

# A meaningful reminder on sustainability: when explicit and implicit packaging cues meet.

Giulia Granato, PhD researcher, Wageningen University (WUR)



My team

Marketing and  
consumer  
behaviour group



Prof. Dr. Hans van Trijp



Dr. Arnout Fischer



Giulia Granato



Packaging is everywhere

More  
commitment  
in the..

# ECO PACKAGING DESIGN

NOW WE HAVE RECYCLABLE MATERIALS FOR PACKAGING.  
PACKAGING FOR ECO-FRIENDLY PRODUCTS. SUSTAINABLE,  
ORGANIC, ECO-FRIENDLY AND BIODEGRADABLE PRODUCTS.  
RECYCLED MATERIALS FOR REUSABLE PACKAGING  
AND CONTAINERS. PACKAGING FOR ORGANIC, SUSTAINABLE  
AND ECO-FRIENDLY PRODUCTS. ORGANIC FREE-RANGE EGGS  
AND SUSTAINABLE SOAPS. RECYCLABLE, ECO-FRIENDLY,  
ORGANIC AND BIODEGRADABLE PACKAGING.

Communication problem:  
unrecognized as distinctive  
and sustainable  
  
(disruptive innovations)



# Our research

- New strategy to improve the sustainability communication of eco (packaging) innovations
- Theoretical framework: The *meaningful reminder*
- Test implicit and explicit packaging cues on a range of sustainable consumers' responses
- How can the packaging increase sustainability salience, perception and consumer sustainable disposal behaviour?

# Implicit cues



## Inferential belief formation route



Non uniform look, recycled



Opaque, biodegradable



Touch feeling



Loud sound (PLA)

Explicit cues



Informational belief formation route



Dit bakje is gemaakt van gerecycled materiaal. Het materiaal is verwerkt om een nieuw leven te krijgen in deze verpakking.



Deze verpakking bevat een ventiel dat de atmosfeer in de verpakking beheert. Het houdt het product ademend en verlengt de houdbaarheid, om zo voedselverspilling te verminderen.



Data collection

October 2020-February 2021, NL



# Methods-study 1

- 2 by 2 between subject design (implicit cue: absent/present; explicit cue: absent/present)
- 212 Dutch consumers



Control packaging



Implicit cue



Explicit cue



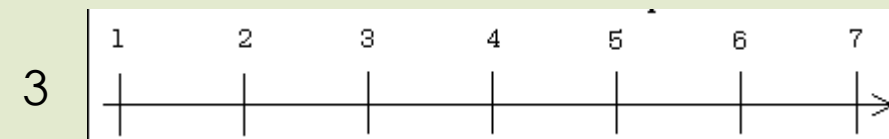
Combination

---

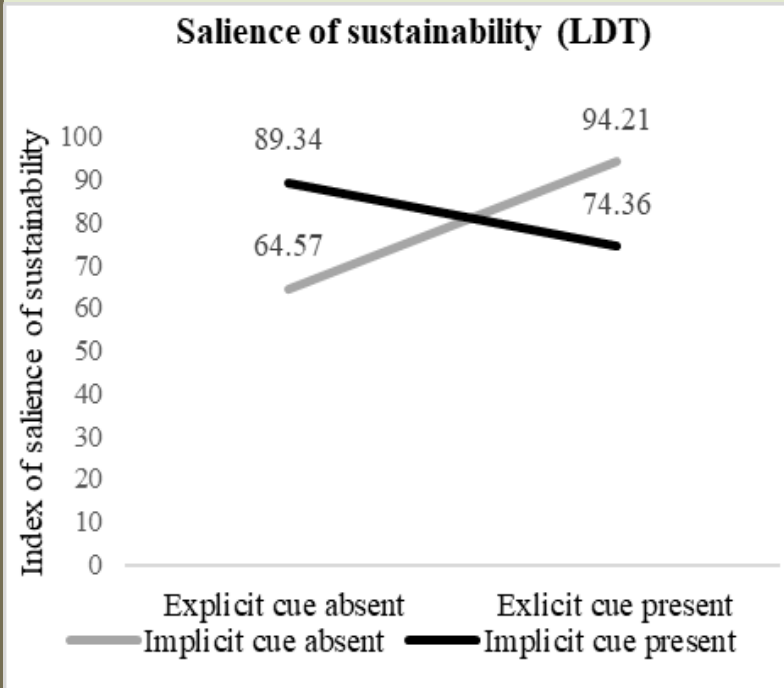
Figure 1: Stimuli material for study 1a (front of the packaging)

# Measures

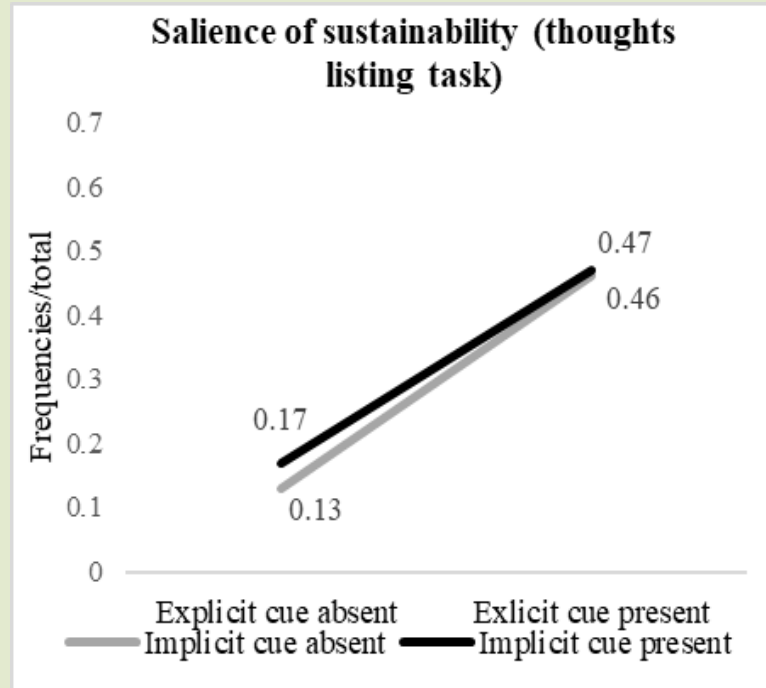
- Salience of sustainability: activation of the construct in consumers' mind
  - 1) Lexical decision task (reaction time)
  - 2) Thought listing task
- Perception of sustainability
  - 3) Self-reported scale



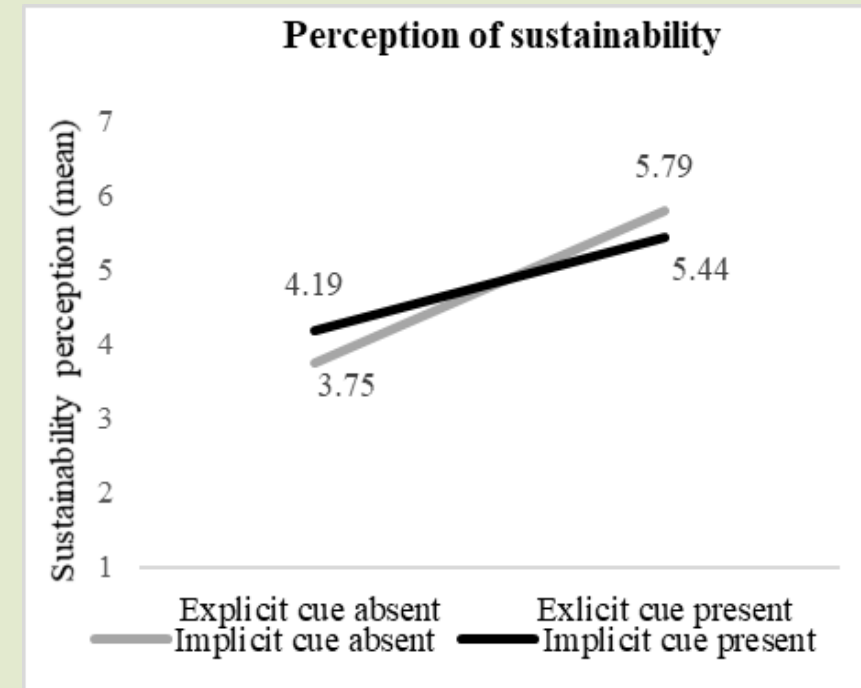
# Results-study 1



1



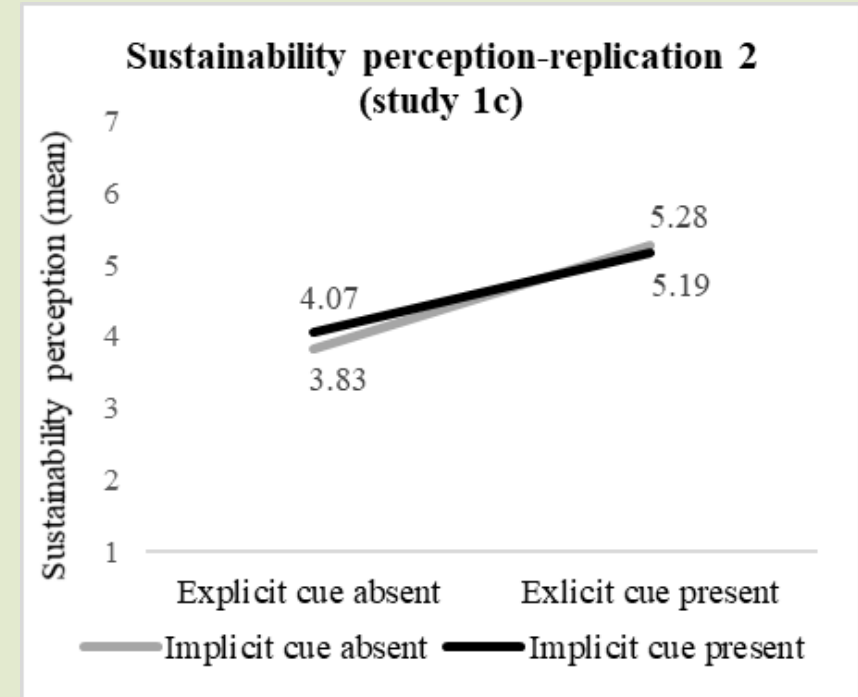
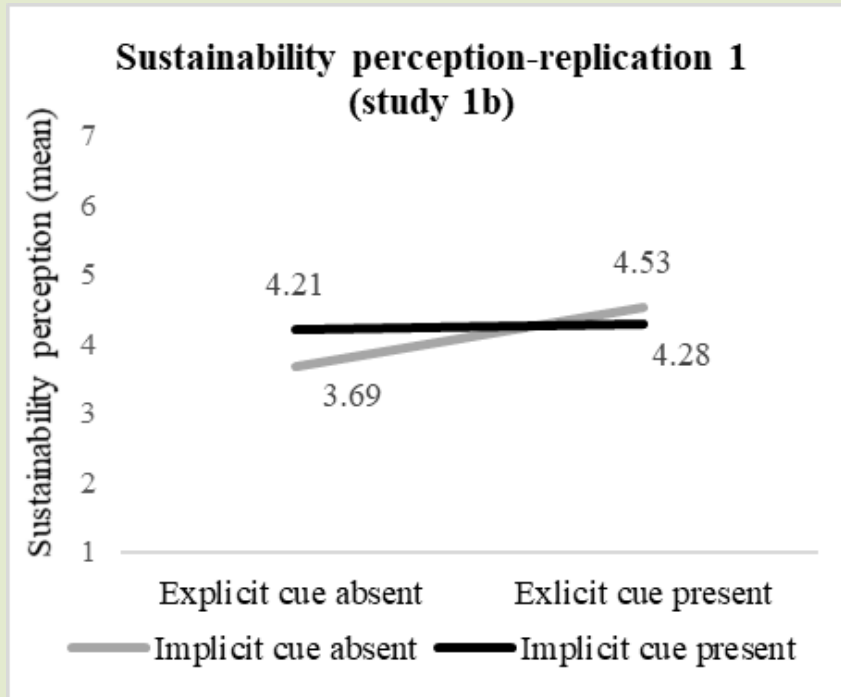
2



3

The combination of explicit and implicit cues does not increase sustainability salience and sustainability perception of the packaging → “more is not more”

# Replications-same results





# Study 2

- Investigate one condition: What if the effect of the combination depends on implicit cues?
- Implicit cues: inherently meaningless/meaningful in signalling sustainability
- 2 by 6 mixed design (Implicit: absent, Sound, Tactile property, Opacity level, Graphic, colour; Explicit: absent/present)
- Measures: salience and perception of sustainability

# Results-study 2

Measure	Explicit cue/implicit	Meaningless			Meaningful		
		Absent	Sound	Touch	Opacity	Look	Colour
<b>Salience of sustainability</b>	Absent (n=107)	8	9	6	21	31	35
	Present (n=105)	58	24	24	41	55	23
<i>Frequencies</i>	Increment	+7.25	+2.67	+4.00	+1.95	+1.77	-0.66
<b>Sustainability perception</b>	Absent (n=107)	3.49(1.55) <sup>a</sup>	3.26(1.49) <sup>a</sup>	3.62(1.63) <sup>a</sup>	3.98(1.60) <sup>c</sup>	3.89(1.53) <sup>b</sup>	4.42(1.74) <sup>d</sup>
	Present (n=105)	5.41(1.45) <sup>c</sup>	4.63(1.57) <sup>a</sup>	4.88(1.52) <sup>ab</sup>	5.03 (1.61) <sup>b</sup>	5.50(1.41) <sup>c</sup>	4.95(1.62) <sup>ab</sup>
<i>M(SD)</i>	Increment	+1.55	+1.42	+1.34	+1.26	+1.41	+1.12

- Some implicit cues are inherently meaningless in conveying sustainability (no a priori association)
- Combining explicit cues with meaningless implicit cues → higher increment in sustainability salience and perception = CONDITION 1 for the effect.

# Study 3

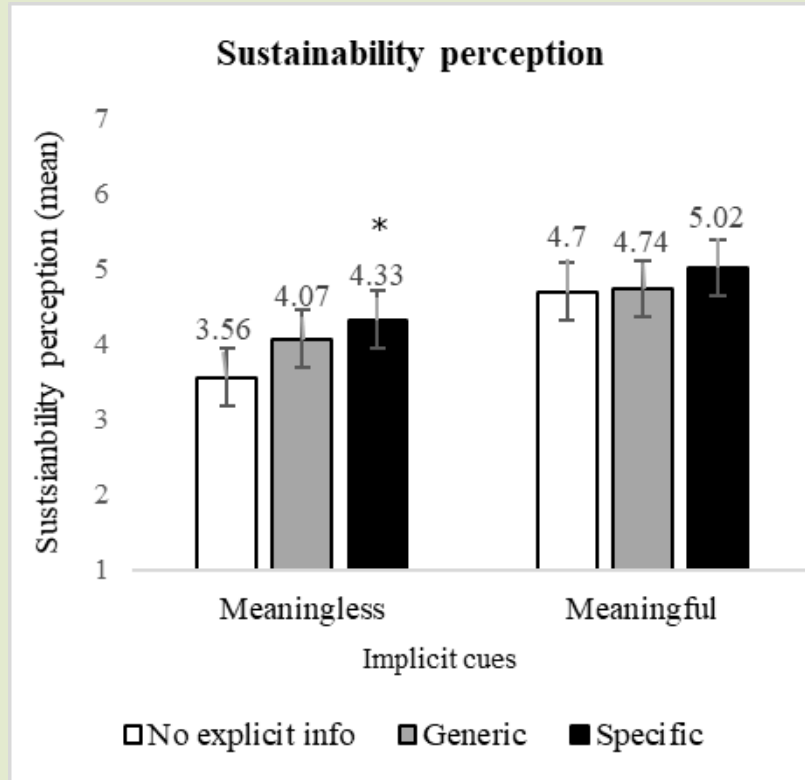
- Study another condition: What if the effect of the combination depends on explicit cues?
- Explicit cues: able to create an association between the higher sustainability and the different sensory properties (load a meaning to the implicit cue) or not
- 3 by 2 mixed design (Implicit: meaningless/meaningful; Explicit: absent/present no link/present yes link)
- Measures: salience, perception of sustainability AND ACTUAL DISPOSAL BEHAVIOUR OF THE PACKAGING AND ITS CONTENT.



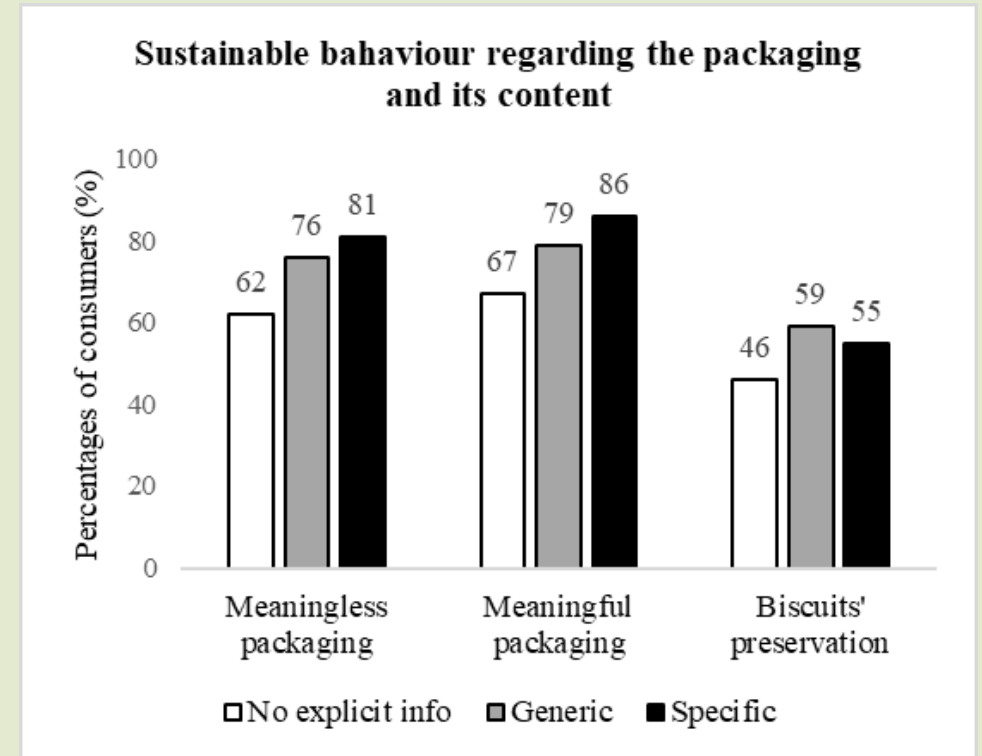
February 2021



# Results-study 3



**Perception:** Consumers perceive the packaging as more sustainable when specific explicit info are provided. Specific explicit information best serve meaningless implicit cues.



**Behaviour:** Consumers dispose the packaging more sustainably when specific info are provided. No significant results on food disposal.

# Results- disposal behaviour

Dependent variables	Meaningless implicit cue					Meaningful implicit cue				
	$\beta$	S.E.	Wald	Df	p	$\beta$	S.E.	Wald	Df	p
No info (baseline)			5.80	2	.08			5.79	2	.05
Generic (1)	.65	.44	2.20	1	.14	.60	.44	1.90	1	.17
<b>Specific (2)</b>	<b>.98</b>	<b>.46</b>	<b>4.65</b>	<b>1</b>	<b>.03</b>	<b>1.13</b>	<b>.48</b>	<b>5.54</b>	<b>1</b>	<b>.02</b>
Environmental concern	.26	.14	3.21	1	.07	.03	.15	3.96	1	.05
Constant	-.11	.65	.03	1	.086	-.03	.66	.003	1	.96



## In conclusion

- Careful and scientific based combination of cues
  - Conditions in which “more is less” (more cues can be harmful)
  - Implicit cues are inherently Meaningless or meaningful ?
  - Use of explicit info that creates a missing link, a “reason to believe”
    - increase not only sustainability perception of the packaging but also actual sustainable behaviour
    - reduce feeling of skepticism towards the packaging

# Thank you!

[giulia.granato@wur.nl](mailto:giulia.granato@wur.nl)

Info and data from paper under review-  
Journal of Environmental Psychology

Presented at PANGBORN conference,  
August 2021



Prof. Dr. Hans van Trijp



Dr. Arnout Fischer



Giulia Granato