



Recording facial mimics and temporal dominance of sensations and emotions

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INTRODUCTION

- Recognized today as a reference method in temporal sensory analysis, the Temporal Dominance of Sensations (TDS; Pineau et al., 2009) has been extended to measure emotions (TDE; Jager et al., 2014) in a declarative way.
- Facial expressions analysis is a promising way for highlighting rapid and uncontrollable facial micro-responses that can explain consumer preferences (Leitch et al., 2015).

OBJECTIVES

- Test on three different product types (food products, cosmetics and video advertisements) if an implicit emotion measurement using facial recognition can capture a temporal emotional response.
- Compare results and conclusions from implicit measurements of facial recognition and TDS and/or TDE tasks.

MATERIAL & METHODS

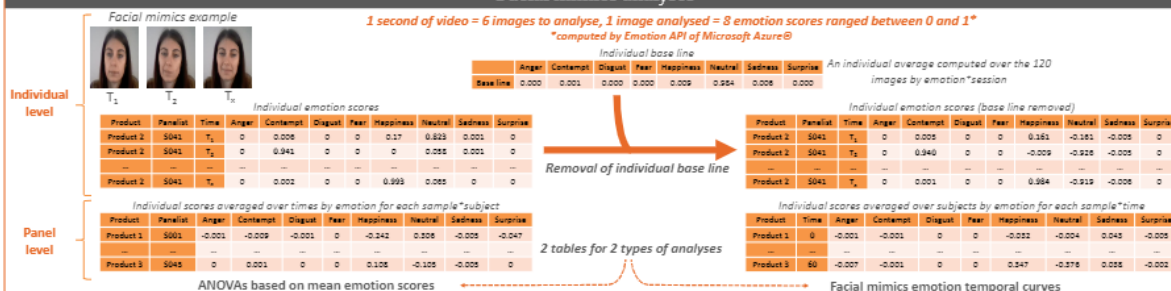
Experimental design

Home tested products:
-Food (session 1): 3 dark chocolates (tested 60s)
-Video (session 2): 3 advertisements (48 to 54s) for coffee (of a same brand)
-Cosmetic (session 3): 3 perfumes (tested 60s)

Face Reader procedure:
-Group A (42 panelists): recording facial mimics while testing
-Recording 20 seconds « base line » (neutral emotion control) at the beginning of each session
-Facial mimics were based on Ekman's theory

TDS and TDE procedure:
-Group B (45 panelists): performing TDS for chocolates or TDE for perfumes and advertisements
-TDE emotions were based on the emotions of Plutchik's wheel
-TDS attributes were based on previous studies

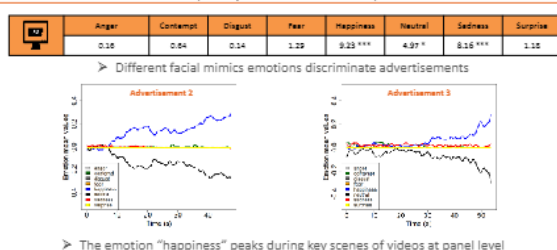
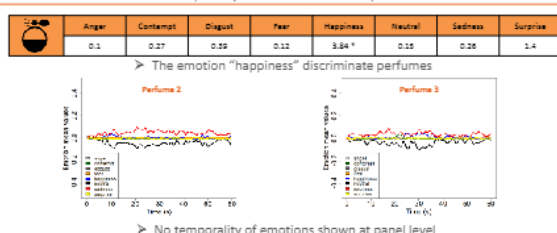
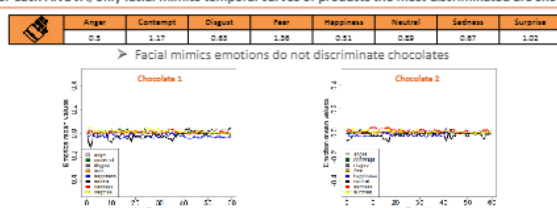
Facial mimics analyses



RESULTS

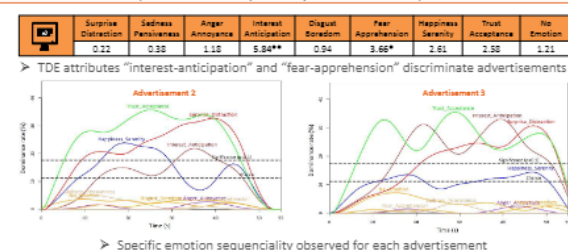
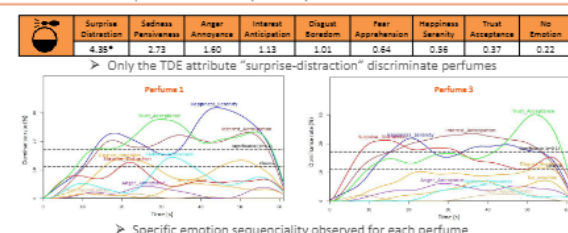
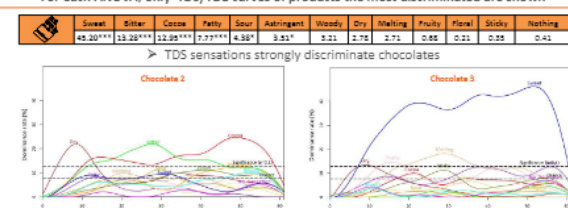
Analysis of facial mimics emotions (Group A)

ANOVA: Mean Emotion = Product + Subject (random Subject)
F table Table of Product Effect (Signif. codes: '***' 0.001 '**' 0.01 '*' 0.05)
For each ANOVA, only facial mimics temporal curves of products the most discriminated are shown



Analysis of TDS and TDE (Group B)

ANOVA: Attribute duration = Product + Subject (random Subject)
F table Table of Product Effect (Signif. codes: '***' 0.001 '**' 0.01 '*' 0.05)
For each ANOVA, only TDS/TDE curves of products the most discriminated are shown



CONCLUSIONS

- Recording facial mimics enables perfumes and advertisements to be emotionally discriminated.
- Temporal patterns of emotions are observed at panel level only for advertisements.
- Declarative (TDE) and implicit (facial mimics) methods give different information.

PERSPECTIVES

- To better take into account facial mimics individual variability and protocol specificities, analyses should go deeper in data treatment.