

Neuropsychological Study Reveals the Effect of UHD on the Body and Brain Experienced on Samsung SUHD TV

Neuropsychological study reveals the effect of Ultra HD on the body and brain

- Ground breaking research reveals that watching television on an UHD TV is **38 per cent more immersive** than watching in Full High Definition (HD)
- People **feel more 'in the moment'** when watching a clip for the first time on an UHD TV compared to Full HD screen (25 per cent difference)
- People are **20 per cent more 'attracted towards'** UHD TV, compared to Full HD screens
- Watching football is better 'exercise' for the brain - **it uses more of its capacity to process visual information when watching football in UHD** than Full HD (62 per cent higher levels of visual processing)

London, UK – Nov. 17, 2015 - Research published today by Samsung, in partnership with Mindlab International, reveals that watching television content on an UHD TV is 38 per cent more immersive than watching in Full HD.

The neuropsychological study - 'Screen Sensation: The Ultra HD Effect' - examined the physiological affects of watching UHD TV versus Full HD TV, in order to highlight the technological advancements of the Samsung SUHD TV range. Full HD (also known as 1080p), has over five times as much picture information as standard definition TV, and Ultra high definition (UHD) televisions are capable of displaying pictures with four times the detail of Full HD. The participants, aged 18-65, had electrodes attached to their scalps and were monitored via electroencephalography (EEG), electrodermal activity (EDA) and heart rate. The subjects watched footage from leading content streaming service Netflix and a European high profile football match, all in UHD and HD. To ensure impartiality, the brand of TV was concealed during the study.

The results proved overwhelmingly that UHD TV was more 'immersive' than Full HD TV due to a combination of increased approach motivation (a measure associated with being attracted towards something), visual processing and beta power (a measure associated with active thinking or concentration). Immersion is highly increased during experiences like riding a roller coaster, buying a new product or going out on a good date. The fact that watching Samsung SUHD TV increases immersion suggests that it offers a more positive and rich viewer engagement than watching content on a Full HD screen.

The results will also please armchair football commentators, who will be able to feel more like a referee on the pitch, never missing an offside position again. Participants experienced 62 per cent higher levels of visual processing when watching football on

UHD TV, meaning that the brain is using more of its capacity to process visual information. In turn this mental function delivers a more detailed and richer representation of what's really happening on the pitch.

During the study, subjects felt 25 per cent more 'in the moment' when watching something for the first time on the Samsung SUHD TV. Subjects felt more ready to react to what was on the screen, more focused, attentive and concentrated - perfect for action film fans, who want their viewing experience heightened.

Neuropsychologist Dr. David Lewis, Chairman of Mindlab International says: "Ultra High Definition TV is a quantum leap in terms of viewing experience – this has been proved by the research we carried out for Samsung. It's incredible how advancements in technology can create these significant physiological responses and is changing the way we experience content and entertainment."

Other findings include:

- Participants were significantly more drawn towards content on UHD screens compared to Full HD screens (20 per cent difference) – creating a positive emotional reaction
- When watching clips for the second or third time, people watching on UHD screens were more drawn to them than those watching them on HD screens (29 per cent difference)

Michael Zoeller, Vice President, European Head of Visual Display at Samsung said: "From global sporting events, to highly anticipated TV series, to blockbuster films, people want to experience the huge variety of premium TV content available on bigger, brighter, crystal clear screens. Samsung is at the very forefront of evolving TV technology, offering the most breath-taking viewing experience possible, in the comfort of people's homes. This research underlines the power of watching premium quality content on a technologically advanced television, like a Samsung SUHD TV."

Neil Hunt, Chief Product Officer at Netflix said: "Ultra High Definition is challenging people's expectations on the quality of television and our own programming is reflecting the leaps forward in picture quality, depth, detail and colour. The reality of TV is becoming sharper, making entertainment more immersive and enjoyable."

- Samsung's revolutionary Curved SUHD TVs offer the finest UHD picture quality, depth and detail a UHD screen can offer. Ground breaking Nano Crystal Technology creates outstandingly precise, rich colours and brightness, and flat images come to life making entertainment more immersive and enjoyable.

<Local market availability/ retail messaging can be included here>

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Notes to editors

The experiment was conducted at the Mindlab laboratory based at the Sussex Innovation Centre in Brighton between 26th and 28th October 2015. 24 participants aged between 18 and 65 (average age: 36) took part in the experiment, and all of them had watched TV at least twice within the last month. 12 of the participants were male and 12 were female. Participants were paid for their time.