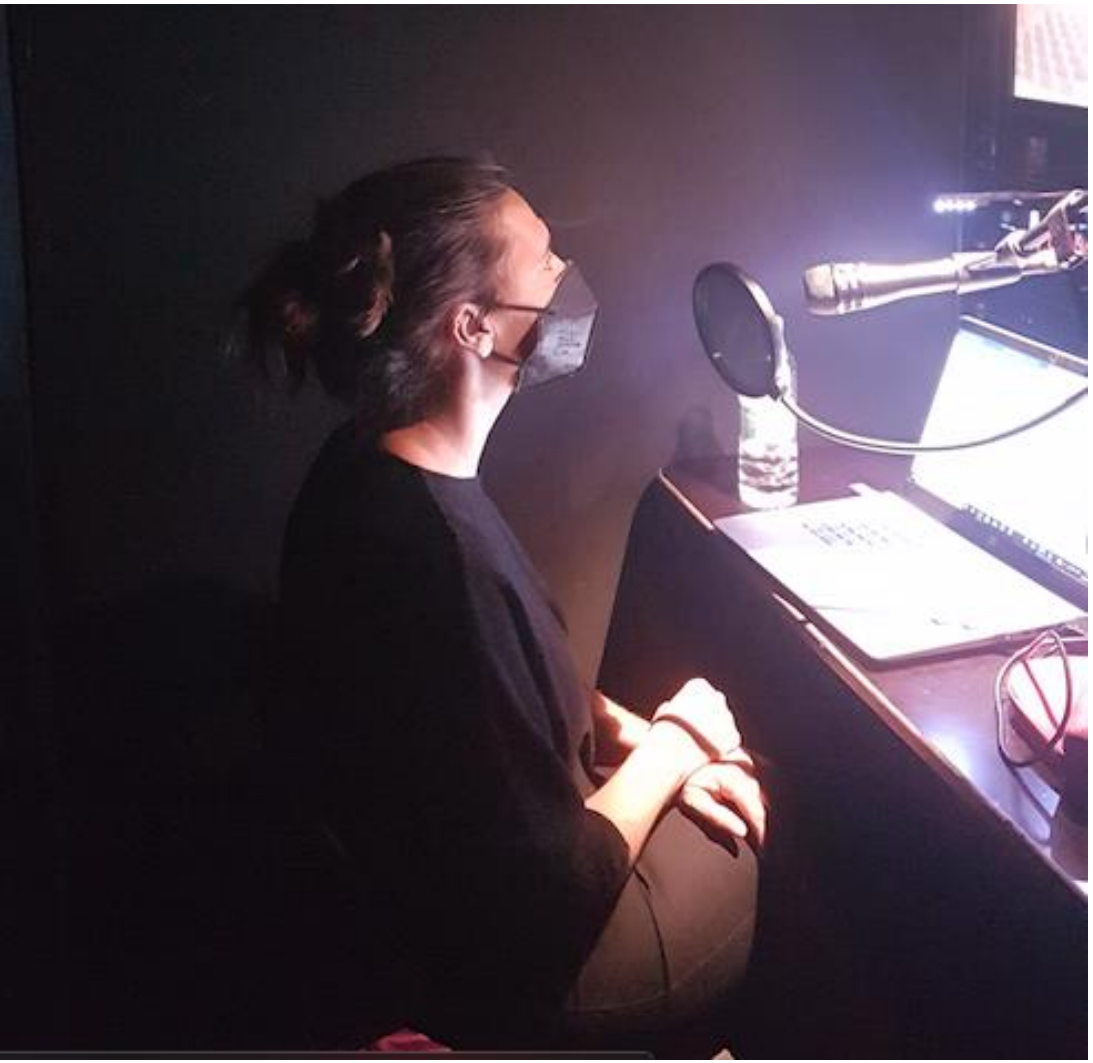
Hearing Dance: Poetic or Neutral AD?

María Luján Rubio,
Marina Ramos Caro,
Ana Mª Rojo López,
Konrad Rudnicki

Región de Murcia
f SéNeCa(+)
Agencia de Ciencia y Tecnología Región de Murcia
MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES
UNIÓN EUROPEA
FONDO EUROPEO DE DESARROLLO REGIONAL
AGENCIA ESTATAL DE INVESTIGACIÓN

Structure

What?
Why?
Aim
Hypotheses
Methodology
Results
Discussion & conclusions



What?

Latrium

Laboratorio de traducción inclusiva de la Universidad de Murcia

The ADance project (Seneca Foundation)

Why?

•Dance is a fully visual product. AD necessary, but how?

•Previous research is scarce

- Snyder (2010), Kleege (2014), Fryer (2018), Verdú Macián (2022), Luján Rubio (2023)

- No reception studies

Aim

•To explore the emotional and cognitive reception of the AD of contemporary dance.

Study. The language in AD

Hypotheses

Compared to a more descriptive AD, a more creative one adapted to the peculiarities of dance will be:

1. Easier, that is, it will decrease participants' ratings of perceived cognitive effort and their HR.
2. More emotionally salient and pleasant, that is, it will increase participant's ratings of self-reported valence, arousal, transportation and enjoyment and will increase phasic skin conductance and HRV.
3. More useful, that is, will help them remember more details in a recall test.

Sample

- 33 participants
- < 10% vision
- No other disability
- 13 men (39,4 %)
- 20 women (60,6 %)
- 16-80 years old

- ONCE (Granada, Murcia)
- U. of Murcia Ethics Committee

Linguistic parameters (creative)

Parameters (creative)	Total
Similes	11
Emotional state of performers	3
Poetic register	7
Rhythmic repetitions	4
Total number of words	1041

Linguistic parameters (descriptive)

Parameters (descriptive)	Total
Terminology	**3** *Cambré* *Ronde Jambe* *Plié*
Total number of words	1047

Parameters (descriptive)	Parameters (creative)
Dance movements & terms: *Cambré* *Ronde Jambe* *Plié*	Similes: *Mueven las piernas como si pedalearan.* [*They move their legs as if they were pedalling.*]
	Emotional state of performers: *Se detiene a la derecha de Ebi. Mira a su alrededor, preocupado.* [*He stops to Ebi's right. He looks around, worried.*]
	Poetic register: *Se arrastra/**repta*** [*He drags himself/ **creeps***]
	Rhythmic repetitions: *Giran. Paran. Giran. Paran. Giran. Paran.* [*They turn. They stop. They turn. They stop. They turn. They stop.*]

Stimuli: two 10m. contemporary dance choreographies

AD1	AD2
5 min descriptive	5 min descriptive
5 min creative	5 min creative

- AD: created by us and then locuted professionally using IA voices

Stimuli presentation

*Randomized order

	Versions			
	1st clip	2nd clip	3rd clip	4th clip
P1	Descriptive AD1	Descriptive AD2	Creative AD2	Creative AD1
P2	Creative AD1	Creative AD2	Descriptive AD1	Descriptive AD2
P3	Descriptive AD2	Descriptive AD1	Creative AD2	Creative AD1
P4	Creative AD2	Creative AD1	Descriptive AD2	Descriptive AD1
…				

Instruments: Self-report Questionnaires

- Cognitive effort: The mental-effort rating scale by Paas (1992) (1 item 9-point Likert scale)
- Emotional valence and arousal: The Tactile Version of the SAM (2 items) by Iturregui Gallardo (2020)
- Engagement: The Narrative Transportation questionnaire (12 items) by Green & Brock (2000)
- Enjoyment: The Aesthetic Experience Questionnaire (10 items) by Celia Barnés
- Usefulness: Recall test

Instruments: Physiological Indicators

- Shimmer 3 GSR:
  - HR / HRV
  - GSR

Procedure

50’

1	Registration and informed consent
2	Electrode Placement
3	Relaxing task (music 5 min)
4	SAM questionnaire
5	10 minutes dance
6	Questionnaires
7	10 minutes dance
8	Questionnaires + retrospective interview

Results

Correlations between variables

Table 2. Correlations between the study variables.

		1	2	3	4	5	6	7	8	9	
1	SAMArousal	-									
2	SAMValence	.86*	-								
3	Transportation	.47*	.46*	-							
4	Enjoyment	.54*	.54*	.60*	-						
5	Cognitive Effort	-.05	-.05	-.11	-.13	-					
6	Engagement (Recall)	-.13	-.11	.01	-.09	.04	-				
7	Phasic EDA	-.14	-.06	-.27*	-.25*	.07	.18	-			
8	Tonic EDA	-.14	.00	-.27*	-.23*	.08	.03	.68*	-		
9	Heart Rate	.17	.11	.33*	-.05	-.04	.03	.18	.11	-	
10	HRV	-.09	-.07	.02	.05	.00	.11	-.23*	-.27*	-.61*	-

*- $p < .05$

Self-report measures

- Most self-reported measures (*SAMValence, SAMArousal, Transportation* and *Enjoyment*) = positively correlated.
- Taken together = overall level of positivity that a person expressed towards the clip.
- Self-reported *Cognitive Effort* and *Engagement* (recall accuracy) NOT correlated to other survey measures:
- Experienced as separate, unrelated phenomena.

EDA

- *Phasic and Tonic EDA* = **negatively** correlated with Transportation and Enjoyment.
  - Objective physiological arousal experienced as “negative”. It could be related to the difficulty of the experience / frustration.

HR & HRV

- HR/HRV = **positively** correlated with *Transportation.*
  - Might have indexed the “positive” component of physiological arousal in this task.

Panel Regressions Analysis

- Basic unit of analysis = trials consisting of a single AD clip.
- Each participant = 4 trials: the observations could not have been treated as independent.
- Therefore, panel regressions were used with observations clustered on participants (xtreg in STATA 13).

Panel regressions

Dependent: / *Independent:*	H1a Cognitive effort self-report	H1b Cognitive effort Heart Rate	H2a SAMValence	H2a SAMArousal	H2a Enjoyment	H2a Transportation	H2b Phasic EDA	- Tonic EDA	H2b HRV	H3 Engagement (Recall)
Age	.03(.02)	-.07(.05)	.00(.02)	.00(.01)	.03(.07)	-.07(.07)	-.14(.10)	-.01(.01)	6.24(8.85)	-.01(.01)
Sex	-.35(.77)	-.49(1.75)	.34(.76)	.47(.61)	**4.89(2.73)†**	2.05(2.81)	-.33(4.75)	.24(.48)	-5.52(394.2)	-.13(.22)
Impairment	.78(.87)	1.09(2.23)	-.23(.86)	-.05(.70)	-4.44(3.11)	-3.36(3.20)	**-10.92(5.9)†**	-.19(.60)	-126.4(510.9)	-.04(.25)
Time	-.07(.15)	.41(.29)	-.15(.12)	.15(.10)	**-1.50(.53)****	-.82(.52)	-.52(1.18)	.16(.10)	52.34(66.88)	**-.19(.06)****
LanguageType	.19(.20)	**-1.12(.36)****	.11(.14)	**.24(.11)***	-.59(.65)	.28(.63)	-2.24(2.23)	-.15(.14)	**206.5(80.8)****	.13(.09)
BaselineHR		**.83(.11)****								
BaselinePhasicEDA							**1.2(.23)****			
BaselineTonicEDA								**.86(.12)****		
BaselineHRV									**1.35(.36)****	
N	132	62	132	132	132	132	60	60	62	131
Wald Chi	4.58	**157.8****	2.65	**9.26†**	**16.84****	4.95	**38.95****	**76.84****	**26.85****	**13.96***

*** - p < .01, * - p < .05, † - p < .1*

Hypotheses

Compared to a more descriptive AD, a more creative one adapted to the peculiarities of dance will be:

1. Easier, that is, it will decrease participants' ratings of perceived cognitive effort and their HR.
2. More emotionally salient and pleasant, that is, it will increase participant's ratings of self-reported valence, arousal, transportation and enjoyment and will increase phasic skin conductance and HRV.
3. More useful, that is, will help them remember more details in a recall test.

Hypotheses Testing

H1: Creative AD did **NOT** affect participants' perceived Cognitive Effort.

- Creative AD elicited significantly **lower HR**, indicating that **objective Cognitive Effort was higher.**

H2&3: Creative AD did **NOT** show higher positive reported Valence, Transportation, Enjoyment or Engagement.

- **Only self-reported Arousal and HRV were higher for creative AD.**
  - Emotional responses elicited by creative AD were experienced negatively

Conclusions

- No support for the hypotheses.
- **Self-reported and physiological indicators taken together:**
  - **Emotional responses elicited by creative clips were experienced negatively.**

Conclusions

•BUT when asked about their preference and understanding:

- Only 3 participants preferred descriptive AD to creative AD.
- 30 participants understood the message better with similes and more creative language.

•Even if a more creative AD is preferred, they are not used to this type of AD, which may result in higher negative arousal.

•FAMILIARITY in AD reception (Bardini 2017; Fryer and Freeman 2014)

Limitations

- Different linguistic features within one single construct
- Faulty Shimmer
- Recruitment: age range
- Ecological validity
- Audience preferences (dance style)
- Thematic + valence of piece

Future

- Dance workshop for VI
- Seminars for professionals:
  - Dance companies/choreographers
  - Audio describers
- Accessible dance night

Thanks for your attention!

www.emotra.es

@ProyectoEmotra
@Latri_UM
@EMOTRA_UMU

Región de Murcia

f SéNeCa (+)
Agencia de Ciencia y Tecnología
Región de Murcia

Descriptive:
https://drive.google.com/file/d/15QFcygdQRy68qTKopWVnoNd77wBSEeR6/view?usp=sharing
Creative:
https://drive.google.com/file/d/1IXWlcXyHbIsMQ5MAAT3-Jhxth2TzM2Ua/view?usp=sharing