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Media edition affects viewer's cognitive processing

Watching media contents have become part of our daily lives. Over time and with the arrival of new dynamic narratives such as action scenes, musical videoclips… the number of cuts increased. However, several investigations prove that viewers tend not to consciously perceive them. That is why in this study, the consequences of these media cuts and media edition in viewers have been evaluated. The conclusion was media cuts prevent the viewers' eyeblink rate and that chaotic and non-organized audiovisuals catch the viewers' attention but decrease their cognitive processing.

We are constantly watching media contents. Since the Lumière brothers' cinematographic representations until today, audiovisuals have evolved a lot. The initial static shots changed to medium shots and close-up shots (which were not able in theatrical context). Over time, the length of the shots decreased and the number of cuts increased. Dynamic narratives, such as action scenes, advertisements, and musical videoclips, started to present fast rhythms in editing. Those also started to break up with classical rules for editing: 180º rule, spatial, temporal and content continuity, among others. More recently, several investigations have described the edit *blindness effect*. According to it, viewers tend not to consciously perceive cuts in media. So, despite we are watching audiovisuals with many more cuts than before, mostly we are not consciously aware of them.

With this premise, we wondered what happened to spectators while watching cuts. For that, we designed a research with two audiovisual stimuli with the exact same narrative but two different styles of edition: in one stimulus, we used a classical and organized style of edition; in the other stimulus, we used a fast, chaotic, and non-organized style of edition, breaking classical rules for editing and with many more cuts. To evaluate which were the consequences of cuts in viewers, we analyzed two variables: viewers' eyeblinks and bran activity. Eyeblinks are attentional markers: the more attention one pays to something, the lower eyeblink rate (and vice versa).

In our investigation, through electroencephalographic techniques, we conclude that cuts inhibit spectators' eyeblink rate, increasing, thus, their attention. Regarding brain activity, we conclude that cuts increase brain activity in occipital area, which manages visual processing. This activity flows to frontal areas, in charge of superior cognitive activity. However, depending on the style of edition in which cuts are inserted, differences occur: cuts in chaotic and non-organized style of edition increases the activity in the visual area compared with classical and organized style of edition; while brain areas in charge of superior cognitive processes are more activated while watching classical and organized style of edition. With this, we conclude that chaotic, non-organized and fast audiovisuals increase attentional scope but decrease conscious processing.

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References

Andreu-Sánchez, C., Martín-Pascual, M.Á., Gruart, A., Delgado-García, J.M. (2018). **Chaotic and fast audiovisuals increase attentional scope but decrease conscious processing**. *Neuroscience*, 394, 83-97.
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