

Horror movies manipulate brain activity expertly to enhance excitement

January 24 2020

Title	Year	Yes	No, but heard of it	Not seen nor heard of it	Scary	Quality	Jump scares
The Devil's Backbone	2001	4.2	6.3	89.6	8.5	10.0	4
The Wailing	2016	2.1	8.3	89.6	8.0	9.0	4
The Conjuring	2013	39.6	31.3	29.2	7.5	7.5	12
REC 2	2009	10.4	29.2	60.4	7.3	5.8	-
Insidious	2010	29.2	25.6	45.2	7.1	7.1	24
The Exorcist	1973	53.0	23.2	23.8	7.1	7.0	10
Goodnight Mommy	2015	4.2	10.4	85.4	7.0	8.0	1
A Chinese Ghost Story	1987	1.8	7.1	91.1	7.0	7.8	-
The Conjuring 2	2016	37.5	31.0	31.5	7.0	7.3	22
Under The Shadow	2016	2.1	14.6	83.3	7.0	7.0	9

Table 1. Top ten scariest movies of the past century. Credit: University of Turku

Humans are fascinated by what scares us, be it sky-diving, roller-coasters, or true-crime documentaries—provided these threats are kept at a safe distance. Horror movies are no different.

Whilst all [movies](#) have our heroes face some kind of [threat](#) to their safety or happiness, [horror movies](#) up the ante by having some kind of

superhuman or supernatural threat that cannot be reasoned with or fought easily.

The research team at the University of Turku, Finland, studied why we are drawn to such things as entertainment? The researchers first established the 100 best and scariest [horror](#) movies of the past century (Table 1), and how they made people feel.

Unseen Threats Are Most Scary

Firstly, 72% of people report watching at least one horror movie every 6 months, and the reasons for doing so, besides the feelings of fear and anxiety, was primarily that of excitement. Watching horror movies was also an excuse to socialize, with many people preferring to watch horror movies with others than on their own.

People found horror that was psychological in nature and based on real events the scariest, and were far more scared by things that were unseen or implied rather than what they could actually see.

"This latter distinction reflects two types of fear that people experience. The creeping foreboding dread that occurs when one feels that something isn't quite right, and the instinctive response we have to the sudden appearance of a monster that make us jump out of our skin," says principal investigator, Professor Lauri Nummenmaa from Turku PET Centre.

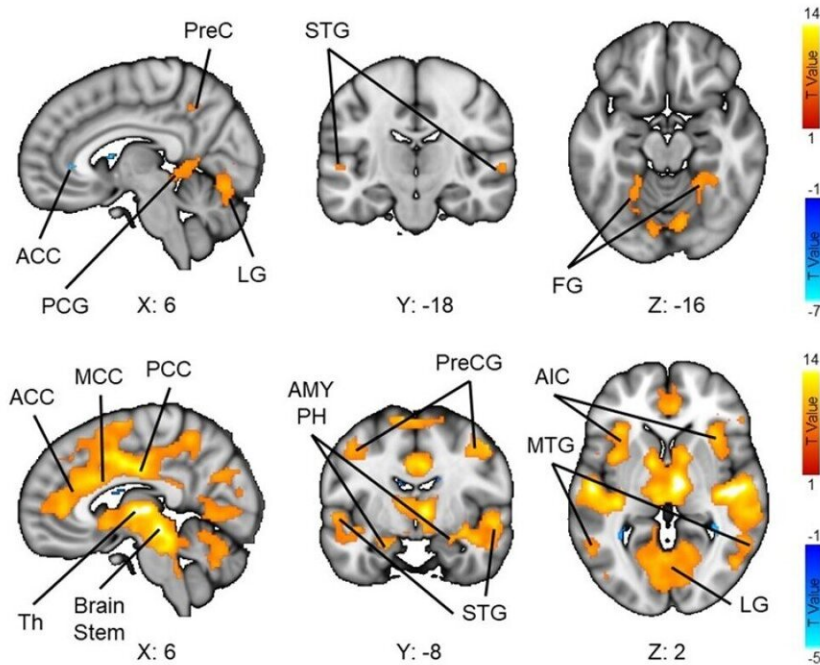


Image 1: Brain regions active during periods of impending dread (top row) and in response to sudden jump-scares (bottom). Credit: University of Turku

MRI Reveals How Brain Reacts to Different Forms of Fear

Researchers wanted to know how the [brain](#) copes with fear in response to this complicated and ever changing environment. The group had people watch a horror movie whilst measuring [neural activity](#) in a magnetic resonance imaging scanner.

During those times when anxiety is slowly increasing, regions of the brain involved in visual and auditory perception become more active, as the need to attend for cues of threat in the environment become more important. After a sudden shock, [brain activity](#) is more evident in regions involved in emotion processing, threat evaluation, and decision making, enabling a rapid response.

However, these regions are in continuous talk-back with sensory regions throughout the movie, as if the sensory regions were preparing response networks as a scary event was becoming increasingly likely.

"Therefore, our brains are continuously anticipating and preparing us for action in [response](#) to threat, and horror movies exploit this expertly to enhance our excitement," explains researcher Matthew Hudson.

More information: The horror movie survey is still active.

Part 1 of survey: [www.webpolsurveys.com/Answer ...
6ace083&dy=365699269](http://www.webpolsurveys.com/Answer...6ace083&dy=365699269)

Part 2 of survey: [www.webpolsurveys.com/Answer ...
d79791&dy=1809113618](http://www.webpolsurveys.com/Answer...d79791&dy=1809113618)

Provided by University of Turku

Citation: Horror movies manipulate brain activity expertly to enhance excitement (2020, January 24) retrieved 3 February 2024 from <https://medicalxpress.com/news/2020-01-horror-movies-brain-expertly.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--