

# The science of 'Inside Out'

By Dacher Keltner and Paul Ekman, New York Times

Five years ago, the writer and director Pete Docter of Pixar reached out to us to talk over an idea for a film, one that would portray how emotions work inside a person's head and at the same time shape a person's outer life with other people. He wanted to do this all in the mind of an 11-year-old girl as she navigated a few difficult days in her life.

As scientists who have studied emotion for decades, we were delighted to be asked. We ended up serving as scientific consultants for the movie, "Inside Out," which was recently released.

Our conversations with Mr. Docter and his team were generally about the science related to questions at the heart of the film: How do emotions govern the stream of consciousness? How do emotions color our memories of the past? What is the emotional life of an 11-year-old girl like? (Studies find that the experience of positive emotions begins to drop precipitously in frequency and intensity at that age.)

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