

Neurocinematics: The Neuroscience of Film



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Keywords: cognitive control; cognitive film theory; fMRI; inter-subject correlation; social neuroscience

Abstract

PDF

This article describes a new method for assessing the effect of a given film on viewers' brain activity. Brain activity was measured using functional magnetic resonance imaging (fMRI) during free viewing of films, and inter-subject correlation analysis (ISC) was used to assess similarities in the spatiotemporal responses across viewers' brains during movie watching. Our results demonstrate that some films can exert considerable control over brain activity and eye movements. However, this was not the case for all types of motion picture sequences, and the level of control over viewers' brain activity differed as a function of movie content, editing, and directing style. We propose that ISC may be useful to film studies by providing a quantitative neuroscientific assessment of the impact of different styles of filmmaking on viewers' brains, and a valuable method for the film industry to better assess its products. Finally, we suggest that this method brings together two separate and largely unrelated disciplines, cognitive neuroscience and film studies, and may open the way for a new interdisciplinary field of “neurocinematic” studies.

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