Emotional remote sensors: The underestimated role of stress in human interaction

Miriam Reiner
The VR and NeuroCognition lab
Technion, Israel Institute of Technology
http://vrneurocog.wixsite.com/vrneurocog
Miriamr@Technion.ac.il
MR@Brainvu.com
VR enhances performance by reducing mental load

A game to provide feedback for controlling self brain oscillations for enhanced memory consolidation

Insight – induced by raising Gama – the restructuring brain oscillations?

The role of unaware cues in shaping learning

Prediction of errors
Analysis of Eye Dynamics:

A participant looked at the target image shown below during ~ 60 seconds.
What Causes a Person to Get into Stress?

How do we relate emotions to events? The figures show changes in stress response to various experienced events. Some events are more stressful and create a heightened response.
Event related emotions

- Watching a political debate for instance, creates real-time responses to the event and provide the emotional responses to the content and context.

Image credit to:
https://www.google.co.il/search?q=images+for+political+debate&rlz=1C1DIMA_enIL703IL703&espv=2&tbnid=isch&tbm=isch&source=univ&sa=X&ved=0ahUKEwjx3K5WouDSAhUEzROQKHU6DzlO7AklIMg&biw=862&bih=447#imgrc=TvHuZxE6RdP1fM:
Watching events on a video, screen (e.g. news)

How does the raw emotional data look like? This are responses to some issues discussed in the second debate
By applying the stress theory, we identified four emotional levels:

Four levels of response, based on clustering of the data. Participants move between:
not engaged, distracted (lowest level)
Slightly engaged, highly engaged, and stressed.
...what makes one stressed...?
A person watched snakes chansing an Iguana, for 2 min. The results are described in the figure in the bottom.

https://youtu.be/B3OjfKot1XM

Projects: embedded computing for extraction and monitoring self stress....;
Designing the environment for reduced stress; stress as predictors of depression;
multisensory VR for reduction of stress, without chemistry; Real time measures of stress win games/serious games/elearning/movies......
Thanks!
Miriam Reiner

The VR and NeuroCognition lab
Technion, Israel Institute of Technology
http://vrneurocog.wixsite.com/m/vrneurocog
Miriamr@Technion.ac.il

Chief Science Officer
At BrainVU
MR@Brainvu.com