

Perception of facial emotion in very short video clips

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Can we perceive the emotion on someone's face in a glance?

Yes

How do you know?



Figure 1 examples of the still, sketch, and (Bottom) comic stimuli.

119 clips of people's faces were cut from the trailers to 9 films. 5 different versions were then created of each clip

What did these clips look like?

Movie	the original clip
Still	the last frame from the Movie, displayed for the entire duration of the original clip.
Sketch	each frame of the movie is passed through a sketch algorithm that converts it to a binary black and white image.
Still-sketch	the last frame of the movie sketched.
Comic	The first and last frames of the clip are sketched, and displayed side by side.

Table 1 stimuli.

11 participants took part in an experiment. They each watched 595 video clips about 1 second long and rated the emotion expressed in the clip

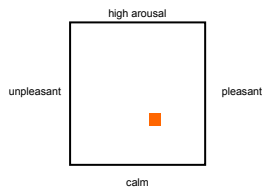


Figure 2 the emotion rating space.

How did they rate them?

On a two dimensional space of arousal and valence

What were the results like?

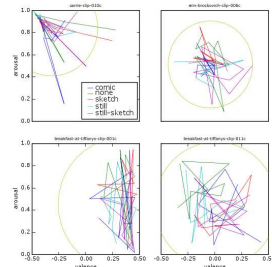


Figure 3 Arousal-valence ratings for four selected clips. Top left: a high arousal strongly unpleasant clip. Bottom left: a positively rated clip with a smearing over the vertical arousal, suggesting participants were not good at making a calm/high arousal judgement for pleasant clips. The right hand two clips show very neutral mean locations, but a large degree of difference in inter-participant consistency.

Does it matter if the clip is a still image?

Does it matter if the clip is in black and white?

Yes, both of these cause a reduction in the perceived emotional arousal

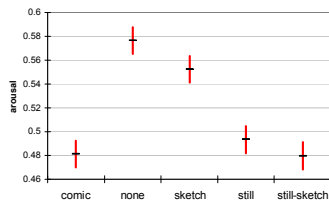


Figure 4 Mean arousal ±95% confidence intervals for each video degradation effect.

Motion

So which is more important colour or motion?

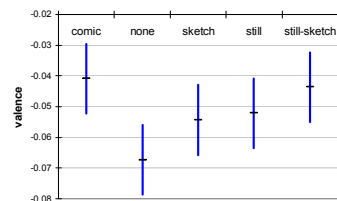


Figure 5 Mean valence ±95% confidence intervals for each video degradation effect.

So what?

If we want to use displays to create awareness between people, we must be careful how these displays manipulate the message conveyed

Acknowledgements

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