

Movies that push our cognitive limits

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Hyperlink films mirror contemporary globalized communities, using exciting cinematic elements and multiple story lines to create the idea of a world that is interconnected on many social levels. However, films in this genre like *Crash*, *Babel*, and *Love Actually* are not as new and innovative as presumed and still conform to conventional social patterns. These findings, by Jaimie Krems of Arizona State University in the US and Robin Dunbar of the University of Oxford in the UK, are published in Springer's journal *Human Nature*.

Hyperlink cinema uses cinematic devices such as [flashbacks](#), interspersing scenes out of chronological order, split screens and voiceovers to create an interacting social network of storylines and characters across space and time. This gives the impression that people's lives can intersect on scales that would not have been possible without modern technologies of travel and communication.

Krems and Dunbar wondered if the [social group](#) sizes and properties of social networks in such films differ vastly from the real world or classic fiction. They set out to see if the films can side-step the natural cognitive constraints that limit the number and quality of social relationships people can generally manage. Previous studies showed for instance that conversation groups of more than four people easily fizzle out. Also, Dunbar and other researchers found that someone can only maintain a social network of a maximum of 150 people, which is further layered into 4 to 5 people (support group), 12 to 15 people (sympathy group), and 30 to 50 people (affinity group).

Twelve hyperlink films and ten female interest conventional films as well as examples from the real world and classical fiction were therefore analyzed. Krems and Dunbar discovered that all examples rarely differed and all followed the same general [social patterns](#) found in the conventional face-to-face world. Hyperlink films had on average 31.4 characters that were important for the development of plot, resembling the size of an affinity group in contemporary society. Their cast

lists also featured much the same number of speaking characters as a Shakespeare play (27.8 characters), which reflects a broader, less intimate sphere of action. Female interest films had 20 relevant characters on average, which corresponds with the sympathy group size and mimics female social networks in real life.

"Because of our evolved psychology, humans cannot break through the cognitive glass ceiling that naturally limits our ability to handle [social relationships](#), or to understand complex interpersonal dramas," explains Krems, who believes that a person's mental abilities determine how he or she is able to handle or be enthusiastic about genres, such as hyperlink films, that push the limits.

"Despite the promise it holds, digital and other new media may not help us engineer social networks or social cohesion on a larger scale, because our minds simply cannot understand or handle the mind states of more than a handful of people at once," Dunbar adds.

More information: Krems, J.A. & Dunbar, R.I.M. (2013). Clique Size and Network Characteristics in Hyperlink Cinema: Constraints of Evolved Psychology, *Human Nature*. DOI: [10.1007/s12110-013-9177-9](https://doi.org/10.1007/s12110-013-9177-9)

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