

# Conventional vs. Creative Subtitles: Task Load, Enjoyment and Preferences

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# Introduction & Background

*“**Aesthetic subtitling is** as a practice that draws attention to the subtitles via aesthetic means exploring semiotic possibilities, which include the semantic dimension without being restricted by it, and is predominantly designed graphically to support or match the aesthetics of the audiovisual text and consequently develop an aesthetic of their own.”*

(Foersters, 2010: 85)

*“The majority of people who watched dynamic subtitles enjoyed the experience, and wanted to try them further. A number of participants were very keen, and would have liked to convert to dynamic subtitles immediately.”*

(Brown et al. 2015)

# Research Question(s) & Hypotheses

RQ1: How does the type of subtitle affect the **viewing experience**?

H1: Compared to viewers of conventional subtitles, the viewers of creative subtitles will be able to spend more time exploring the image instead of reading the subtitles.

RQ2: Do viewers find it more **difficulties** when reading creative subtitles?

H2: It is assumed that viewers will find it more difficult to read the creative subtitles.

RQ3: Do viewers show **preference** for one type of subtitles?

H3: It is also assumed that viewers will find watching creative subtitles more enjoyable.

# Methodology

# Method

## Eye-tracking data

# RealEye

Real Eye is an "all-in-one" solution to conduct eye-tracking studies.

It allows creating experiments, tracking participants, and analyzing the data - all in one place, online.

# &

## Questionnaire



10 questions:

7 close-ended questions (multiple-choice and 1-5 rating)  
3 open-ended (short answer)

# Participants

- 67 participants have opened the test link
- 40 participants have granted webcam access
- 38 participants have had face detected
- 37 participants have calibrated properly
- 37 participants have completed the test and provided results
- 10 participants were excluded from the analysis due to either low (8) or very low quality (2) of eye-tracking data



**27 participants: 18 female and 9 male, aged 24-50 years old, non-native English speakers with either very good (10), good (14) or average (3) quality of eye-tracking data**



# Research material

One short clip (~35 secs) from the movie “When Harry met Sally” (1989) in two (2) different versions:

- 1 with conventional subtitles
- 1 with creative subtitles



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# Study design

- The experiment was designed in RealEye

The whole screen was considered an Area of Interest (AOI)

- The experiment was performed remotely and online (data collected from 7 July to 8 July 2021)

**Step 1:** The participants required to enable webcam access and calibrate the eye-tracker before proceeding with the experiment

**Step 2:** The participants were asked about their name, age and gender

**Step 3:** The clips were presented to the participants in a random order and there was also a separator between them.

**Step 4:** After watching each clip the participants were asked to answer two (2) questions:

- i. How difficult it was to read the subtitles? (normal/creative)
- ii. How much have you enjoyed watching the subtitles? (normal/creative)

**Step 5:** An external form generated by Survey Monkey was used and included in the experimental set-up in an effort to collect additional information (education level, eye problems, eyeglasses/contact lenses, English native speaker, which clip have you enjoyed the most.).

- Independent variable: type of subtitles, i.e. normal subtitles and creative subtitles
- Dependent variables: fixation count, fixation duration, task load/difficulty, enjoyment



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# Results

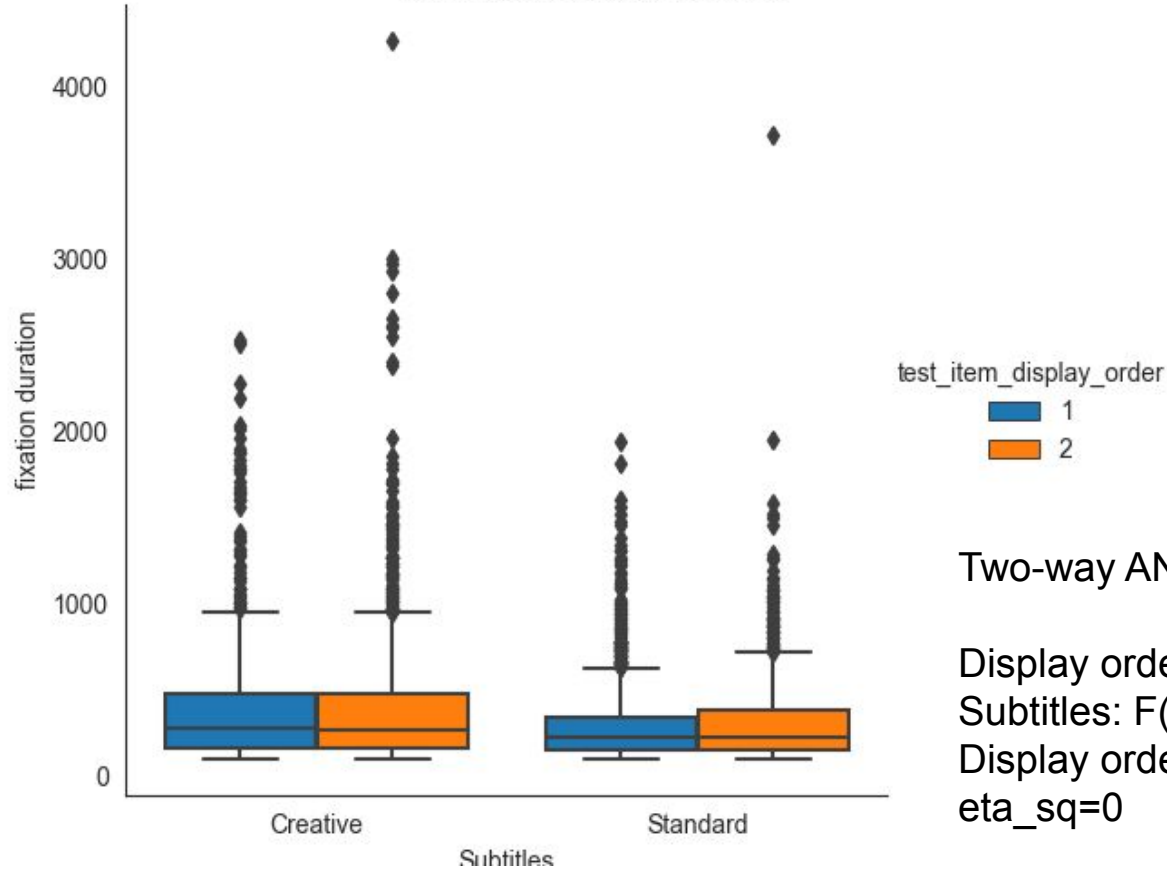
# Hypotheses

**H1.** Compared to viewers of conventional subtitles, the viewers of creative subtitles will be able to spend more time exploring the image instead of reading the subtitles.

**SUPPORTED**

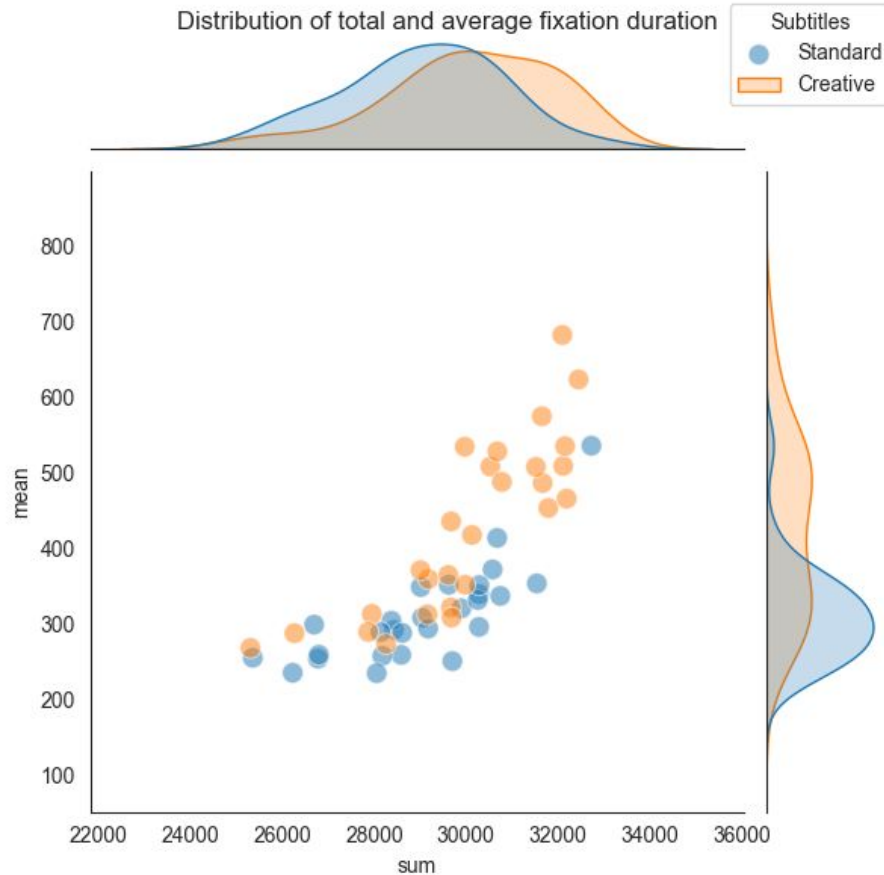


## Fixation duration distribution



## Two-way ANOVA

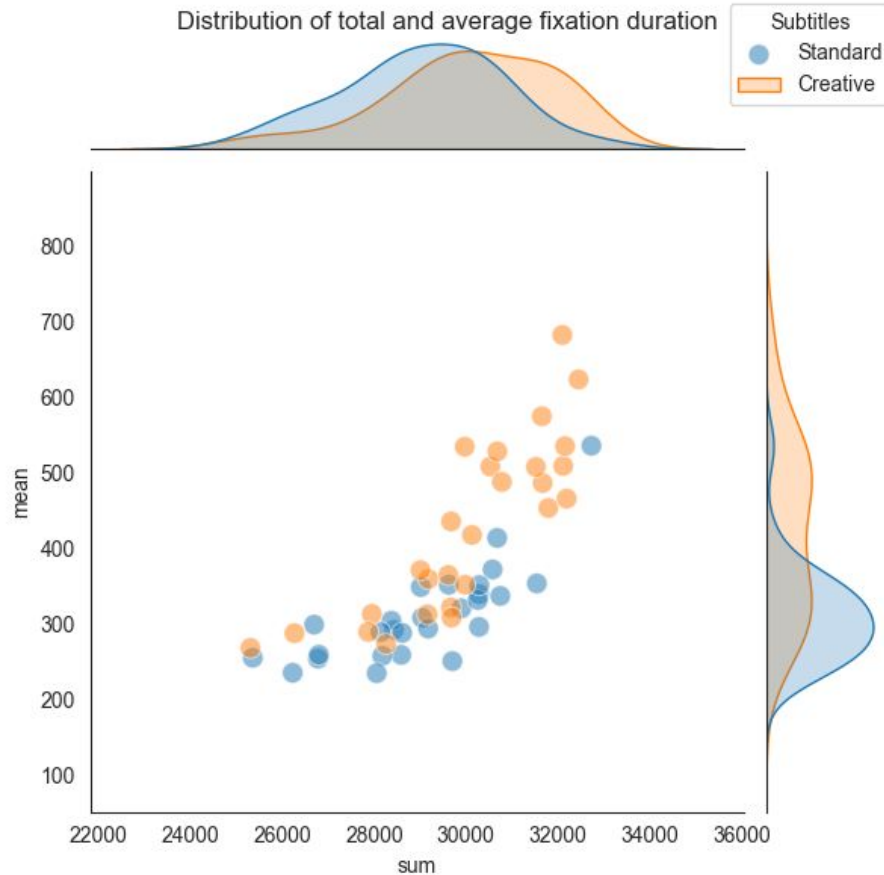
Display order:  $F(1, 4562) = 2.275, p > .05, \eta^2 = 0$ Subtitles:  $F(1, 4562) = 103.625, p < .05, \eta^2 = .022$ Display order x Subtitles:  $F(1, 4562) = 1.100, p > .05, \eta^2 = 0$



Total fixation time		
	Standard	Creative
mean	29043.19	30054.92
std	1715.02	1833.02
min	25358	25308
50%	29047	29985
max	32735	32457

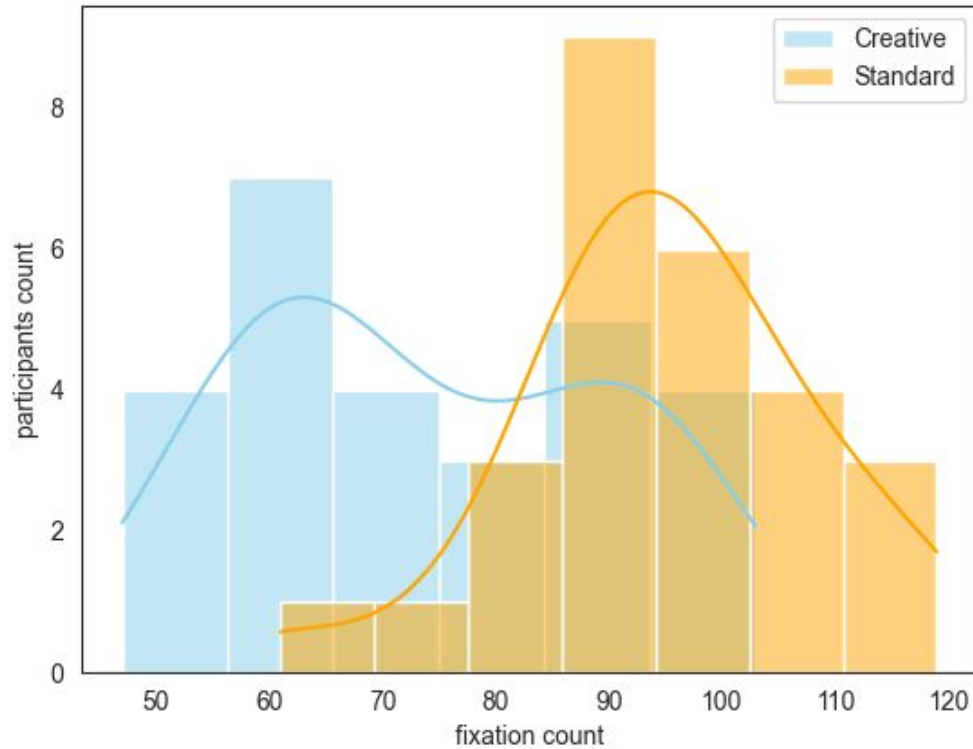
$t(26)=2,094, p<0,05$





Average fixation time		
	Standard	Creative
mean	313.23	429.44
std	63.56	114.96
min	235.78	269.23
50%	299.96	436.46
max	536.64	683.04

$t(26)=4.597, p>0,05$



Fixation count		
	Standard	Creative
mean	95.07	74.04
std	12.88	16.1
min	61	47
50%	94	70
max	119	103

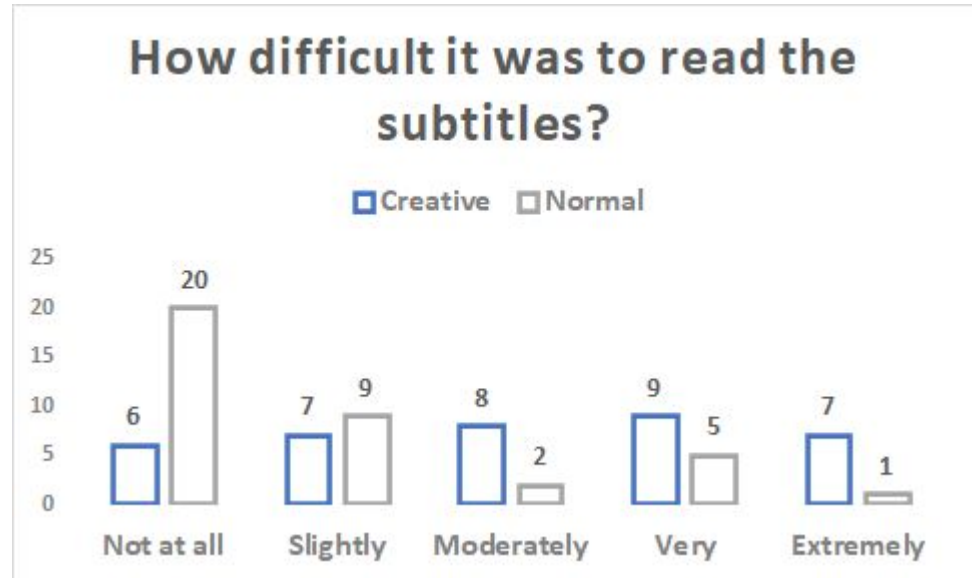
$t(26)=5.303$   $p>0,05$

# Hypotheses

**H2.** The viewers will find it more difficult to read the creative subtitles. **SUPPORTED**

More specifically  
It was moderately difficult to read the creative subtitles and slightly difficult to read the normal subtitles.

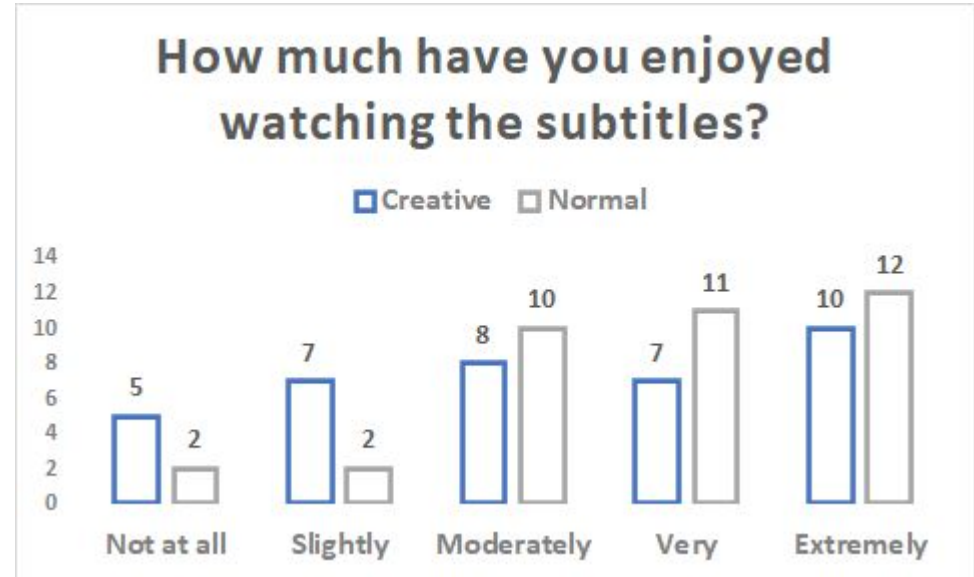
$t(26)=3.866, p<0.05$



# Hypotheses

**H3.** The viewers will find watching creative subtitles more enjoyable.  
**NOT SUPPORTED**

More specifically  
The participants enjoyed very much watching the normal subtitles, while they moderately enjoyed watching the creative subtitles.



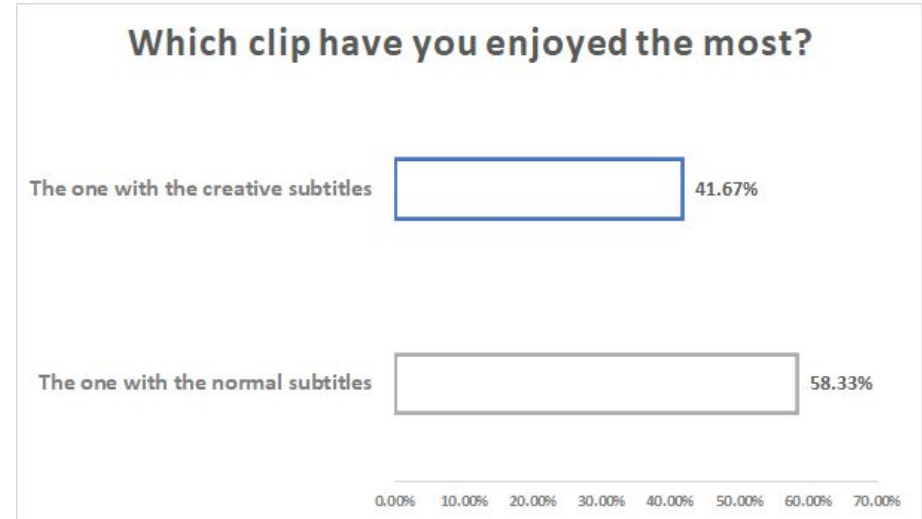
# Hypotheses

H3. The viewers will find watching creative subtitles more enjoyable.

**NOT SUPPORTED**

This is also confirmed by the participants' answers to one of the questions of the external form where they clearly said that they enjoyed more the clip with the conventional subtitles rather than the clip with the creative subtitles.

$t(26)=1.981, p>0.05$



# Conclusions, Limitations & Future Work

## Conclusions

- The viewers of creative subtitles spend more time exploring the image instead of reading the subtitles.
- Reading the creative subtitles was more difficult/demanding than the normal subtitles as it emerges from both the higher fixation duration as well as the participants' answers to the questionnaire.
- Enjoyment of conventional subtitles was higher than creative subtitles, against our initial hypothesis and results of previous studies by Brown et al. (2015) and Wendy Fox (2016), maybe due to the high speed of subtitles, the degree of creativity used in the subtitling process as well as the unfamiliarity of the audience with creative subtitles.

## Limitations & Future Work

Our study is based on small samples (two versions of a short clip of a movie) and a few participants and therefore we cannot generalize the results. However, it might prove useful in generating hypotheses that can be tested with larger-scale studies.

It is our intention in the future to build on this study by using more and larger clips, more participants and test additional variables (first fixation, saccades etc.).

Regarding Media Accessibility studies, it would be interesting to replicate the study adding a dependent variable considering the degree of hearing loss of the audience.



## References

Brown et al. (2015) 'Dynamic Subtitles: the User Experience', *British Broadcasting Corporation*

Foersters (2010) 'Towards a creative approach in subtitling: a case study', *New Insights into Audiovisual Translation and Media Accessibility*, 33

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