

UMAQ conference – Barcelona – 4<sup>th</sup> - 5<sup>th</sup> June

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# Testing the Filmic Experience: Audio Subtitling and Psychophysiology

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# Audio Subtitling

AST as the **aurally** rendered subtitles.

AST are **read**, sometimes **acted out**, by voice actors or by TTS.

AST are recorded as a form of **voice-over**.

AST are recorded in a **semi-dubbed** form.

(Reviere & Remael, 2015)

Challenges: hybrid technique

- Interface between **subtitling**, **audio description** and **voice-over**.

(Braun & Orero, 2010)

## Dubbing effect

- Acted (“imitation” of orality) (see Baños & Chaume, 2009; Sánchez Mompeán, 2016)
- Original is not heard
- Synchronised

## Voice-over effect

- Read (less changes in prosodic features)
- AST is superimposed and original can be heard
- AST displayed after the original (imperfect isochrony)

# Methodology: User Experience and Emotion

## Questionnaires

SAM questionnaire (Self-Assessment Manikin)

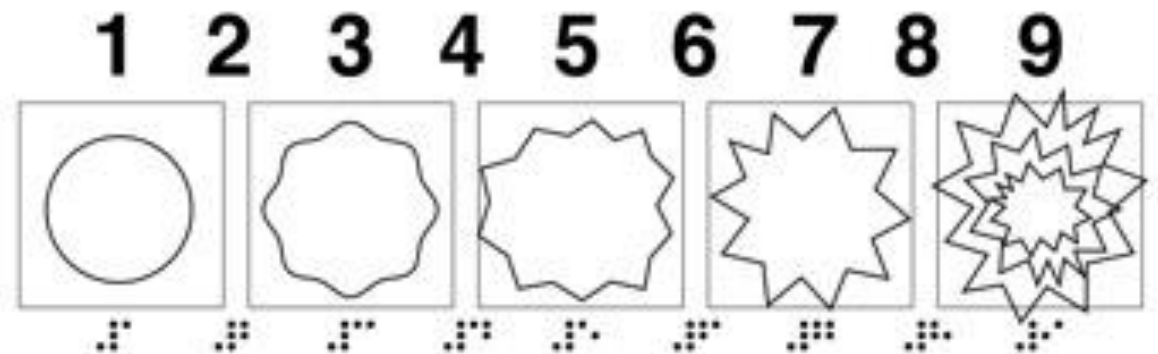
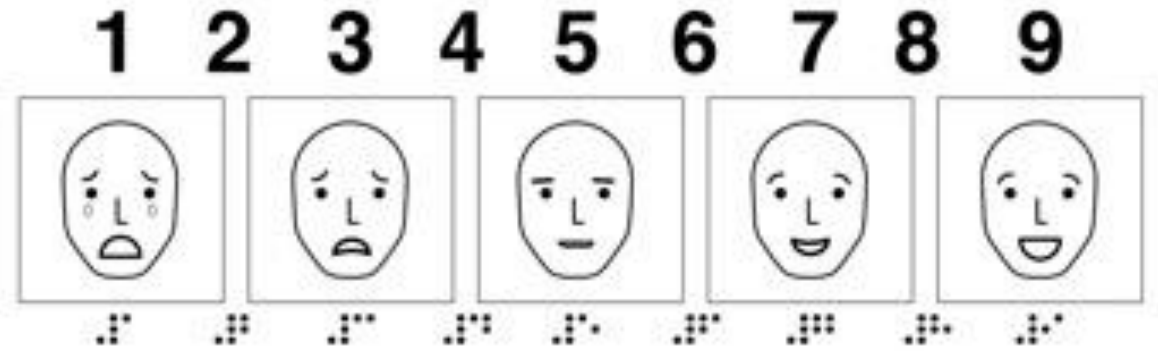
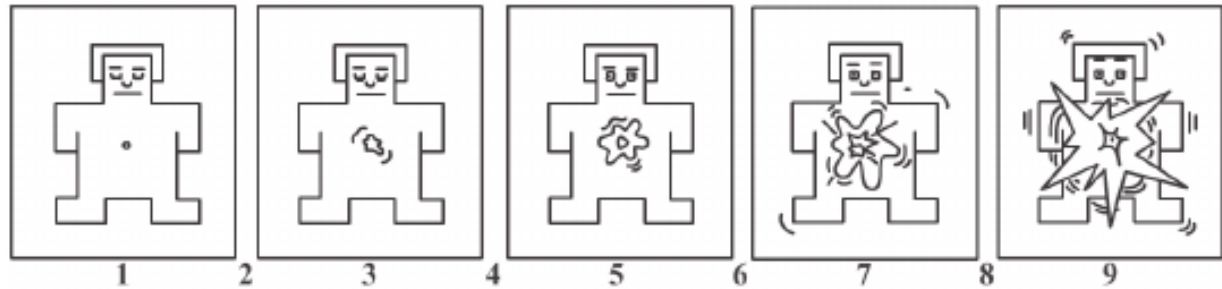
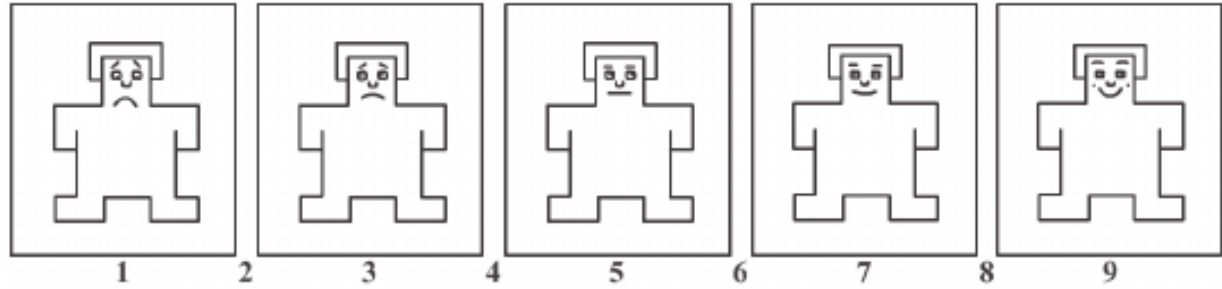
## Psychophysiology

GSR (Galvanic Skin Response)

HR (Heart Rate)



# The T-SAM (Tactile-SAM)



# The Experiment

## Variables and Participants

### Emotions

Sadness

Neutral

Fear

### Conditions

Dubbing effect

Voice-over effect

### Participants

N=42

Age=19-73 (median=38)

♀ 17 || ♂ 25

Blind → 13

Visually impaired → 29

# Stimuli

## The series

- Wojenne dziewczyny [War Girls] (TVP1, 2017)
- Season 1
- 13 episodes

## Clips

- $\cong$  3 min scenes
- Unit
- Validated online



# The Experiment

## Experimental protocol

### Pre-test Questionnaires

Demographics

### T-SAM questionnaire

After each clip

### Each participant

Three clips (three emotions)

- 2xConditionA, 1xConditionB
- 1xConditionA, 2xConditionB

### Preference Test

Audio Subtitling (voices and effects)

Audio Description



# Preliminary results: T-SAM

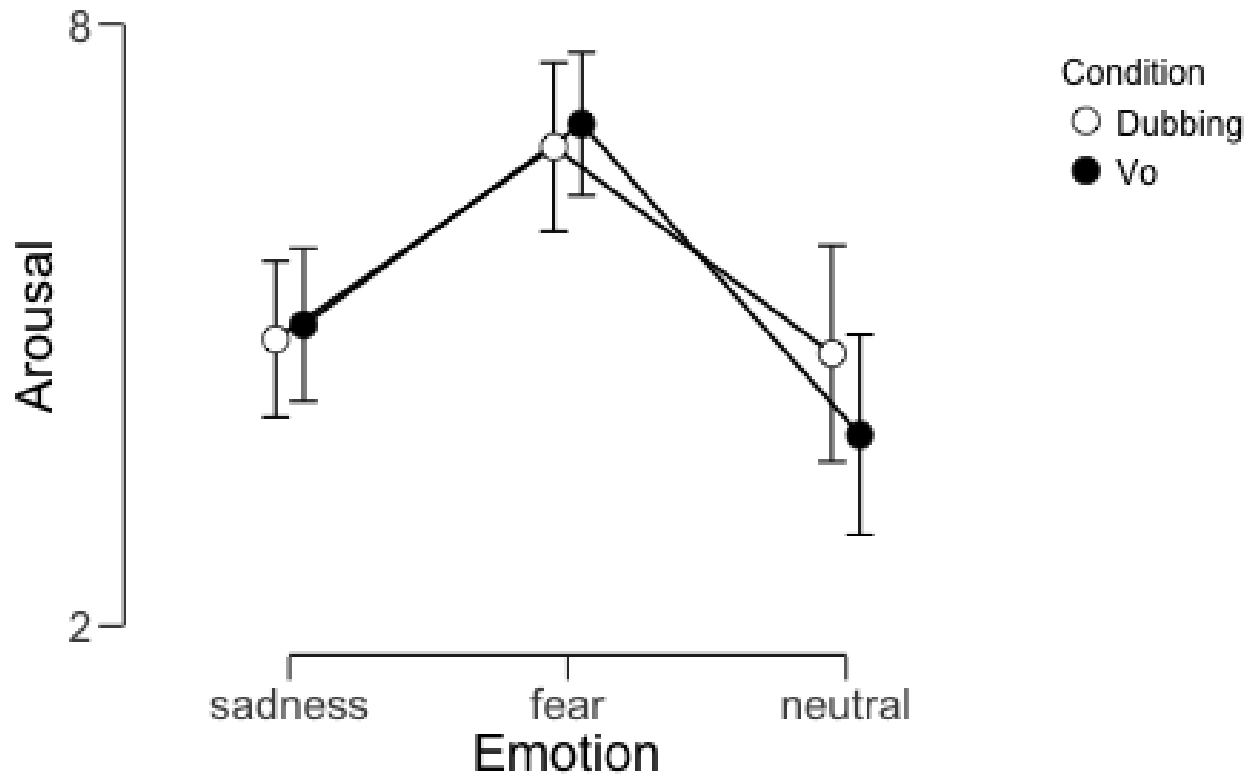
## Valence



ANOVA - Valence	
Cases	p
Emotion	< .001
Condition	0.340
Emotion * Condition	0.078

# Preliminary results: T-SAM

## Arousal



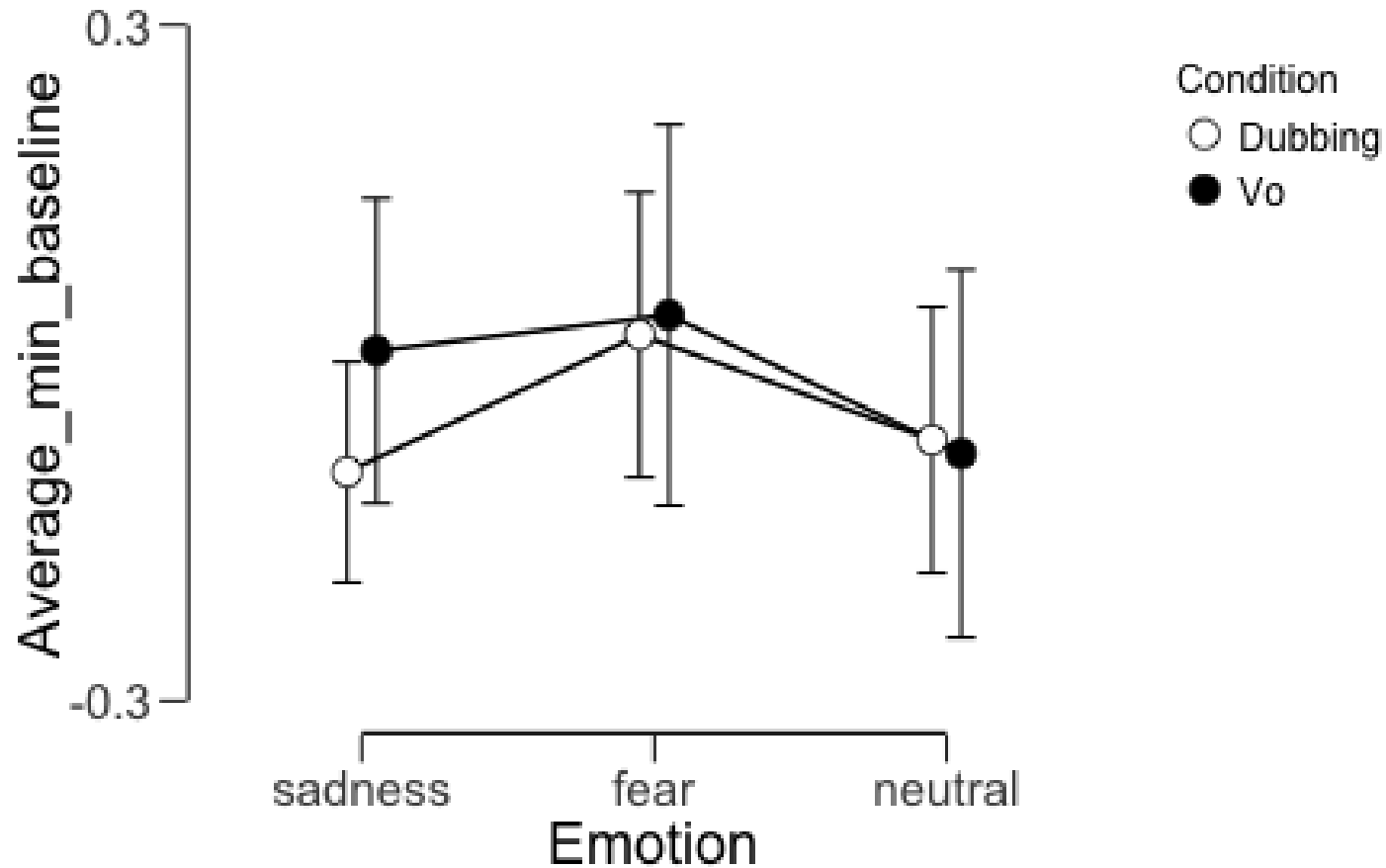
ANOVA - Arousal	
Factor	p
Emotion	< .001
Condition	0.669
Emotion * Condition	0.078

# Conclusions

For the SAM questionnaire:

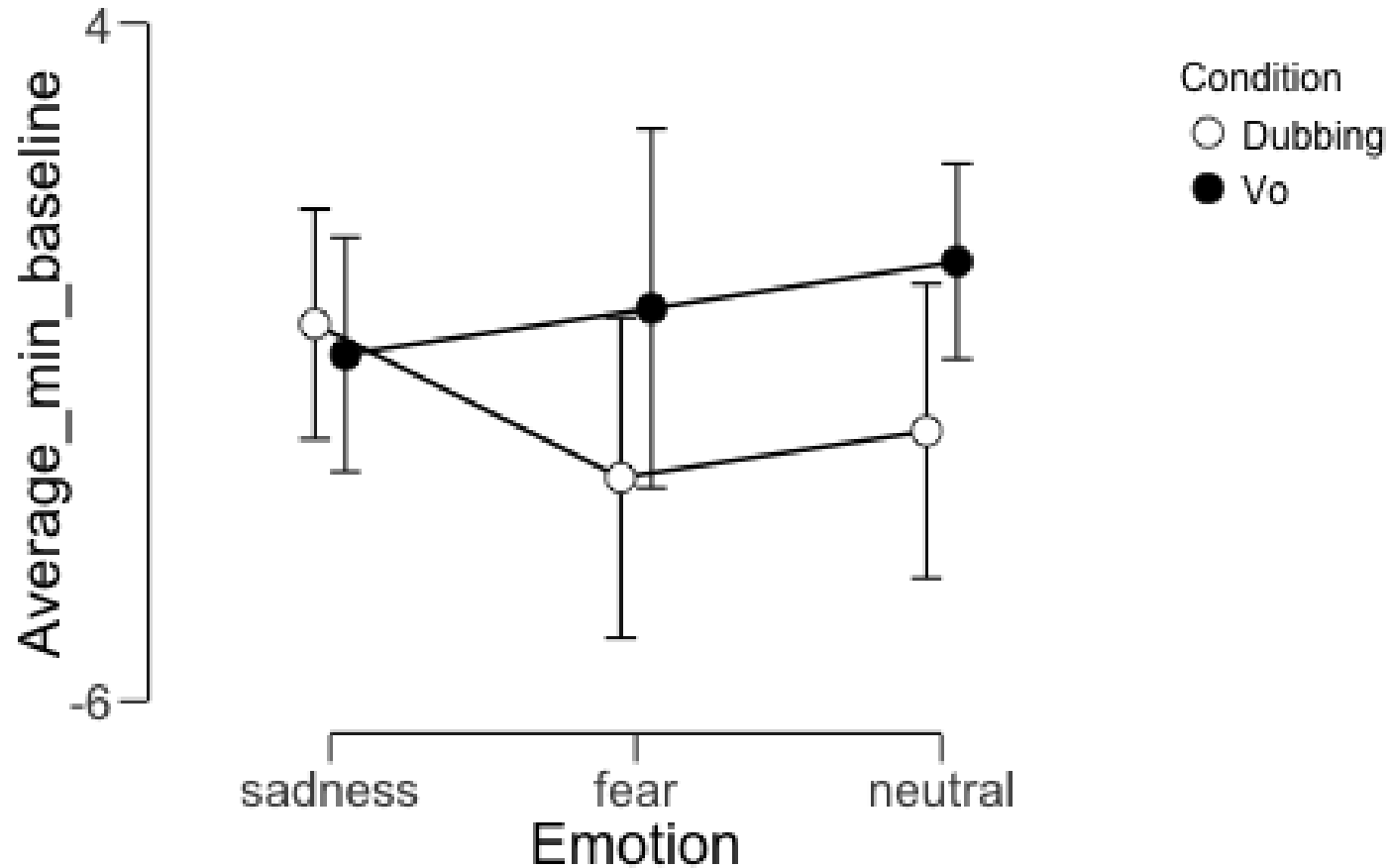
- Emotions targeted, were induced
- Results provided are consistent
  - **Fear**: low valence/high arousal
  - **Sadness**: very low valence/medium arousal
- T-SAM proved effective (although it needs more research)
- **Conditions** (effects) were not relevant, only in **Valence** for **Fear**

## EDA Average (- baseline)



ANOVA - EDA (- baseline)	
Factor	p
Emotion	<b>0.239</b>
Condition	<b>0.481</b>
Emotion * Condition	<b>0.634</b>

## HR Average (- baseline)



ANOVA – HR (- baseline)	
Factor	p
Emotion	<b>0.681</b>
Condition	<b>0.061</b>
Emotion * Condition	<b>0.226</b>

# Conclusions

For the psychophysiological measures:

- **EDA** does not show statistically differences across **Emotion** nor **Condition**.
  - Standard error points out high variability of data
  - **VO** seems to be more effective in inducing **Sadness**
- **HR** shows a trend to significance for **Condition**
  - Differences observed in **Fear** and **Neutral** emotions (the latter, unexpected).
  - **Fear** seems better induced in **VO** condition
  - Standard error points out high variability of data
- Further analyses on these data are needed to determine concomitant factors that can be relevant (i.e. Age of participants?)

# Conclusions

## On-going experiments:

- Sighed participants
- Same stimuli (Subtitled in Spanish)
- Same methodology
- N=45 (Expected)
- Correlation with personality traits:
  - State-Trait Anxiety Inventory (STAI) (Spielberg et al., 1983)
  - Zuckerman-Kuhlman Personality Questionnaire (ZKPQ) (Zuckerman, 2002) in its shortened version (ZKPQ-50-CC) (Aluja et al., 2006)
  - + Already used Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994)

# References

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# Disclaimer



TransMedia Catalonia is a research group funded by the Secretariat for Universities and Research (Catalan Government), reference code 2017SGR113.

The project NEA (Nuevos Enfoques sobre Accesibilidad/New Approaches to Accessibility) has received funding from the Ministry of Economy, Industry and Competitiveness (Spanish Government), grant agreement No FF12015-64038-P, MINECO/FEDER.

Iturregui-Gallardo, G. is an FI grantholder awarded by the Agency for Management of University and Research Grants of the Catalan Government, reference code 2016FI\_B 00012.

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