



Where  
consumer and  
product meet

# ***Validation of the ideal profiles provided directly from consumers.***

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## introduction

- product development and consumers
  - understand characteristics important to the consumer
  - consumers are the ultimate decider of marketplace success
  - help to improve the actual products
- developing an ideal product for a target consumer is critical
  - estimation through statistical methods:
    - external preference mapping (*PrefMap*)
    - Landscape Segmentation Analysis (LSA)
  - data collection methods:
    - JAR or Ideal Profile method

## measurements of the ideal

- the *Ideal Profile Method (IPM)*
  - as opposed to JAR, consumers rate their ideal explicitly
  - every time they are asked to rate the perceived intensity of an attribute, they are also asked to rate the intensity of that attribute, if it was ideal
  - $P$  actual products tested will yield  $P$  ideal products per consumer

### the bitter taste



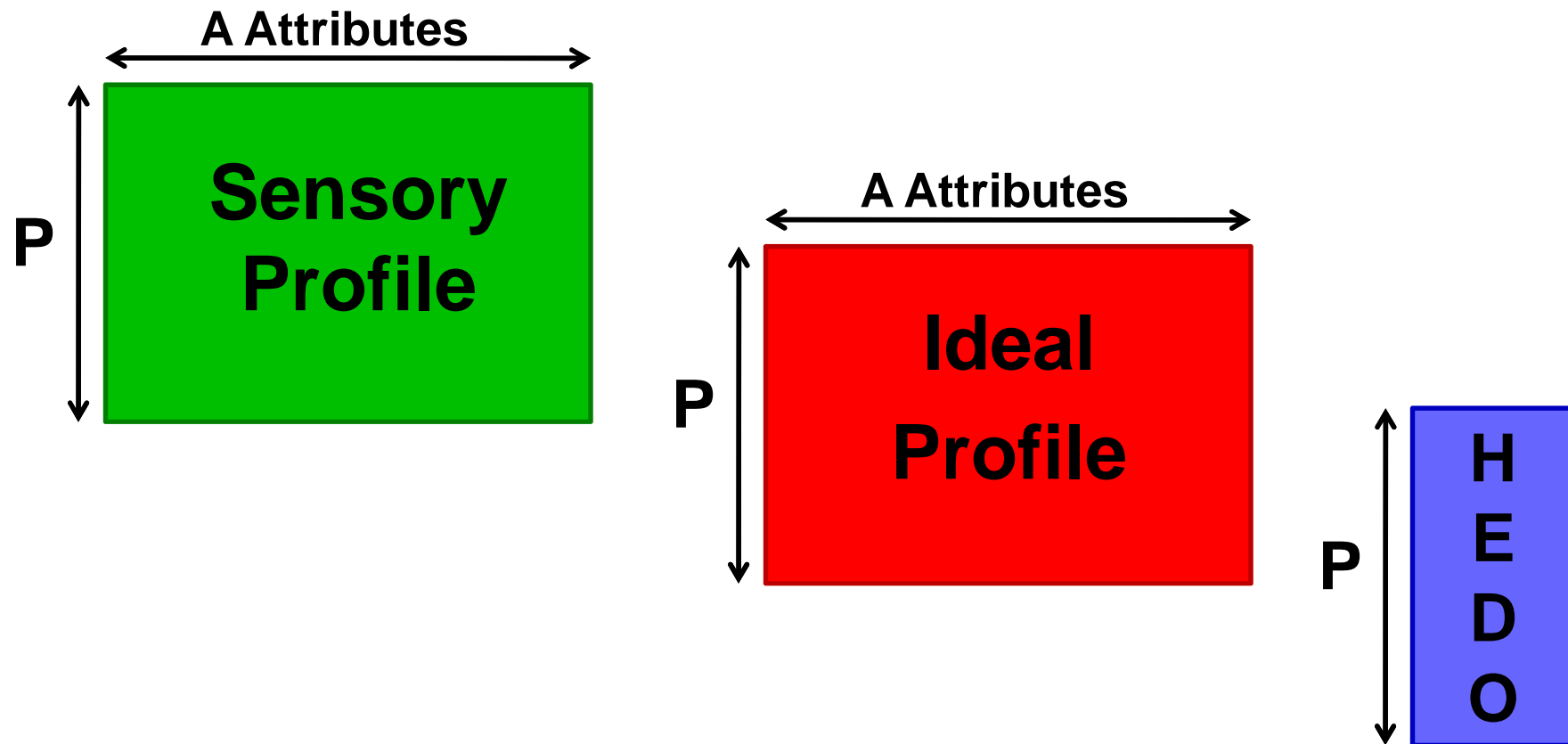
### your ideal bitter taste



Next >>

## data provided with IPM

CONSUMER j



## questions concerning the data provided

1. Are the consumers able to describe their ideal correctly ?
  - is the ideal meaningful or random?
2. Are the consumers consistent in their descriptions?
  - are the ideal ratings in accordance with the perception and the liking of the tested products? (**Worch, Lê, Punter & Pagès, 2012a**)
3. Are the ideal products described by consumers “potential ideals”?
  - do the ideal profiles correspond to product which would be more appreciated than the tested products? (**Worch, Lê, Punter & Pagès, 2012b**)

## (hedonic) consistency

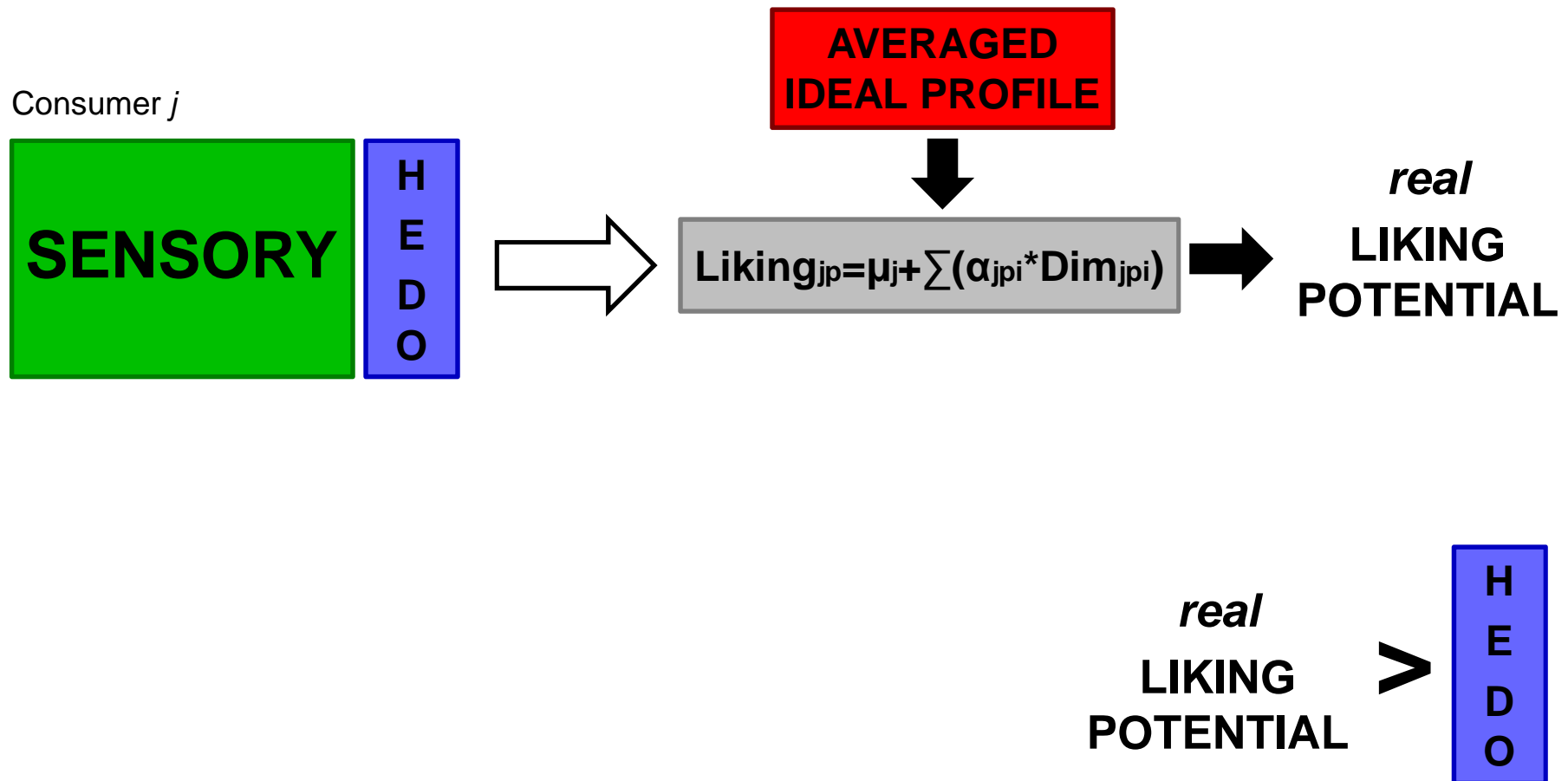
- (hedonic) consistency of the ideal profiles
  - it is defined according to hedonic scores
  - the ideal descriptions should correspond to a product that is more liked than the tested products, if it happens to exist
- liking potential of the ideal products
  - the liking score (called *liking potential*) associated with the ideal products is unknown → it is estimated
  - once estimated, it is compared to the liking scores provided to the tested products



# METHOD



## methodology



## estimation of the liking potential of the ideal products

- individual models
  - based on PCR
  - 5 dimensions are used
  - backward selection of the best model
- but this only makes sense if...
  - the individual models fit the data (high *adjusted R<sup>2</sup>*)
  - the ideal data are not provided randomly by the consumers



**MATERIAL**

## dataset used for illustration

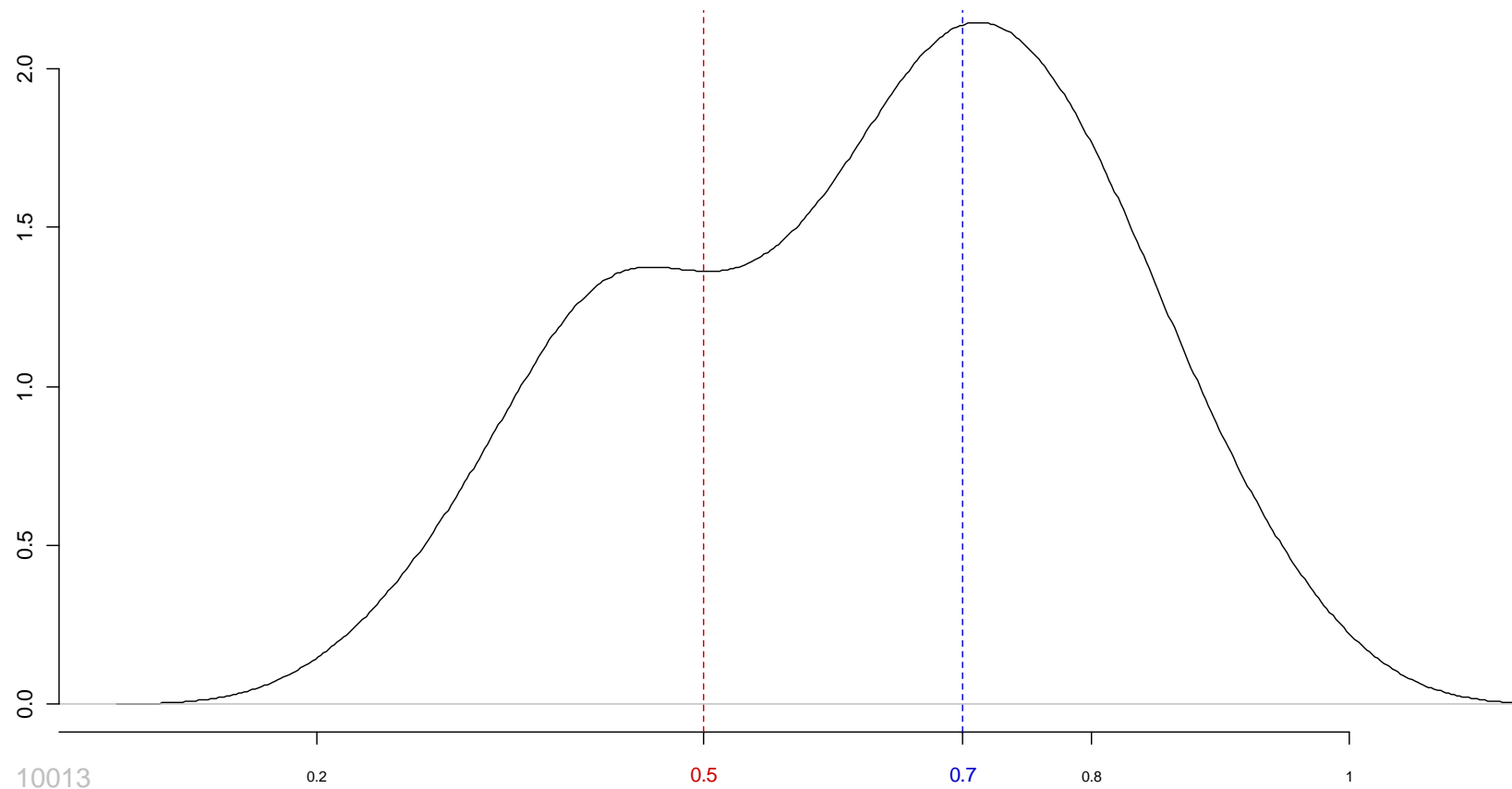
- 14 luxurious women perfumes
- 103 Dutch consumers
- 21 attributes (both perceived and ideal intensities)
- overall liking



# RESULTS

## model

- quality of the individual models
  - measured through the *adjusted R<sup>2</sup>*



## ideal data: meaningful or random?

- significance test

- **$H_0$ :**

- » “the ideal profile is defined randomly”
    - » “no structure is observed in the ideal profile”
    - » “the ideal profile is associated to a low liking potential”

- **$H_1$ :**

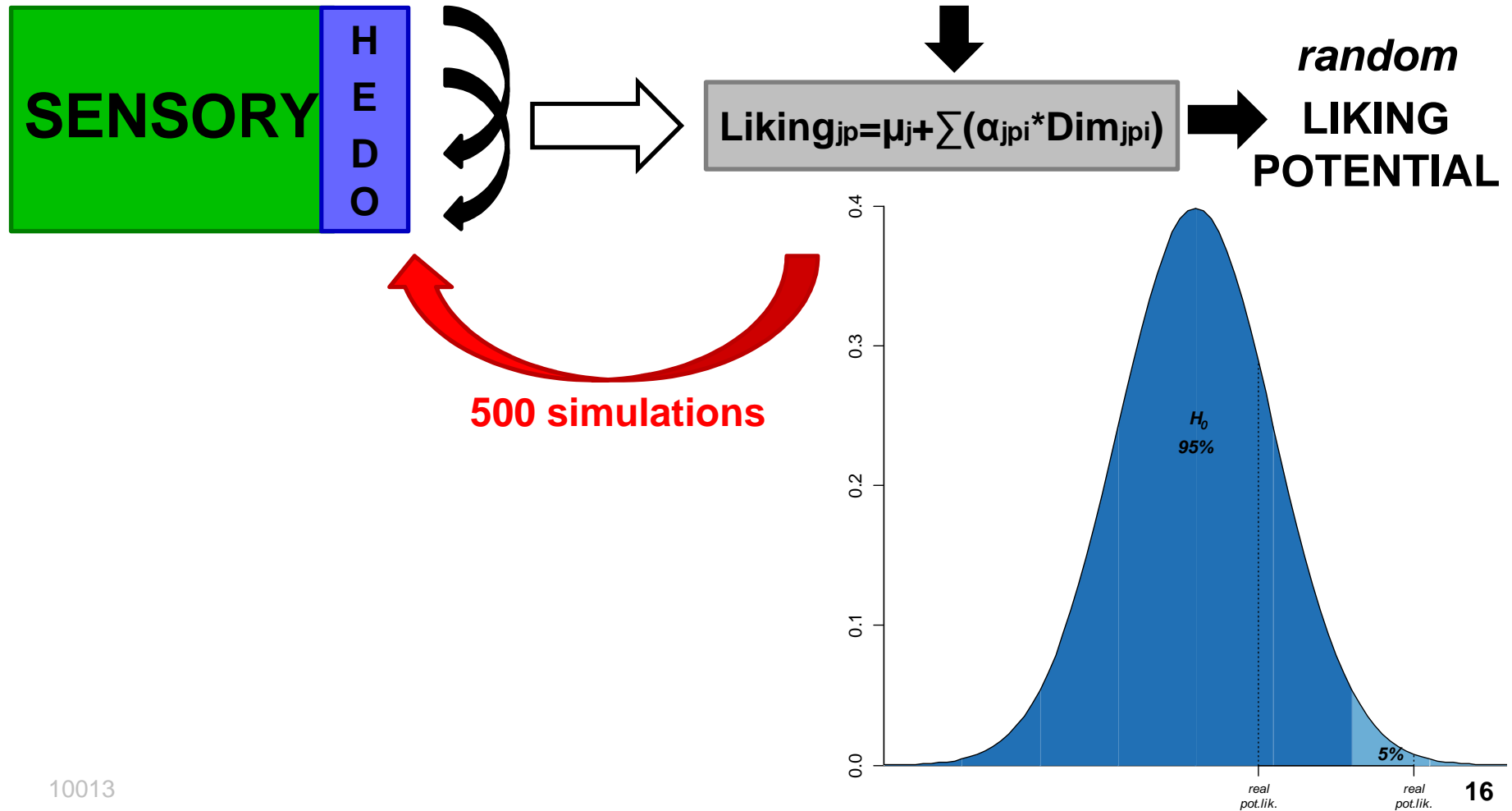
- » “the ideal profile is not defined randomly”
    - » “a structure is observed in the ideal profile”
    - » “the ideal profile is associated to a high liking potential”

- procedure

- the distribution under  $H_0$  is defined and the *real* liking potential is positioned on this distribution

## simulations

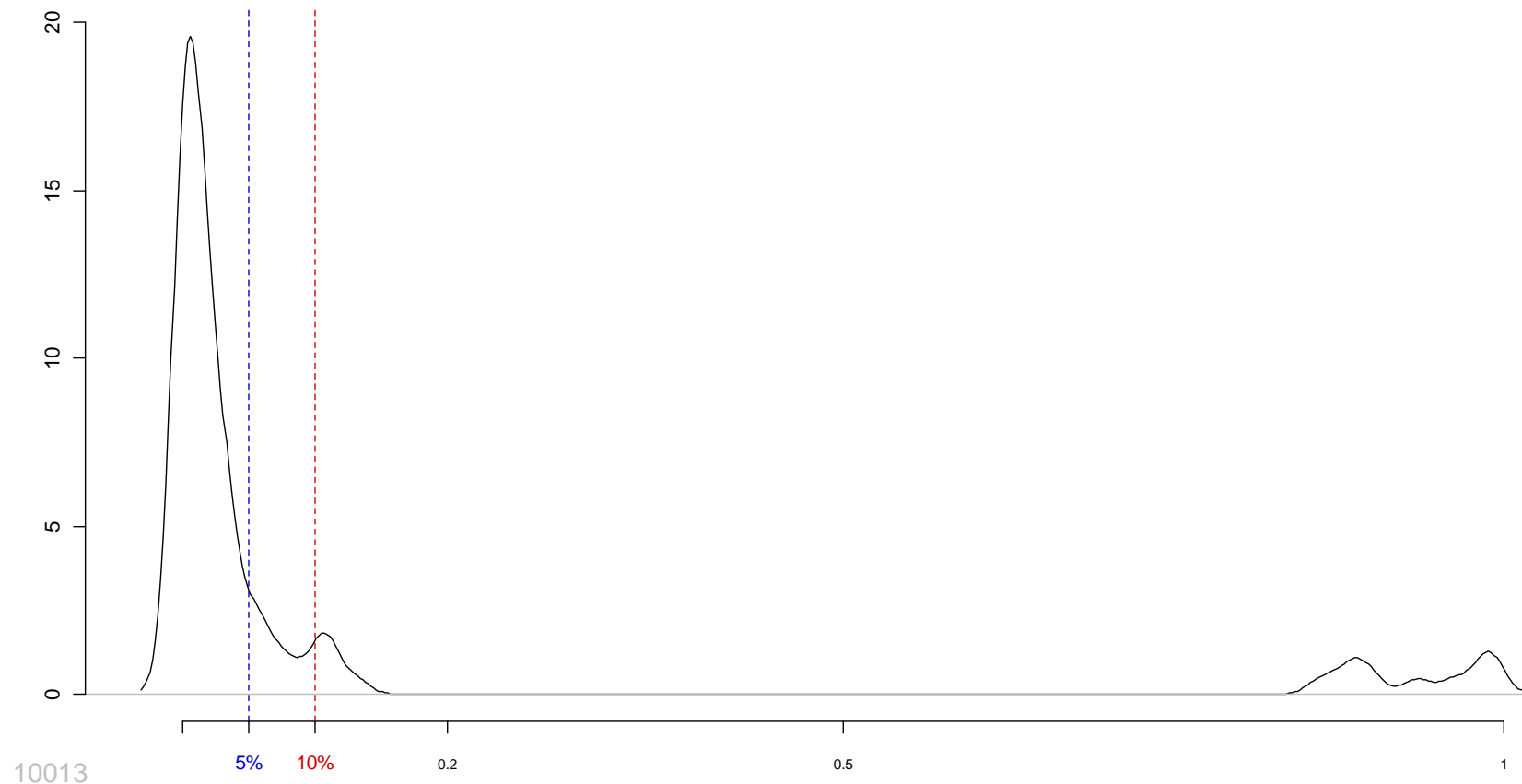
Consumer  $j$





## ideal profiles: meaningful or random?

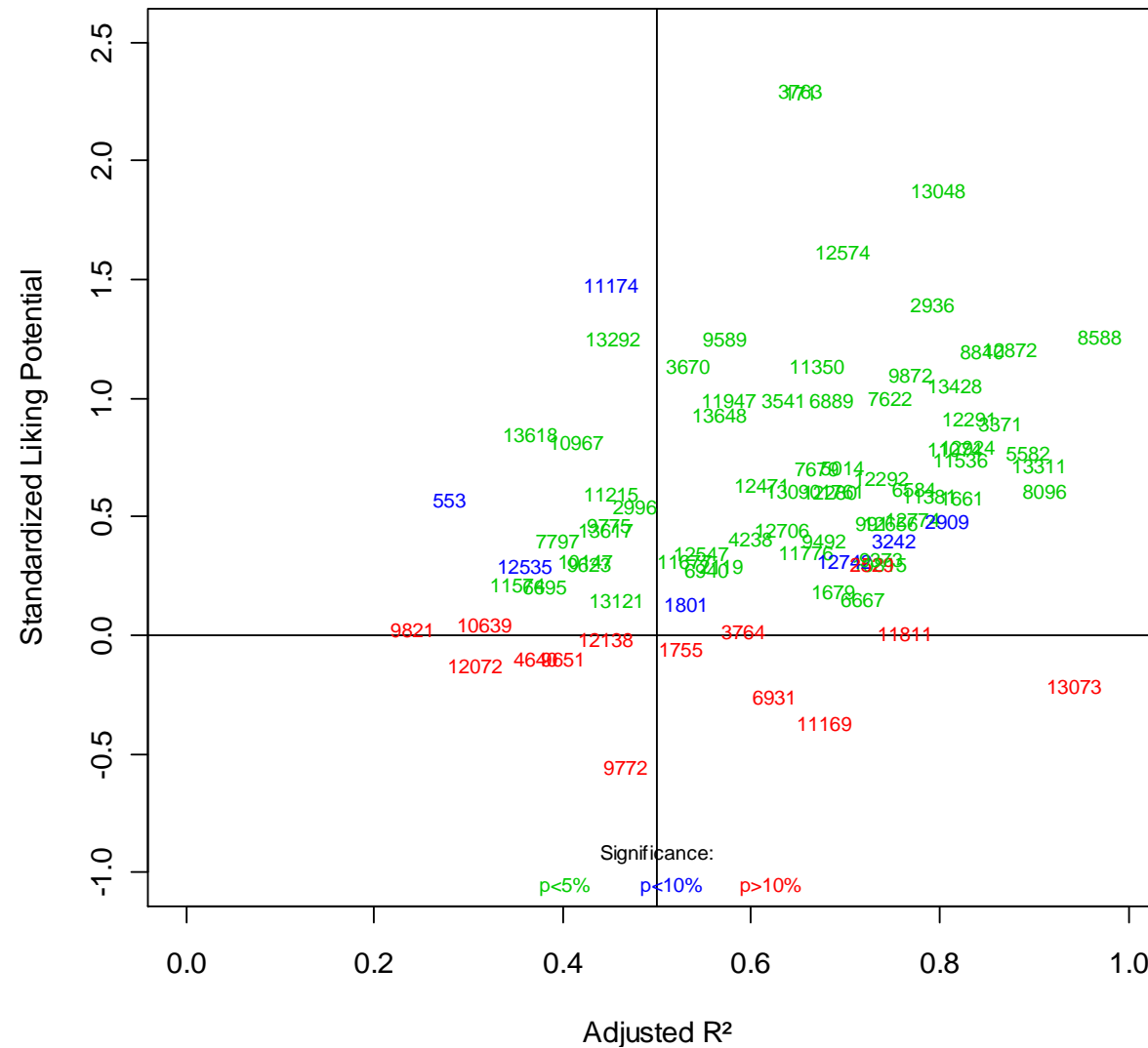
- significance test
  - for each consumer, the p-value associated to his *real* liking potential is estimated



## (hedonic) consistency

- estimated liking potential of the averaged ideal product of a consumer
  - it is *standardized* according to the liking scores given to the products
    - subtract from the estimated liking potential his/her averaged liking score
    - divide the difference by the standard deviation of the liking scores given to the products
  - it is represented in function of the *adjusted  $R^2$*  associated with the individual model
- this *standardized* liking potential is expected to be high for consumers who described consistent ideal profiles

## (hedonic) consistency





# CONCLUSIONS

## (hedonic) consistency of the ideal data

- individual models fit the data well
  - high *adjusted R<sup>2</sup>* coefficients
  - they can be used to estimate the liking potential based on the averaged ideal profiles
- the ideal data provided are not obtained randomly
  - low *p-values* associated with the liking potential
  - they cannot be obtained in random situations
- high liking potential for the individual ideal profiles
  - the *standardized* liking potential are globally high compared to the liking scores given to the tested products

→ THE IDEAL PROFILES CAN BE USED TO IMPROVE THE PRODUCTS

## references

- **Worch, T., Lê, S., Punter, P.H., & Pagès, J. (2012a).** Assessment of the consistency of ideal profiles according to non-ideal data for IPM. *Food Quality and Preference*, 24, 99-110.
- **Worch, T., Lê, S., Punter, P.H., & Pagès, J. (2012b).** Extension of the consistency of the data obtained with the Ideal Profile Method: Would the ideal products be more liked than the tested products? *Submitted to Food Quality and Preference*.

# THANK YOU

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