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UNIVERSITÀ DI ROMA



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BRAIN Signs

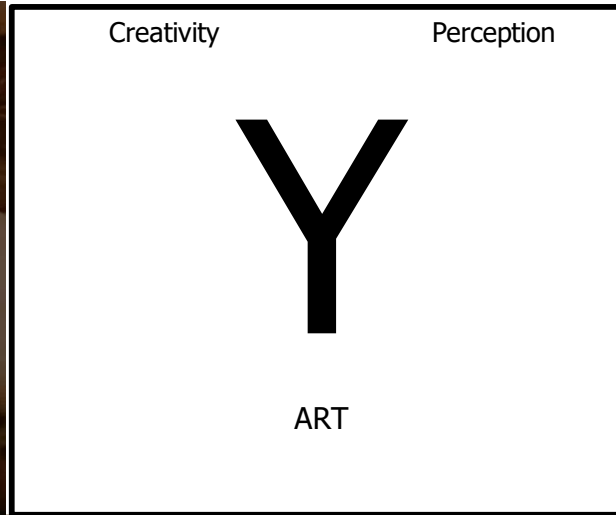


La conjuntion Y

'The observer'

Experiment of Art and Neuroscience

Malaga, 10 June 2016



LA TÉRMICA CREADORES

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EXPOSICIÓN FINAL
Y JORNADA DE CREACIÓN

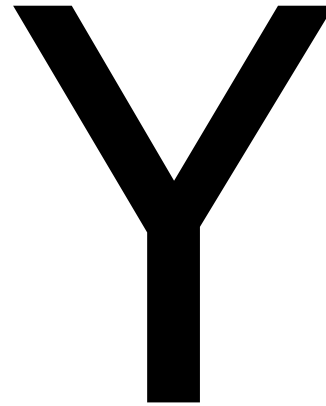
10.06.2016
17.07.2016

INAUGURACIÓN
06.06.2016
partir de las 18.00 h



Creativity

Perception



ART



On May we conducted a neuro test measuring the instinctive physiological reactions during the PERCEPTION of the ART Video La conjunction Y engaging a group of visitors. Their reactions have been recorded by sensors used in medicine for evaluating biofeedback

- **EEG** (elettroencefalografica) sensors to measure the cognitive reaction in terms of interest/ value attribution from the brain
- **HR** (heart rate) and **GSR** (skin conductance) sensors to measure the deep emotion;
- **Eye-tracking** system to trace the eye gaze direction and time and visual friction path on different sequences of scenes

At the end of the experimental task each visitor has also been briefly interviewed



Elettroencefalografia
(EEG)



Elettrocardiografia
(ECG)



Galvanic Skin
Response
(GSR)



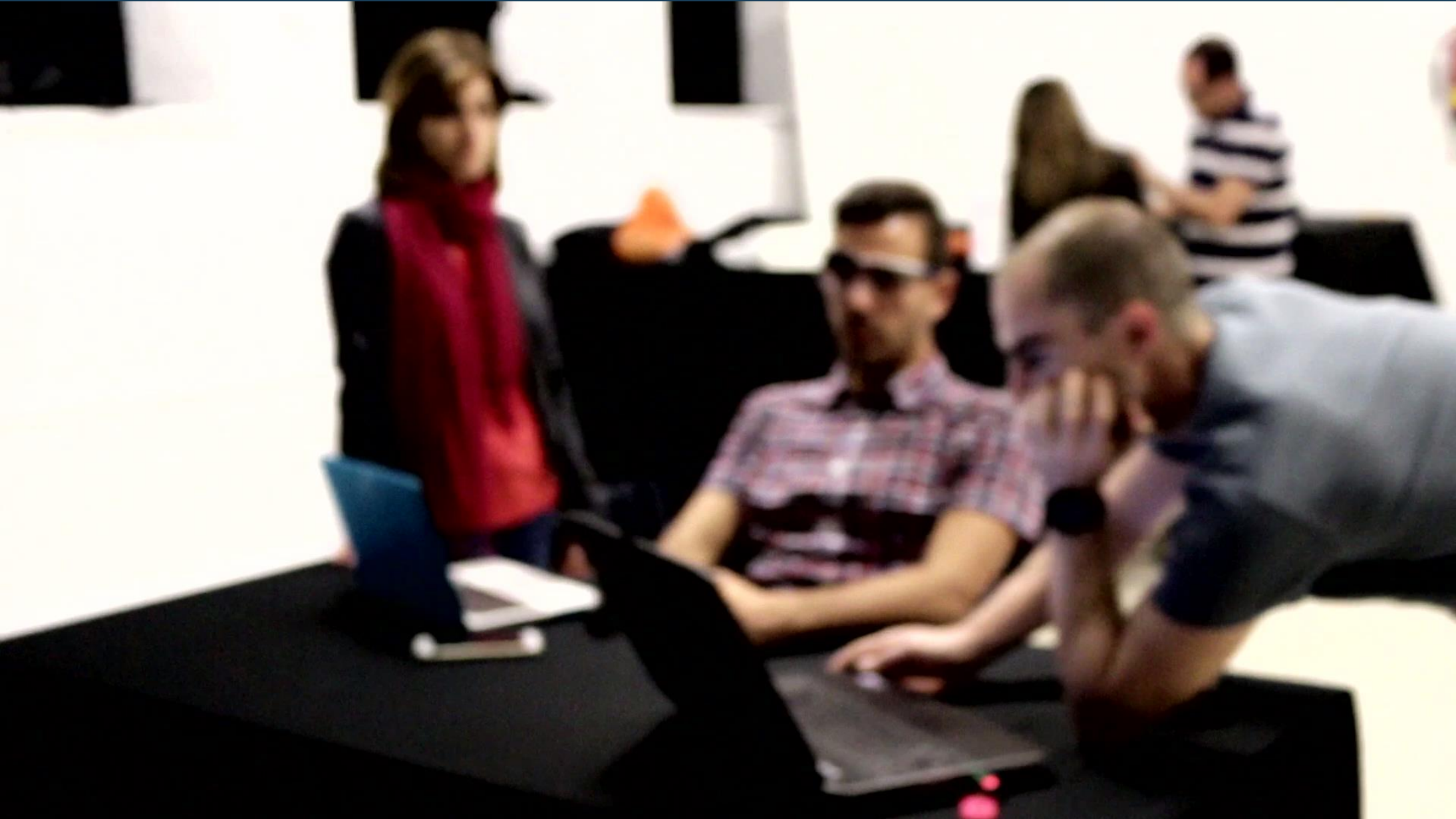
Eye-tracker



Intervista

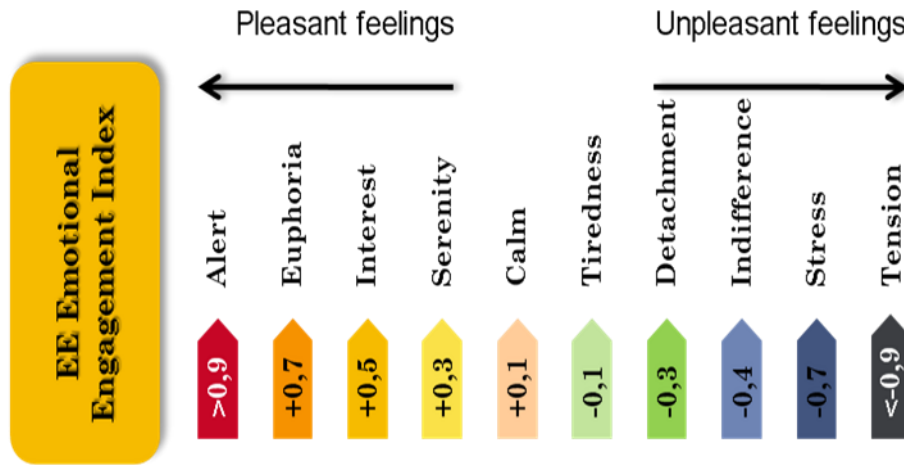
30 persons Malaga living, watched the art video:

- **50% Male, 50% Female; Age 24-70; 50% More Art Expert, 50% Less Art Expert**





Emotional index

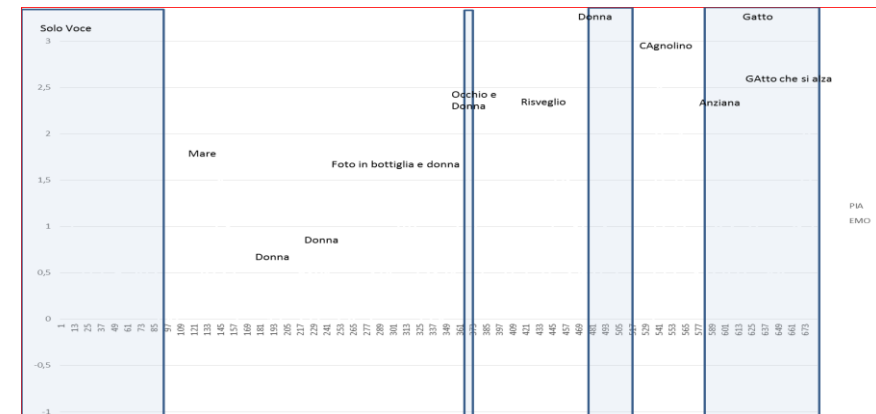


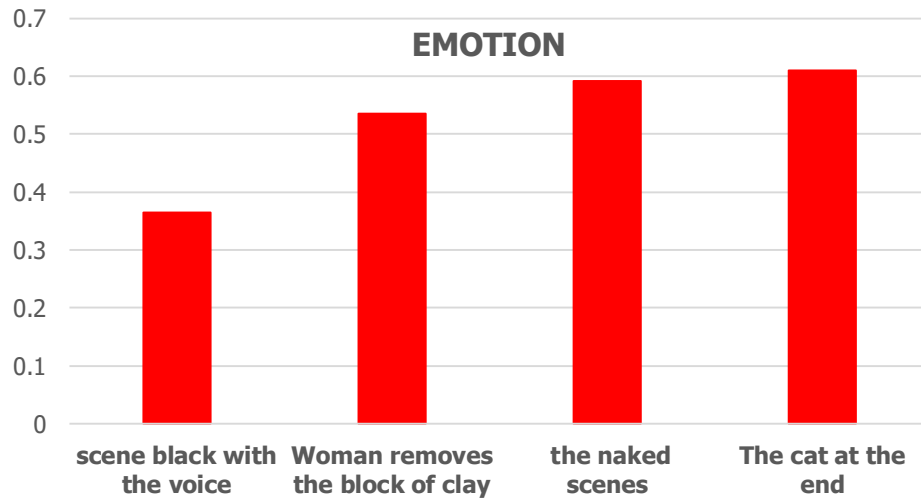
Interest index

- Balance between Approach and Withdrawal
 - Values negative vs positive
 - Range not limited
 - More meaningful peaks higher than 1

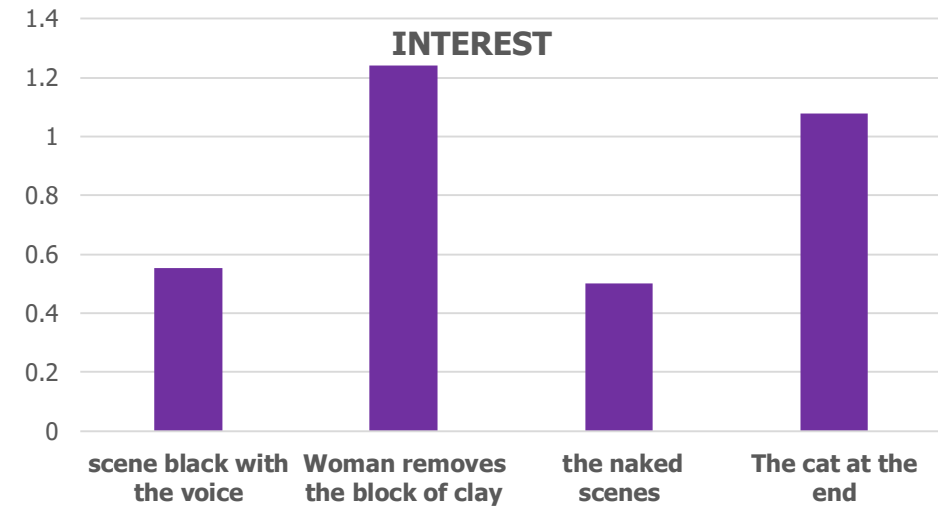
4 segments pillars in the first creativity action

- Intro with voice solo (*secs. 0-87*)
- The woman wakes up out of clay, at beginning with a eye in the higher right corner (*secs. 365-373*)
- The woman straight on feet is in the mud and then rinsed by water, naked in the body (*secs. 480-518*)
- The cat, the glass on the world image at the final of the video (*secs.582-584*)





- Positive Values, with engagement ($>0,3$)
- Emotion lower in Intro segment
- No evident differences between segments 2-3-4



- Positive Values
- Less in «intro» and in «naked scenes»
- Higher in «Woman removing the clay» and in «the end with the cat»

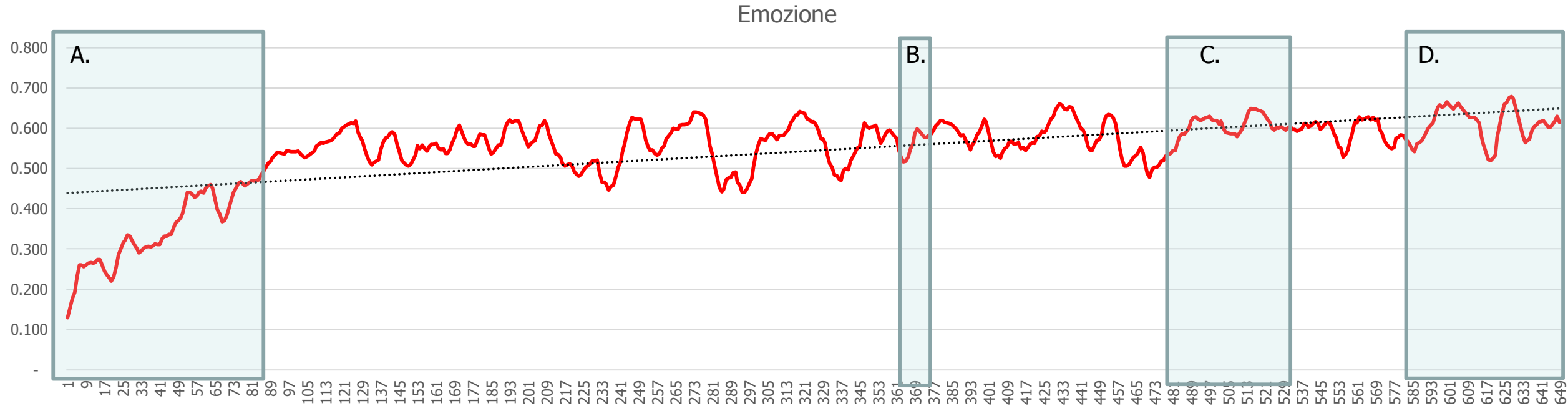


Emotion

- Segment A. «Voice solo» obtain lower emotional reaction compared to the others B.C.D. at similar level
- For all segments
 - people Less Art Expert feels more emotion than the More Experts;
 - Women feels more emotion than Men

Brain Interest

- Segment B. with the Woman moving from her own face a block of clay (and an tearing eye in the right higher corner) generated more interest in all the sample than the other segments
- No differences between the sub groups Less Experts vs More Experts; Women vs Men
- In segments C. and D.
 - Women react with higher more Interest

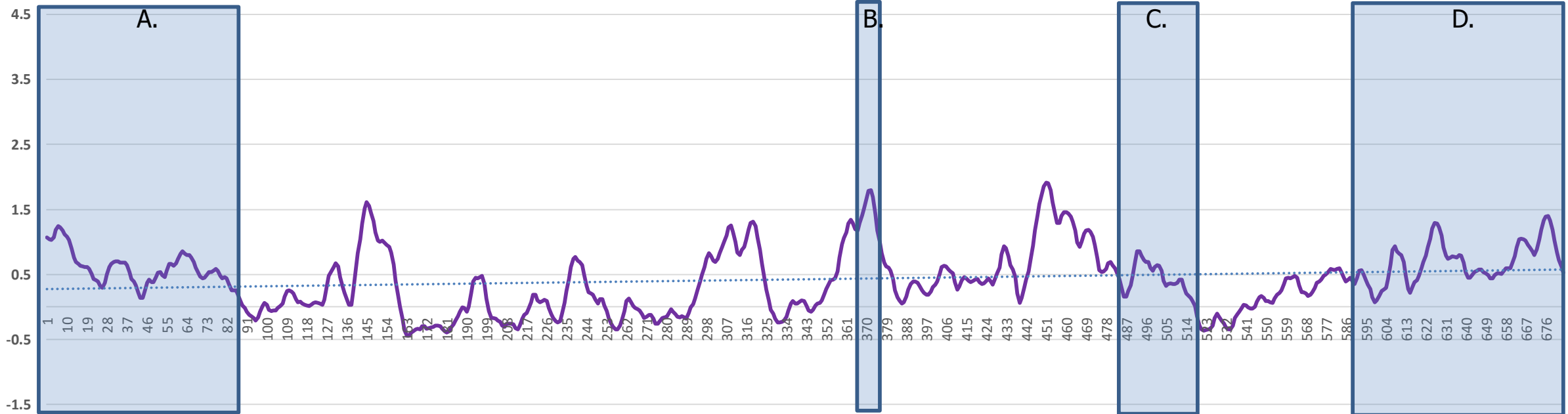


¿Cómo te has encontrado en esta experiencia? Come si è trovato in questa esperienza?

Bene, Tranquilla, expectativa/Benissimo. Comoda. Positiva/Non.../Bene, in attesa e tranquilla/Bene...rilassato, halo di irrequitezza/Aspettative non so cosa accadrà/Esperiencia relaxante , astratto , arcaica . archetipi comuni , mondo interno , gatto , sentimenti , riflessivo , sensazione di 'alla casa'/Bene. Tranquilla/Bene. Tranquilla/Vagamente agitato. Destrustrurato -la storia-. Bene/ Esperiencia visual. Molto informacione voglio vederlo un'altra volta/Benissimo. Positiva. Una Scoperta. Origine della natura/Benissimo/Bene/Bene. Esperiencia rilassata e riflessiva Travolgente. Creativo/Bene/Nervosa, con molte aspettative/ Bene. En qualche occasione triste. Diverse sensazione con gli animali vulnerabili/Bene. Paralizzata/Strano, nutre miei attitude como artista/Nervosa, con molte aspettative, dopo rilassata/ Emozionata, comprensione/Bene. Curioso, Gradevole. Aveva paura di che cosa va acontecere/Bene/Bene. Scioccante/Bene, interessante/Bene, comoda/**Scomodo per la situazione di lavoro (estava facendo la prova alla stessa ora di lavoro)**/Bene, comoda/Bene/**Rare, frustrato, nervoso, scomodo/Confusso. Tento di trovare senso**/Bene. Rilassato, sensazione di sentirsi piccolo/Strano al inizio, dopo entrando sul la storia.



INTERESSE



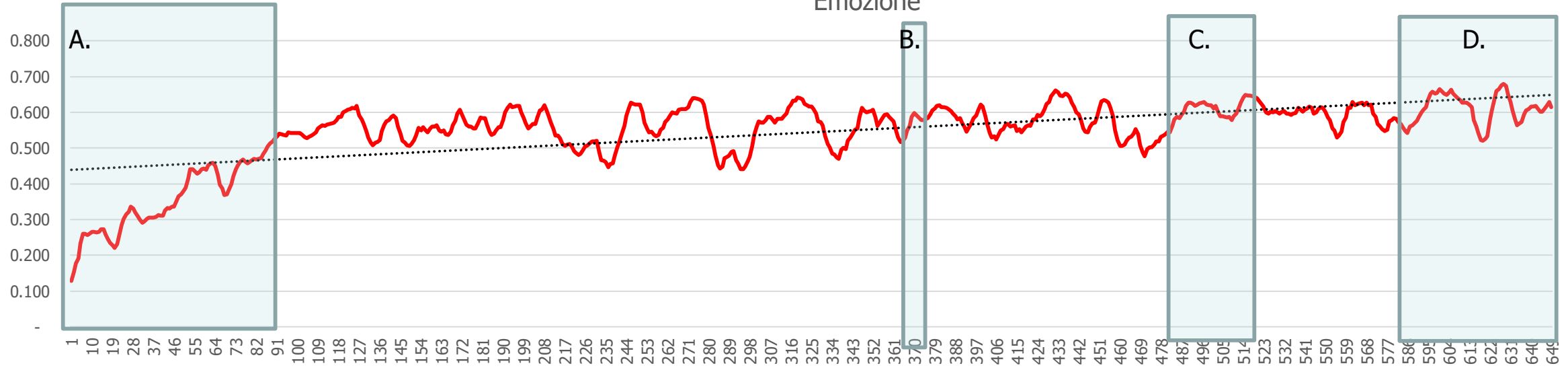
Ricordi Messaggio ?

"Guardare la vita/"Siamo la vita«/"Noi non percepiamo tanta bellezza«/Creatori di nostra propria mente, siamo quello che pensiamo/La combinazione di todo. Natura e essere umani/ "Che succede alla persona quando qualcuno le da fastidio« /"Pulita", "bella/ Poesia /La consapevolezza, natura, l'osservatore . Quello che si vede è la bellezza /Tranquillità, pace /Pace /Messaggio di vida / Pace /"Possiamo noi mostrare come siamo« /"Progress, believe in humans« /"Vedere e guardare«/ ""Le rose hanno le spine"" , ""vedere e immaginare "« /"Rapporto con natura... / "Le donne tra il viaggio della storie" "Guardare e immaginare« /Natura "Il bacino d'occhio vuoto« /"La vita continua /Messaggio per me "caos / Pace/ "Critica a la natura distrutta per gli umani"./

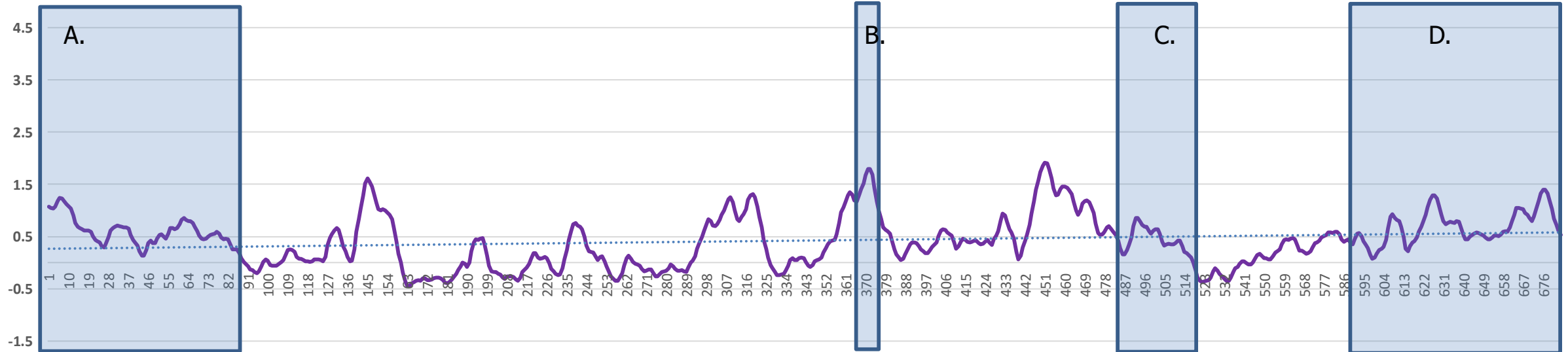
Non ben definito, ma dominano decodifiche positive la natura, la vita gli umani che possono bellezza e pace in mazzo a tante disarmonie da cui sono circondati No / No / No / No / No / No / No / No /



Emozione



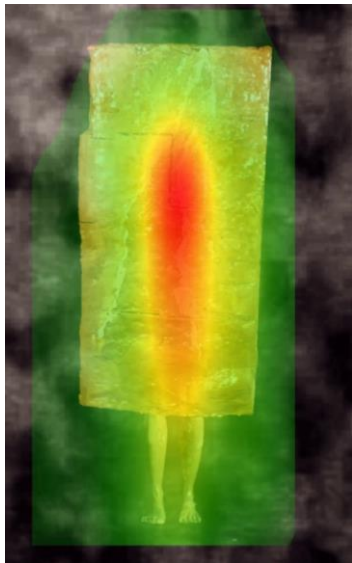
Interesse





Woman in the
clay
80% discovered

ALL sample



C-1

Woman in the
clay
50%
discovered

ALL sample

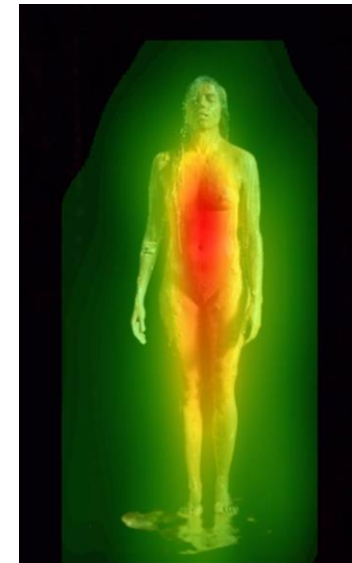
Focus on discovered
breast



C-2

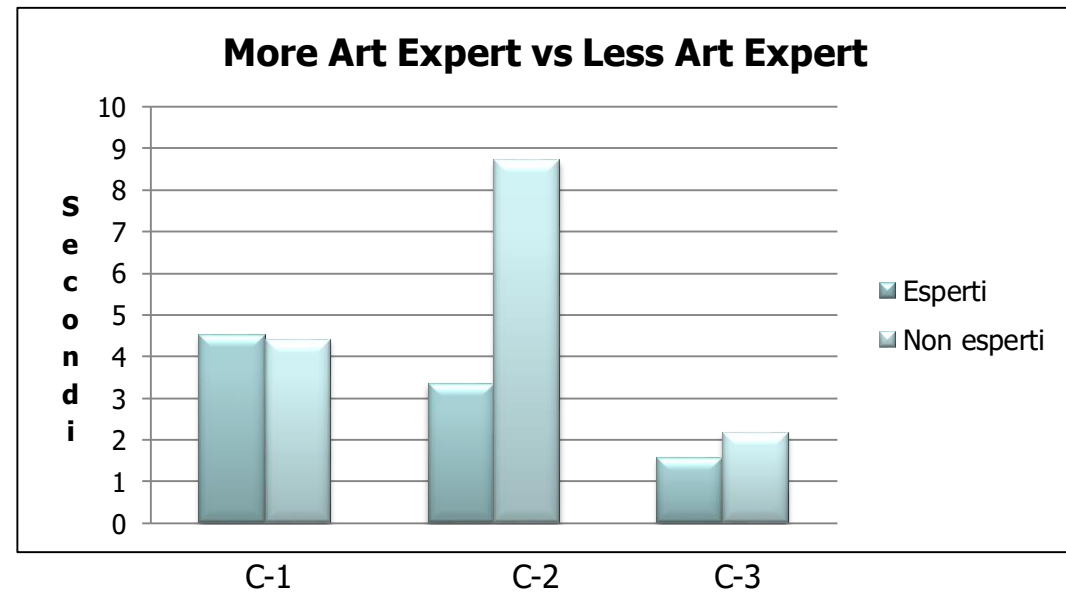
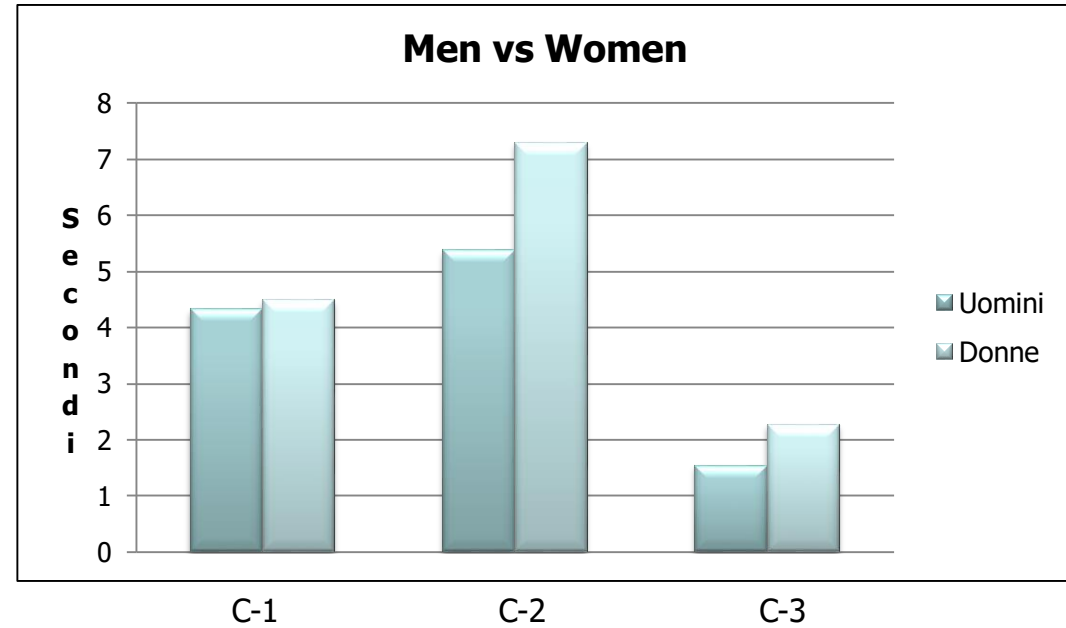
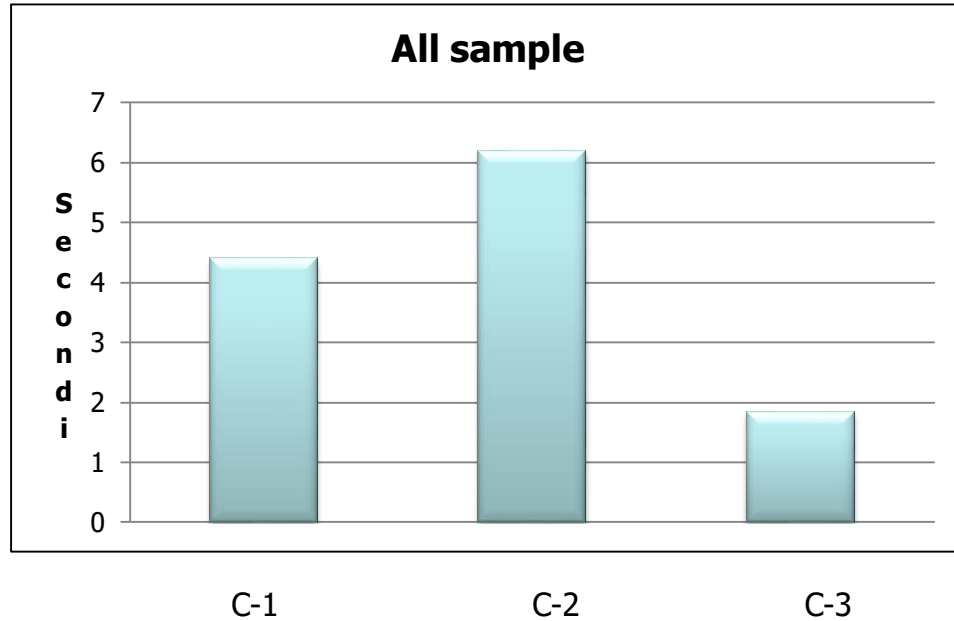
Woman all
naked

ALL sample

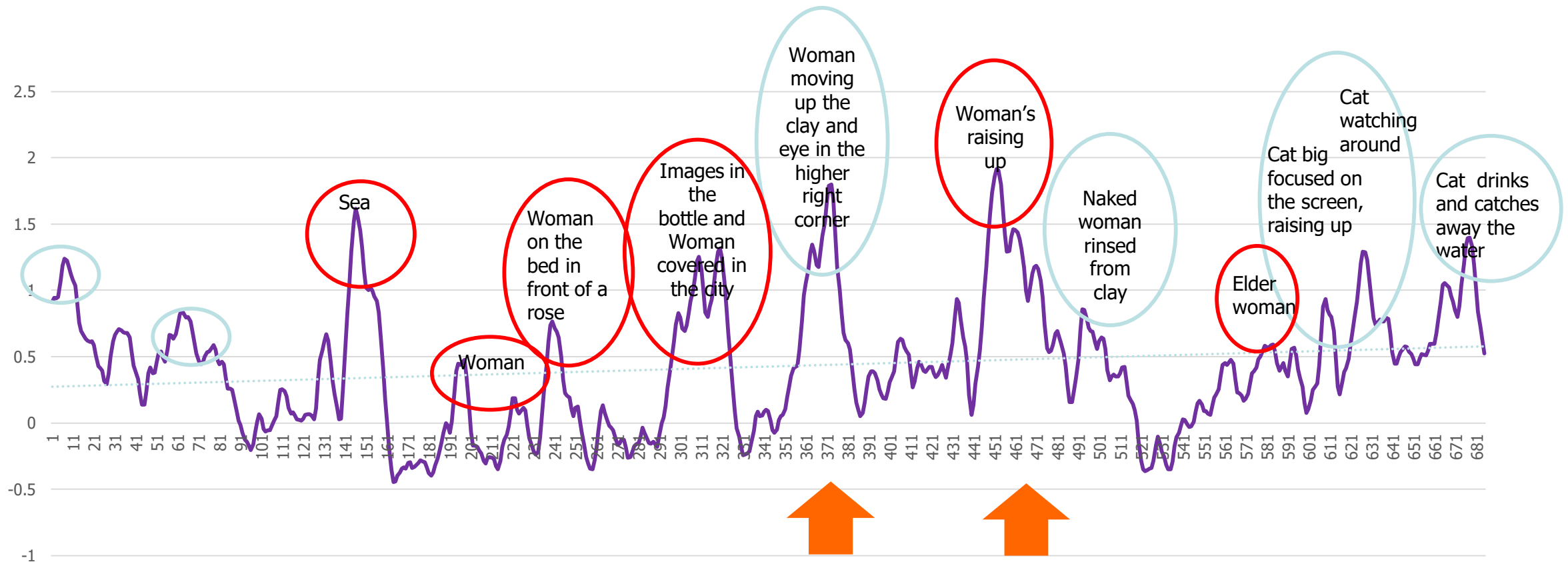


C-3

Modesty effect: less time of fixation when woman is naked



Peacks on Artist Segments and Also others evident in Perception



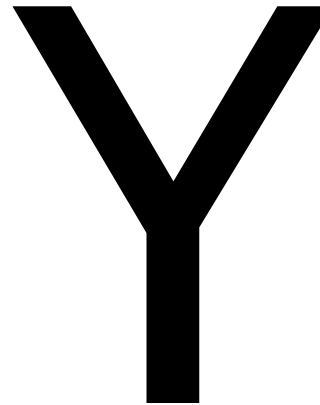
Observers have more instinctive interest on scene about the woman coming out of her sleep



Creativity

Pillars of Creatvity

- A. Intro «voice solo»
- B. Woman removing the clay
- C. Woman in the mud washed out
- D. The cat walking on the earth globe



ART

Perception

Special positive effects confirmed in

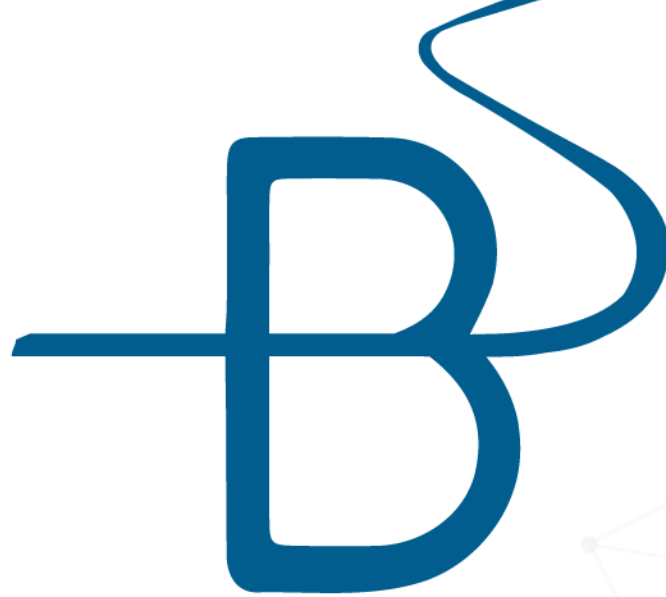
- Intro «voice solo»
- Woman removing the clay (373)
- *Woman in the mud washed out*
- The cat walking on the earth globe

Unexpected effect

- *Naked Woman in the mud washed out (lower than expected)*

Other positive effects

- The sea (133-146)
- The woman died/sleeping (198)
- The woman on a bed, rose in the wall (240)
- Figure sequences in the bottle and the woman in clay walking in the city (300-320)
- Woman waking up like resurrection (452)



Neuroscience for the evaluation of Advertising



BrainSigns

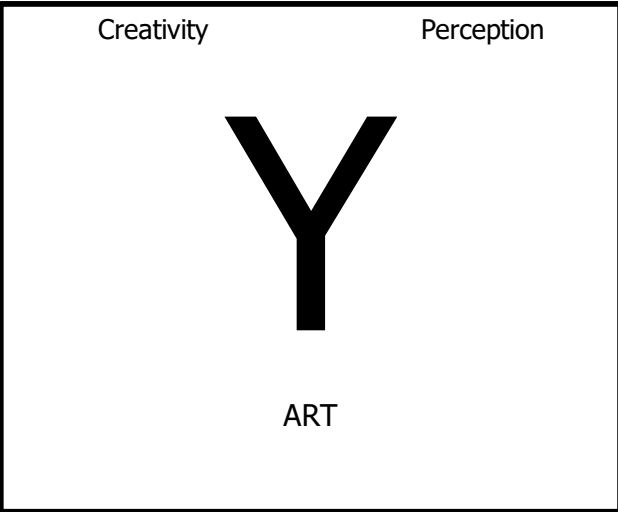
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