



**HAL**  
open science

## **Emotional Engagement in Live TV Broadcasts: An Emoji Study**

Arnaud Thomas, Oriane Bobillier, Lauriane Demonteil, Michel Visalli, Eric Teillet,  
Caroline Peltier

► **To cite this version:**

Arnaud Thomas, Oriane Bobillier, Lauriane Demonteil, Michel Visalli, Eric Teillet, et al.. Emotional Engagement in Live TV Broadcasts: An Emoji Study. 15. Pangborn Sensory Science Symposium "Meeting new challenges in a changing world", Aug 2023, Nantes, France. . <hal-04533755>

**HAL Id: hal-04533755**

**<https://hal.science/hal-04533755v1>**

Submitted on 5 Apr 2024

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization

## Emotional Engagement in Live TV Broadcasts: An Emoji Study



#method #marketing #media



A. Thomas<sup>1</sup>, O. Bobillier<sup>1</sup>, L. Demonteil<sup>1</sup>, M. Visalli<sup>2</sup>, E. Teillet<sup>1</sup>, C. Peltier<sup>2</sup>  
<sup>1</sup>SensStat, France, <sup>2</sup>CSGA, l'Institut Agro Dijon, CNRS, INRAE, Université Bourgogne. INRAE, PROBE  
 research infrastructure, ChemoSens facility, F-21000 Dijon, France

Contact: arnaud.thomas@sensostat.fr

### Context

As advertising is the main source of income for TV networks, **emotions** are of utmost importance for media production.

Indeed, several studies showed that **program engagement** affects an ad's ability to stand out and elicit consumer response.

However, given the abundance of content available, viewers can easily be tricked into switching channels if the content being viewed, such as advertisements, **ceases to meet their expectations**.

### Objective

Understanding the **dynamics of perceived emotions during a TV show** including ad breaks is important for networks and advertisers.

In this context, the present study proposes a protocol to continuously record these dynamics.

### Procedure

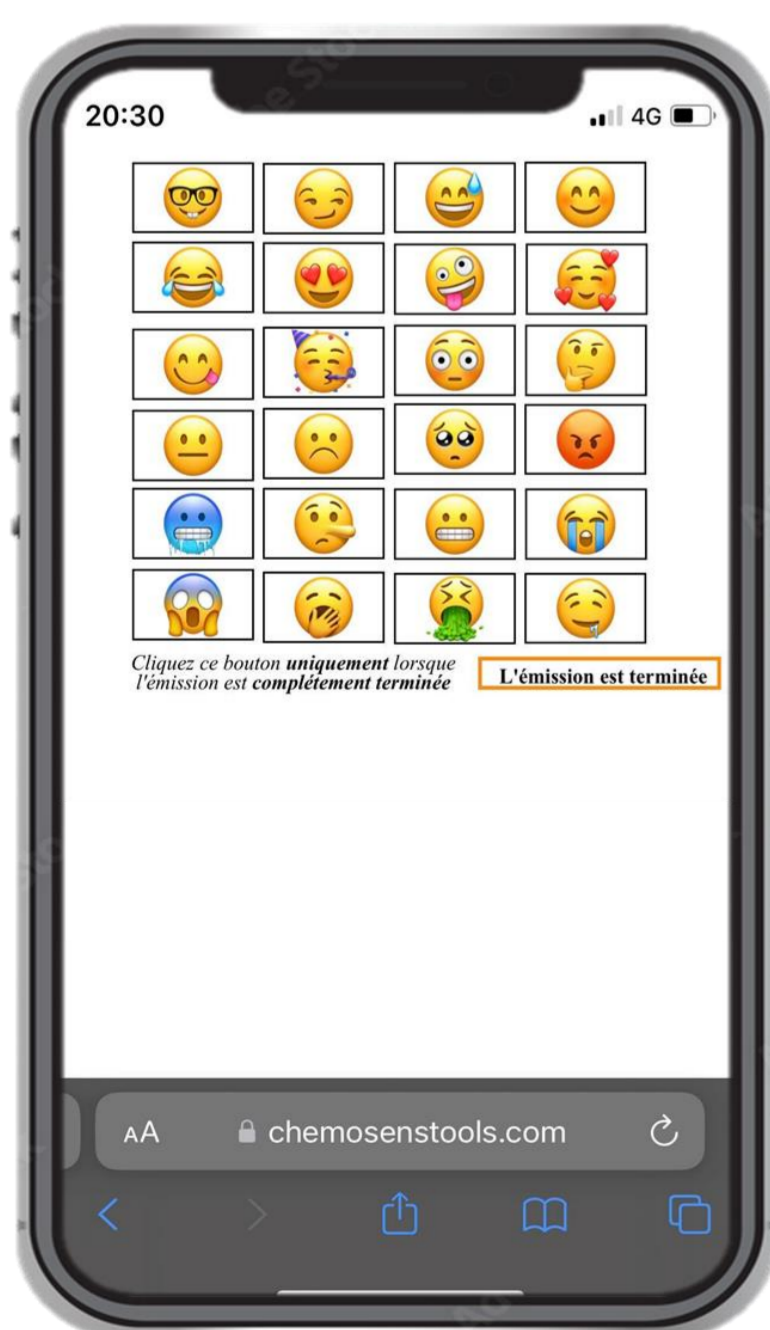
**Program selection criteria with emotional viewer engagement expected:**

- Long program
- Prime time, large audience and popular
- Interspersed with 3 or 4 ad breaks



Illustrations of the grand finale (season 13)  
 2.42 million viewers - 15.5% of the market share (Médiametrie, 2022)

- 69 French viewers of this cooking contest TV show were instructed to watch the grand finale of the program (June 15, 2022) without zapping or pausing.



Screenshot of the session

#### Instructions:

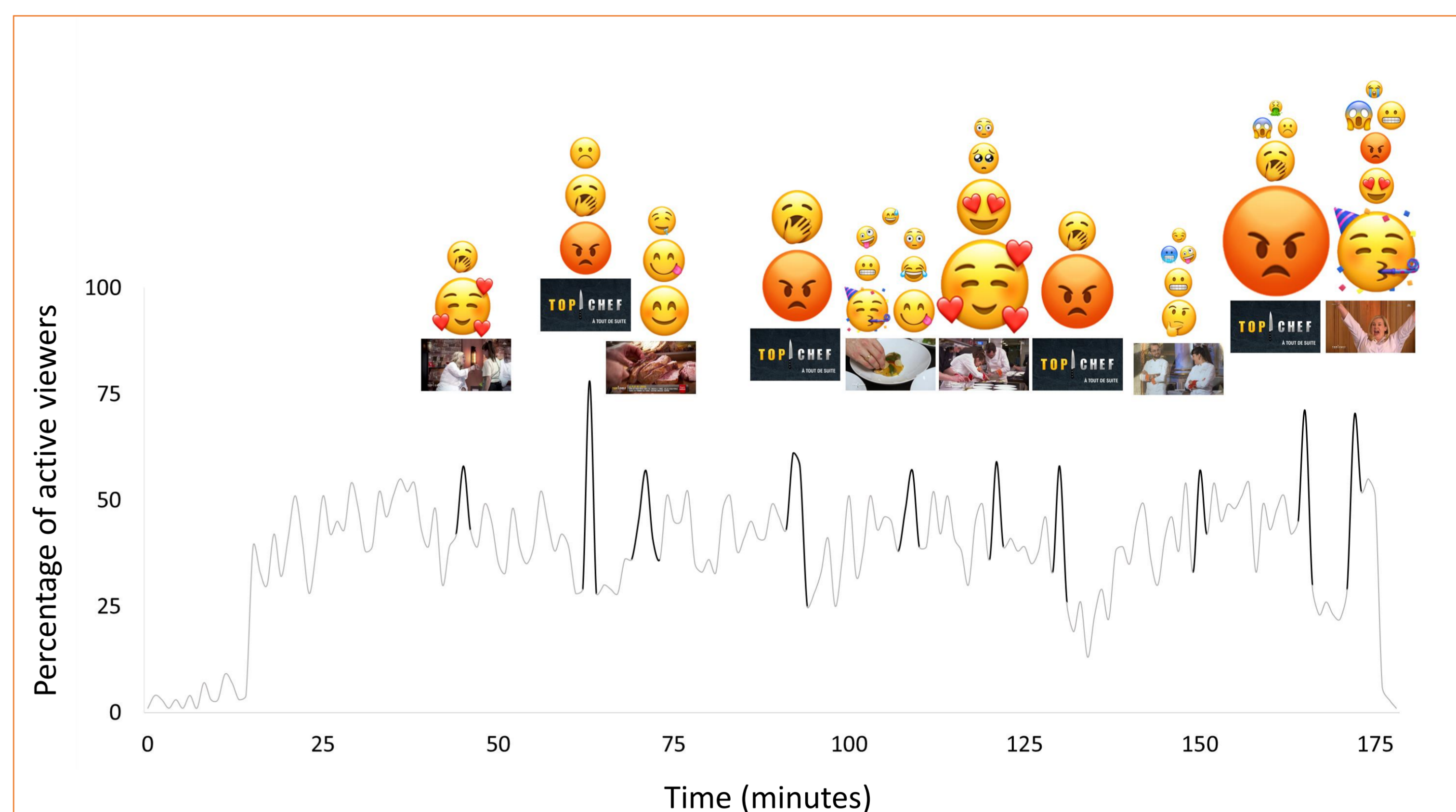
- Using their smartphones, they had to click on the emoji (among a list of 24, previously pre-tested) which applied most to the program at any given time (ads included) during three hours.
- An emoji could be selected multiple times or never selected.
- Times of clicks were recorded.



### Results

- For data analysis, the program was sequenced into 178 periods of one minute.
- The percentage of active viewers (i.e., viewers who cited at least one emoji during a sequence) was calculated per sequence.
- The 10 sequences of the show that generated the most emotional reactions have been identified.
- These sequences were then compared based on the citation rates of each of the emojis thanks to the mrChi<sup>2</sup> framework (Mahieu et al., 2021).

#### Overview of the dynamics of emotions



Only the significantly more cited emojis ( $\alpha=10\%$ ), in the sense of the test of associations between each sequence and each emoji (mrChi<sup>2</sup>), are reported for the top-10 sequences.  
 The size of an emoji is proportional to its citation rate.

- On average, 74% of the viewers recorded at least one reaction every ten minutes. This suggests an excellent rate of participant engagement throughout the TV program.
- The test discriminated between sequences, providing an overview of the dynamics of emotions perceived during the TV show and ad breaks.
- Interestingly, some sequences segment viewers. For example, during the announcement of the winner (t=172 minutes), opposed reactions were observed: 😡, 😱, 😬, 😏 versus 😍, 😘.
- The ad breaks were more characterized by emojis 😡 and 😏 compared to the rest of the program. Additionally, the trends to select the negative emoji 😡 increased over the 4 ad breaks.

Mahieu, B. et al. (2021). A multiple-response chi-square framework for the analysis of Free-Comment and Check-All-That-Apply data. *Food Quality and Preference*, 93.

### Conclusions & Perspectives

- The scenes that most impact and more segment the viewers were identified.
- This protocol could be used by TV channels to **evaluate their program** or to **determine the most opportune moments where to place the ad breaks**.
- This study demonstrates that it is possible to measure the emotion felt during a **long stimulus**.
- Thus, this protocol could be applied to other customer experiences that can be **sequenced into series of events**. In food science, this could be useful to better understand food behavior for example in experimental restaurant settings.



This poster is part of the top posters of #Pangborn2023

Scan the QR code to access the video of this poster. Enjoy it!

