



**How to induce a change in people's
food waste behavior?
Contributions of the Foot-in-the-Door
technique in a computerized context**

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Outline



I. General context: Food waste in France and communication campaigns

Household food waste in France

Food waste reduction in France

Limits of communication campaigns

II. How to induce a behavioral change: the Foot-in-the-Door technique

Principle of the Foot-in-the-door technique

Results of the Foot-in-the-door procedure

Foot-in-the-door experiments with informative preparatory acts

III. Method

Study overview

Experimental procedure

Hypotheses

IV. Results

Compliance with the preparatory acts

Compliance with the target request and FITD effect

Positive behavioral intention versus actual behavior

Reasons for withdrawals after declaring intention to register

Main results

V. Discussion

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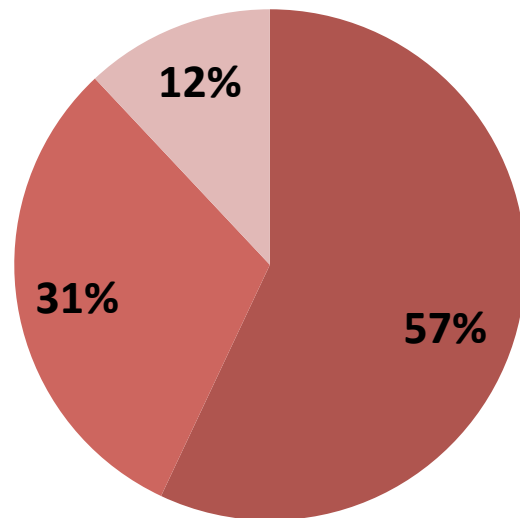
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Household food waste in France



Household food loss (Total kitchen waste)



- Avoidable:** food thrown out but still edible
 - Potentially avoidable:** food thrown out because of household preferences (e.g., potato skin)
 - Unavoidable** (e.g., banana skins, chicken bones)
- Food waste**

How much do households waste every year?

32 kg of avoidable food /person = 70 lbs /person

16 kg of potentially avoidable food /person = 35 lbs /person

159 € /person/year = 7,7% of the total household food expenditure

Food waste reduction in France



Priority for the French government – National Pact on the Fight against Food Waste (2013)

- Goal: Halve it by 2025
- How? Guidelines for every step of the food supply chain
→ In particular, at the consumer-level:



Website with information/tips

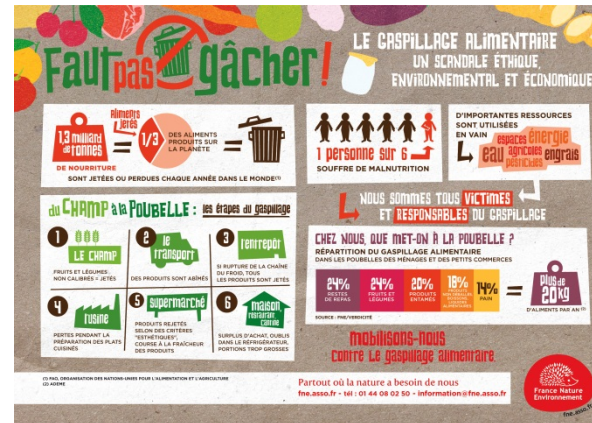
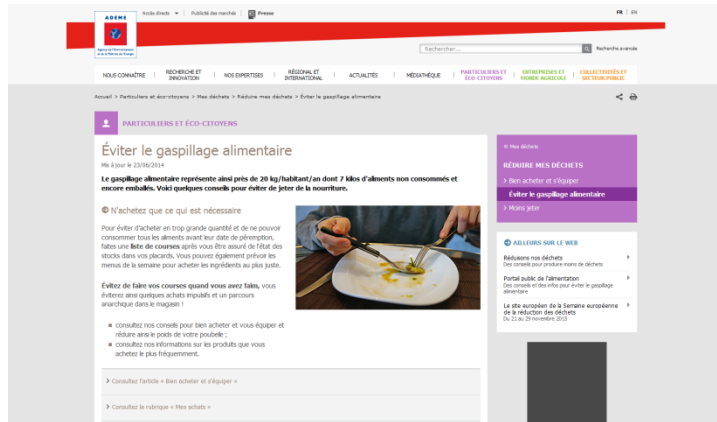
Communication campaign
(Summer 2013)



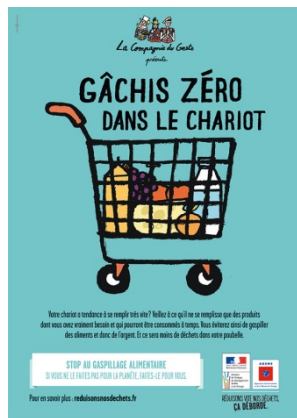
Food waste reduction in France Other communication campaigns



Other key actors who follow the guidelines:



Region Île-de-France
and Ademe



Ademe
(Environment and
Energy Agency)

France Nature
Environnement

Intermarché
(supermarket)



Limits of communication campaigns Literature



Differences between presuppositions and reality: the relative inefficiency of communication campaigns in producing behavioral enactments

Information



Positive attitudes



Sustained, long-lasting changes in behaviors



e.g., how people perceive the impact of their behavior on the global issue



Lead to

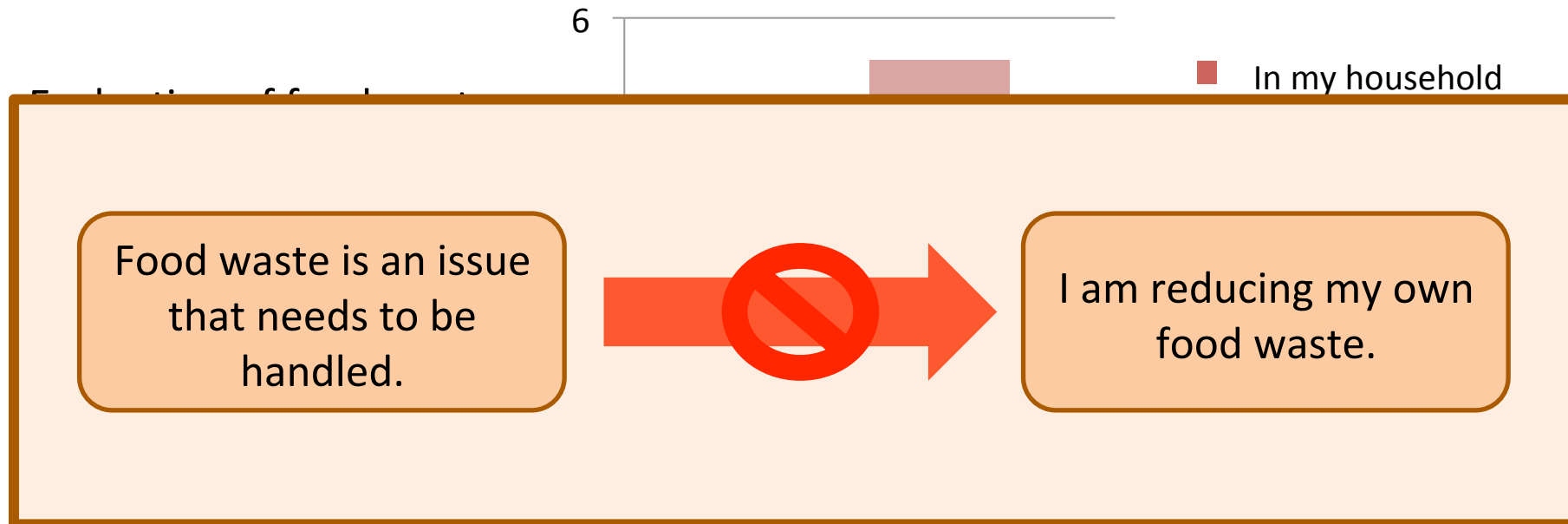


Influences

Limits of communication campaigns

What about food waste?

- **National survey on 820 participants (Sofres – Apr, 2012)**



- **Interviews of 17 participants (Balaine and Costa – Jan-Mar, 2014)**

Aware/against food waste.

Consider they don't "throw out much", not part of the problem.

Don't feel personally concerned by the need of reducing food waste at home.

⇒ ***Not interested by/reject the information on food waste.***

In search of new perspectives: from classical to “*binding communication*”



Test an alternative to classical communication techniques

- Low-cost
- Easily replicable on a large sample of people if efficient
- Usable by policy-makers
- Induce a long-lasting change in food waste behaviors

→ Binding communication

- *Not only:* What type of information should be conveyed? For whom?
How?
- *But also:* How do I prepare the ground for decisions to lead people to comply freely to what is expected of them? Use of **free will compliance procedures** such as the **Foot-in-the-Door technique**

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References: Girandola & Joule (2008), Joule & Beauvois (1998, 2002), Joule et al. (2007)

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Foot-in-the-door experiments with informative preparatory acts

III. Method

Study overview
Experimental procedure
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Main results

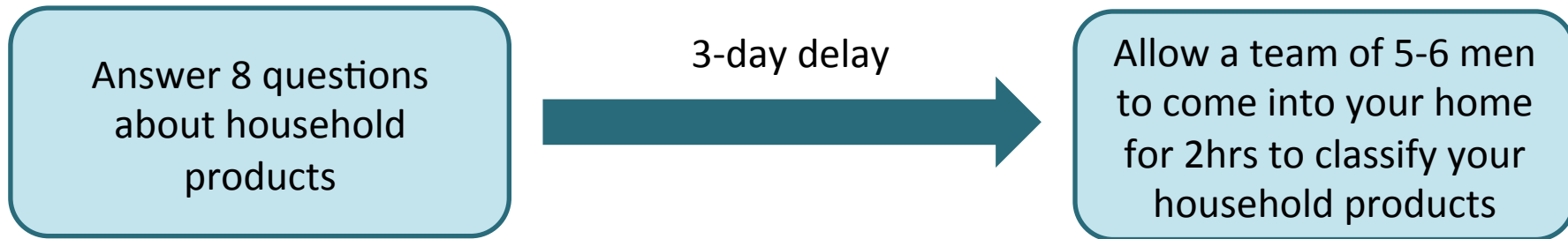
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Principle of the Foot-in-the-Door technique



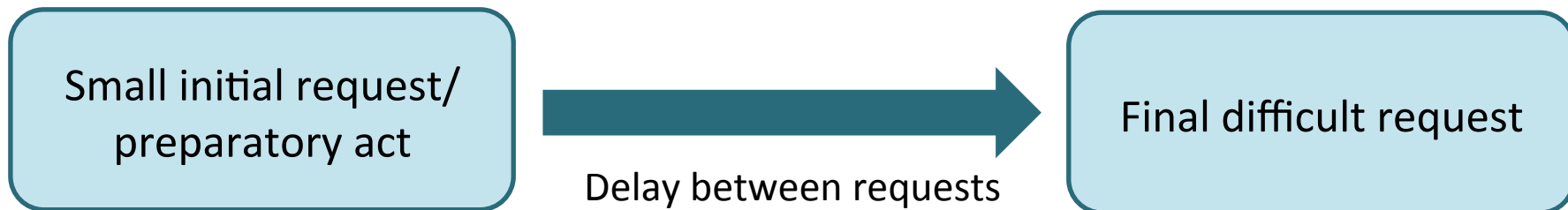
Goal: increase compliance with a difficult request

Freedman & Fraser's experiment (1966)



Secure compliance with

Increase the likelihood of compliance with

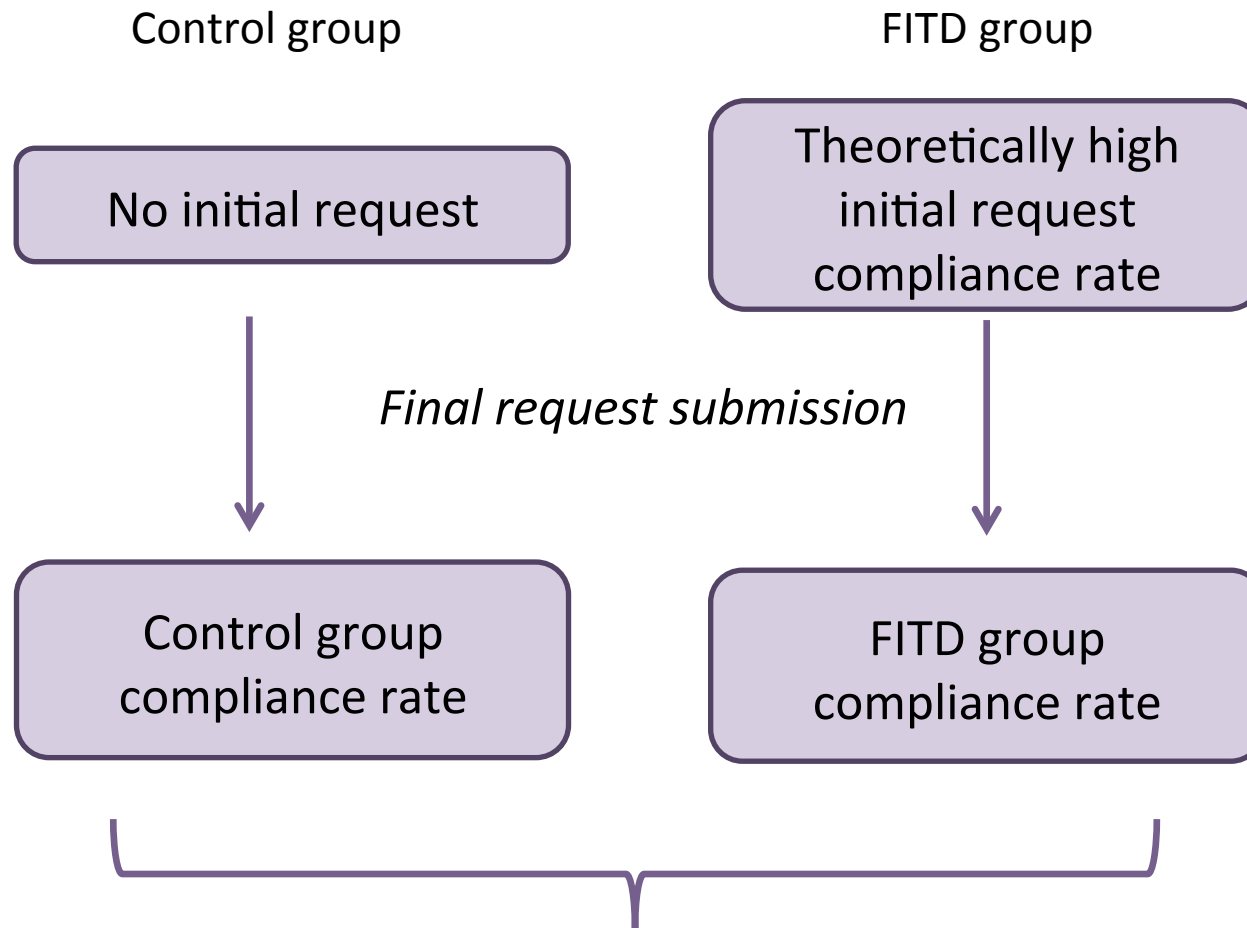


Principle of the FITD technique

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References: Bem (1972), Chartrand et al. (1999), Kelley (1967), Kelley & Michela (1980), Kiesler (1971), Joule & Beauvois (1998, 2002)

Results of the Foot-in-the-Door procedure



< ⇒ Expected FITD effect
> ⇒ Unexpected reversed FITD effect

Foot-in-the-Door in a computerized context: Guéguen et al. (2003)



New perspectives with an informative preparatory act and Internet in order to encourage donations to an organization that fights anti-personal mines.

Goal	Method	Preparatory acts	Final request	Results
<ul style="list-style-type: none"> - Orientate surfing experience - Strengthen feeling of freedom - Increase implication in the task 	<ul style="list-style-type: none"> - Contact by email with link to: - Fake website with information about the cause and organizations 	<ul style="list-style-type: none"> - Click on several links to surf from one informative page to another - Online petition 	<p>On the last webpage consulted, offer to donate money</p>	<p>FITD effect: more people showed interest in donating in the FITD condition than in the control condition</p>

- Use this framework for food waste reduction
- Hypothesis: Information more accepted in a computerized context (i.e., no social pressure, feeling of freedom, player vs receiver role)

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III. Method

Study overview
Experimental procedure
Hypotheses

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Main results

V. Discussion

Method

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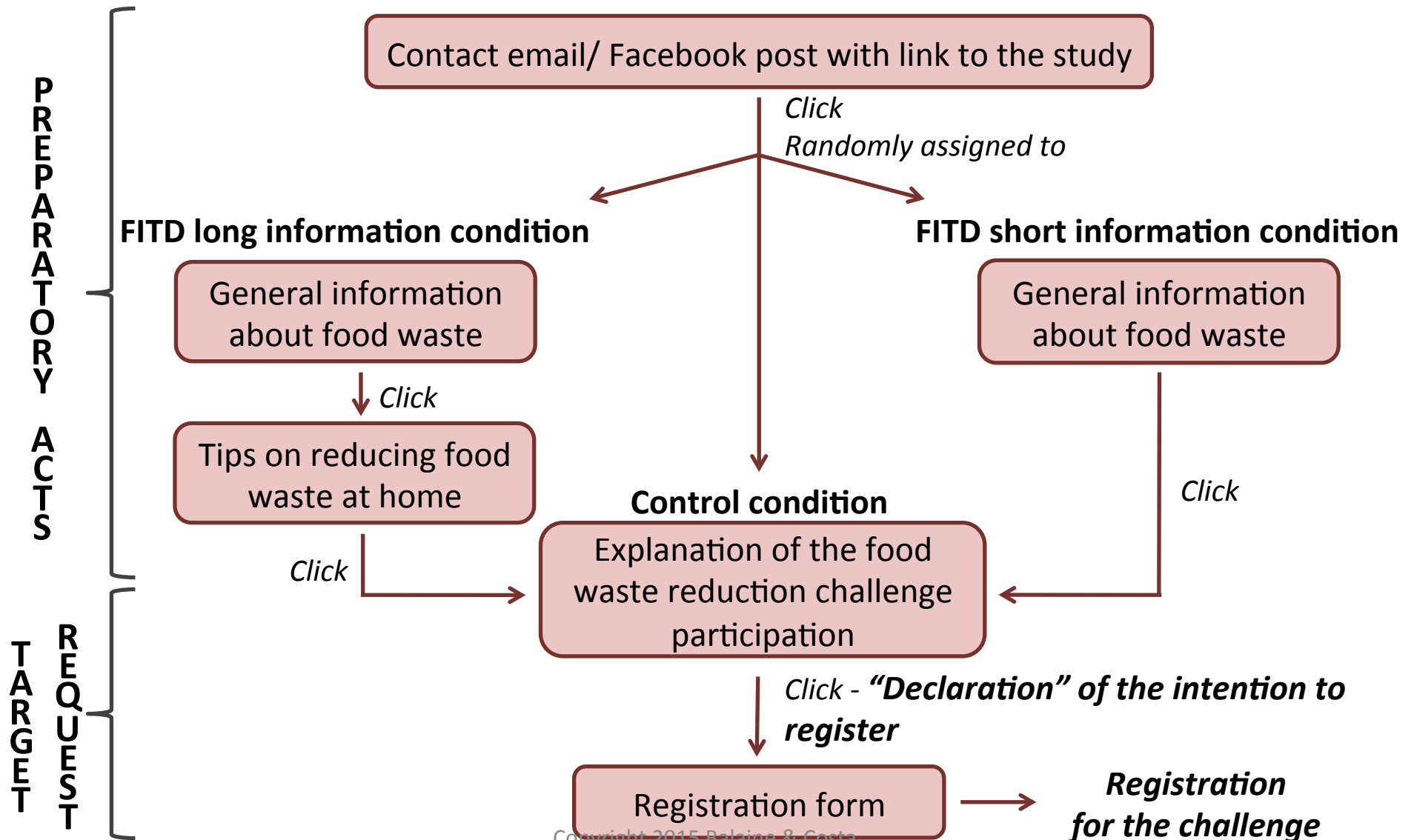
- Data collection in Montpellier (France) between June-July, 2015.
- Similar method to the one in Guéguen et al. (2003): *a series of clicks to increase participants' implication in the task.*
- Contact made by email/Facebook post with a link to the study
- 256 participants (i.e., who clicked on the link), assigned to 3 conditions:

FITD long information	FITD short information	Control condition
77	93	86

- Informative preparatory acts
- **Target request: Participation to a food waste reduction challenge at home during 2 weeks**
 - Goals determined by each participant (to be reported in the registration form)
 - Use of food waste reduction tips (to be downloaded after registration form)
 - Evaluation after 2 weeks (online questionnaire similar to the registration form in order to compare results)
 - *Another evaluation 5 weeks after registration to investigate long-term impact of the challenge [not carried out]*

Method

Experimental procedure



Method Hypotheses



- **Expected FITD effect :**

- **Compliance rate** _{control} < **Compliance rate** _{FITD} (Freedman & Fraser, 1966; DeJong, 1979; Burger, 1999): *investment of time and effort in the task, increased implication*
- **Compliance rate** _{FITD short info} < **Compliance rate** _{FITD long info} : *the most costly preparatory act* (Joule & Beauvois, 1998; Burger, 1999; Girandola & Joule, 2008)

- **Intention declaration vs actual subscription:**

- Withdrawals between the number to “declare” intention to register and to actually register (i.e., complete the registration form) (Scott, 1977; Foss & Dempsey, 1979)
- **Withdrawal rate** _{control} > **Withdrawal rate** _{FITD short info} > **Withdrawal rate** _{FITD long info}

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Foot-in-the-door experiments with informative preparatory acts

III. Method

Study overview
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Results: Compliance with the preparatory acts



Compliance with the preparatory acts for both experimental groups (percentages and number of participants)

Compliance with the preparatory acts	FITD long information	FITD short information
General information about food waste	57.1 (44 of 77)	55.9 (52 of 93)
Food waste reduction tips	41.6 (32 of 77)	

Compliance = clicking at the webpage end to reach the following page (i.e., participants read and wanted to know more).

Results: Compliance with the target request and FITD effect



Compliance with the target request (percentages and number of participants) and statistical test results

Compliance	Conditions			χ^2	<i>p</i>
	FITD long information	FITD short information	Control		
Intention to register	26.0 (20 of 77)	34.4 (32 of 93)	33.7 (29 of 86)	1.645	.439
Actual registration	7.8 (6 of 77)	7.5 (7 of 93)	16.3 (14 of 86)	4.514	.105

- **Intention to register:**

- No significant variation ($\chi^2_{(1)}=1.160, p=.282$ for the FITD long information condition; $\chi^2_{(1)}=.009, p=.923$ for the FITD short information condition)

- **Registration:**

- Non-significant reversed FITD effect ($\chi^2_{(1)}=3.305, p=.069$ for the short information condition; $\chi^2_{(1)}=2.718, p=.099$ for the long information condition)
- Combined FITD conditions: significant reversed FITD effect ($\chi^2_{(1)}=4.510, p=.0337$)

- **No impact of the informative preparatory act length** (*Intention: $\chi^2(1)=1.411, p=.235$;*

Subscription: $\chi^2(1)=.004, p=.948$)

Results: Positive behavioral intention vs actual behavior



Percentages of participants to “declare” the intention to register and to register by condition

		FITD long information condition	FITD short information condition	Control
Intention to register		26.0 (20 of 77)	34.4 (32 of 93)	33.7 (29 of 86)
Registration	<i>Compared to the total number of participants</i>	7.8 (6 of 77)	7.5 (7 of 93)	16.3 (14 of 86)
	<i>Compared to the number of participants to declare intention to register</i>	30.0 (6 of 20)	21.9 (7 of 32)	48.3 (14 of 29)

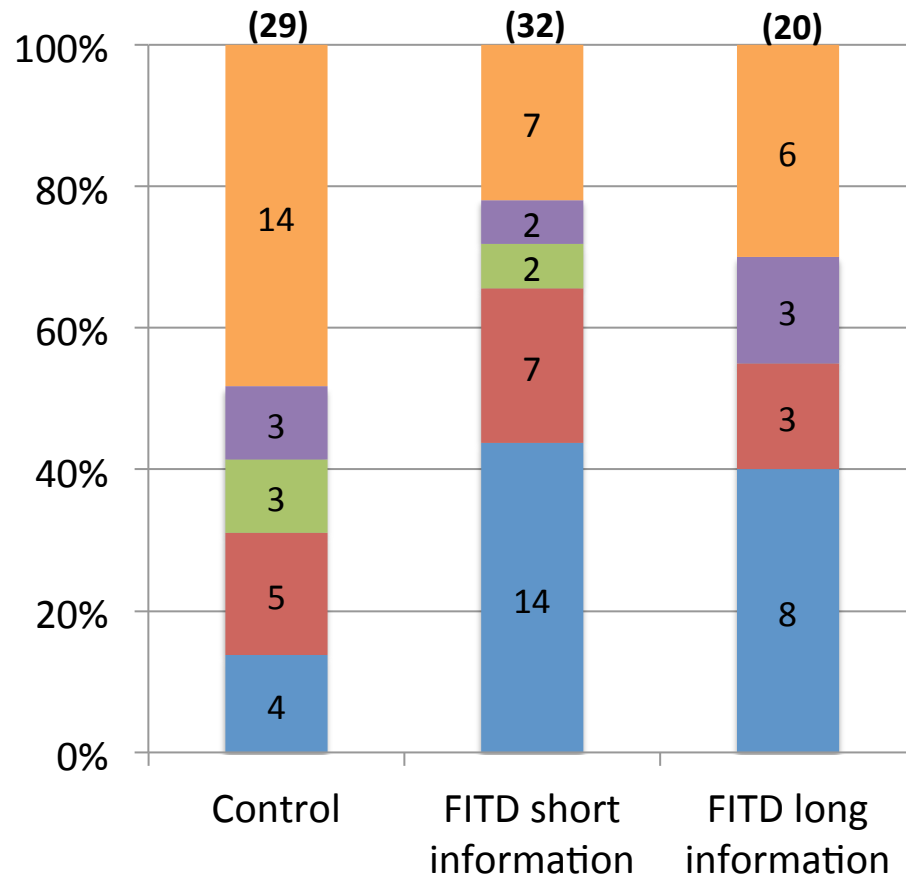
- Significant difference for the FITD short info condition ($\chi^2(1)=4.697, p=.0302$)
- Non-significant difference for the FITD long info condition but close to significance threshold ($\chi^2(1)=3.762, p=.,0524$)
- Significant difference for the combined FITD condition ($\chi^2(1)=4.539, p=.0331$)

⇒ **Less consistency in FITD participants’ behavior than for the control group: informative preparatory acts ineffective in binding participants to their intentions**

Results: Location and reasons for withdrawals after declaring intention to register



Withdrawal location after intention declaration



- p1 withdrawals
- p2 withdrawals
- p3-11 withdrawals
- p12 withdrawals
- Registration

Hypothetical reasons for withdrawals

- p1-2 = Registration form introduction and explanation of the time required to register → *FITD participants already reached the quota of time they were willing to give to our cause?*
- p3-11 = Length of the questionnaire → *too long and difficult?*
- p12 = Question “Please inform your name and email address” → *refusal to commit publicly? Self-preservation/ scared of informing personal data on the Internet?*

Main results



- ***About the FITD effect:***
 - Reversed FITD effect (tendency or significance)
 - Length of the preparatory act unimportant (no differences between the experimental groups)
- ***About the informative preparatory acts:***
 - 58.4% in the FITD long information condition and 44.1% in the FITD short information condition refused to read the information.
- ***About the registration form:***
 - Decrease by 52% in the control condition, 78% in the FITD short information condition and 70% in the FITD long information condition between the intention declaration and the registration

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Results of the Foot-in-the-door procedure
Foot-in-the-door experiments with informative preparatory acts

III. Method

Study overview
Experimental procedure
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- ***Comparison with the Guéguen et al. (2003) study: Impact of the FITD procedure with informative preparatory acts in a computerized context***

		Guéguen et al. (2003)	Present study
Impact on	<i>Intentions to comply</i>	+	None
	<i>Behavioral compliance with the target request</i>	+	-
	<i>Intention-behavior consistency</i>	None	-

- ***Preparatory act and FITD effect:***
 - Too time-consuming (estimated 2 min for the general information about food waste and 5 min for the food waste reduction tips)?
 - Need to find a shorter preparatory act to make sure that participant still have time to offer for the target request

- ***Informative preparatory act impact on compliance:***
 - About half of the participants refused to read the information: creates cognitive dissonance (Festinger, 1957)? To reduce it, withdrawal from the study?
 - Content of the information given to the participants?
 - Try out another type of preparatory act (and see if the FITD procedure is inefficient because of the preparatory act choice or because of the study topic)
- ***About the registration form:***
 - Questions about food habits and food waste behaviors at home: refused to answer because uncomfortable?
 - Originally meant to evaluate food waste reduction, but too long/difficult?
 - Find another way to evaluate participants' improvement

**Thank you for your
attention!**

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