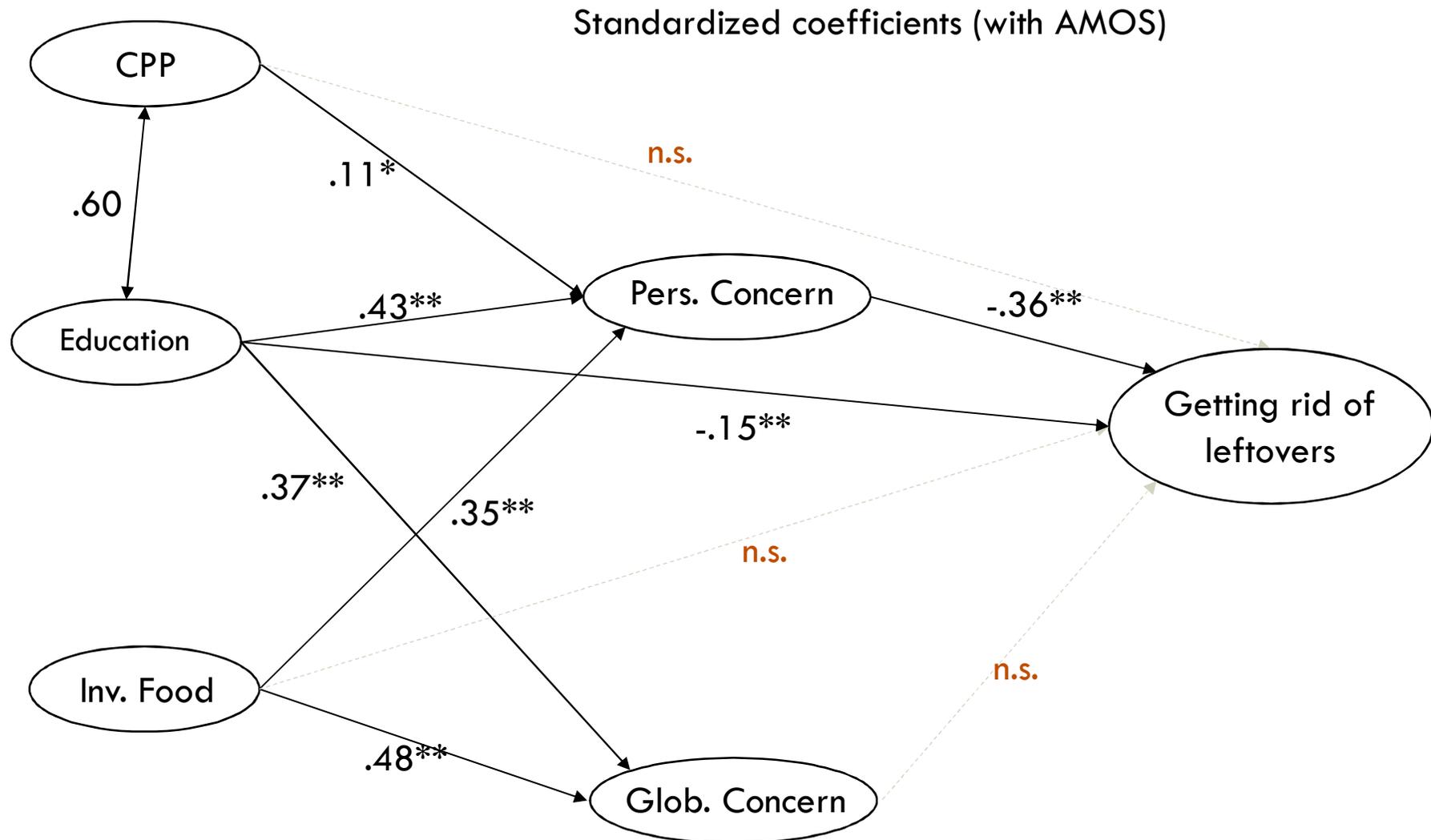
Predictive Validity

Effect of the two types of concern on the frequency of disposing leftovers after meals



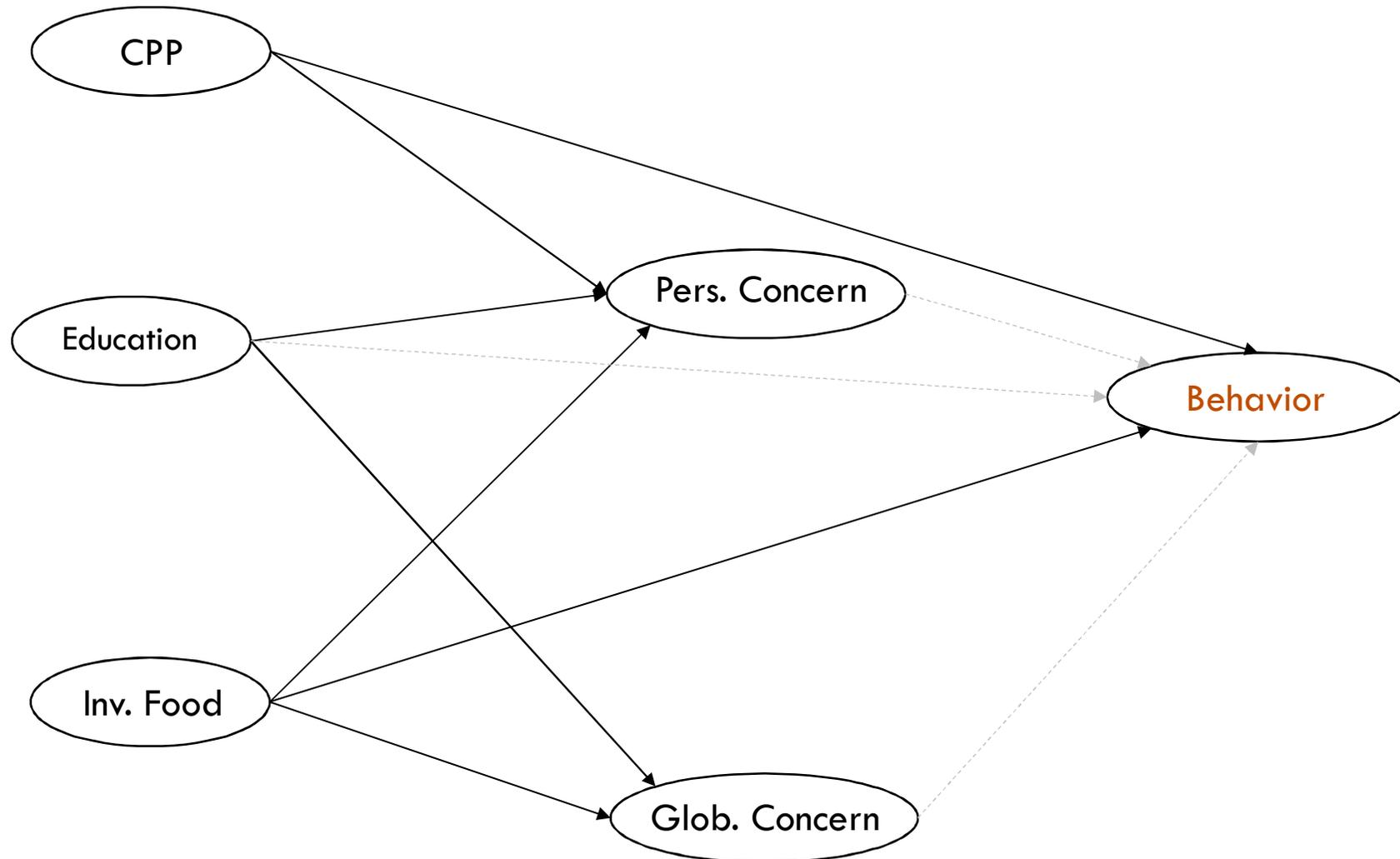
3. Results

Test of the model



3. Results

Studying links between « up- » and « downstream »



3. Results

Studying links between « up- » and « downstream »

The various « waste-reducing » behaviors suggested don't have the same antecedents

Behavior Variable	No-Risk-Of- Waste Attribute	Disposal of Leftovers	Tendency portions too large	Shopping lists	Planing meals	Putting fridge in order	Consuming leftovers ASAP	Priority to close exp
CPP				+	+			
Involvement		+	+		+	+		
Education	+	-				+	+	+
Individual Concern	+	-	-	+			+	+
Global Concern	+						+	

4. Discussion and implications

- A significant effect of CCFW on purchase preferences and some domestic behaviors.
- Very distinct effect of « Individual Concern » and « Global Concern », calling for the maintenance of this bidimensional vision of CCFW
- Coherent with Quested et al. (2013) (65+), and the works on sustainable practices (Daniel and Sirieix, 2012)

4. Discussion and implications

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- Home food behaviors are not all adopted « *via* CCFW ». Antecedents depend on the behavior.
 - Shall the « 10 habits to reduce food waste at home » be presented as such ?

- Retailers should take into account their image of « waster » and « source of incitation to wastage » it can have for some consumers. (The same for brands)
 - Promotions, and wastage: beware of skepticism...

5. Going further

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- Contributions:

- “ Distinction between several behaviors and several antecedents

- “ Highlighting the mediating role of the “two concerns” according to the behavior

- **Limits:**

- “ Declarative survey- no observed behavior

- “ No direct knowledge of individual motivations for adopting specific behaviors

5. Going further

Future research:

- “ Measuring actual behavior
- “ Study other behaviors
- “ Moderation tests (locus of control, household structure...)
- “ Test of an anglophone version of the CCFW scale

General conclusion

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Consumers and food waste: need for future research

- Exploring further the concern-behavior gap
- Dynamic studies on the evolution of practices
- Study tensions such as « nutrition / food waste », « food safety / food waste », etc.
- Other suggestions?



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Thank you for your attention

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