

Read the following article about fear.

NEUROSCIENCE

## *That nearly scared me to death!*

# Let's Do It Again

By Brandon Keim  10.31.07

**A**s night fell, I assumed my standard horror-movie fetal position: knees pulled to chest, my heart pounding. Then the arm broke through the window.

As I plucked popcorn from my hair and my pulse slowed slightly, I promised to never, ever watch such a scary movie again. But then the sequel hit the movie theaters. My friends told me it was even scarier. Of course I couldn't resist. And that night, after I'd watched the movie, as I tried to fall asleep with the windows locked and the lights on and the TV blaring, I wondered... *why do I do this to myself?*

Scientists believe the answer is that humans have evolved to enjoy fear. "There's a substantial overlap between those brain areas involved in processing fear and pleasure," said Allan Kaloupek, a neuroscientist at the University of Tampere in Finland.

The latest research into fear suggests that the neurological systems in our brains stimulated by fear are the same as

those associated with pleasure. Scientists say that while watching a scary movie, information runs from your eyes and ears to an almond-shaped clump of neurons called the amygdala. Located front-and-center in your brain, the amygdala has long been understood as vital to instantaneous emotional processing, especially of love and pleasure.

So as the monster breaks through the door or the murderer leaps from the closet, your amygdala gets stimulated just as it would by winning a soccer game, unleashing a brain- and body-energizing cocktail of hormones. But while this is happening, information also travels to your prefrontal cortex, the part of the brain responsible for consciously evaluating danger. It tells you that the movie is just a movie.

"The amygdala gets just as activated by fear as it would in the real world, but because your cortex knows you're not in danger, that spillover is rewarding and not frightening," said Yerkes National

Primate Research Center neuroscientist Kerry Ressler.

Psychologists say that watching scary movies is a way of testing and overcoming our limitations, similar to bungee jumping and other extreme sports.

"That could be why scary movies and games are so popular with children. They're at a point in their lives when they're testing their boundaries," said Kansas State University psychologist Leon Rappoport. "By the time they get to college age or later, they've had enough of them. Their development proceeds in more substantial directions."

But plenty of adults enjoy scary movies. For them, the horror movies may be a form of therapy, a way of dealing with ambient fear in a society where war and disaster and crime are broadcast around the clock.

"It is gratifying to confront and overcome a fear," said Rappoport. "It allows the individual to gain a sense of mastery over their anxieties, whatever they may be."

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## GRAMMAR

- 1 a** Find sentences which are similar to 1–3 in the article. What differences do you notice? Make changes to 1–3 so they are the same as the sentences in the article.

- 1 I assumed my standard horror-movie fetal position. My knees were pulled to my chest. My heart was pounding. (*para. 1*)
- 2 The neurological systems in our brains that are stimulated by fear are the same as those that are associated with pleasure. (*para. 4*)
- 3 Your amygdala gets stimulated just as it would by winning a soccer game and it unleashes a brain- and body-energizing cocktail of hormones. (*para. 5*)

1.      I assumed my standard horror-movie fetal position: **knees pulled to chest, my heart pounding.**
2.
3.

In each sentence, a participle is used to replace some other words.

**2 a** Combine or shorten the sentences using participle clauses.

- 1 The movie that had been showing quietly on a small screen in the corner of the room suddenly burst into sound.
- 2 The house, which was surrounded by shady trees, was hidden from the road.
- 3 The book, which was based on a true story, had been made into a blood-chilling movie.
- 4 The clock, which glowed mysteriously in the dark, suddenly struck midnight.
- 5 It was a dark night and the wind whistled in the heavy branches.
- 6 I reached out to open the door. My hand was trembling.
- 7 I pushed the door open. My heart thumped loudly in my chest. My palms were sweating.

1. The movie showing quietly on a small screen in the corner of the room suddenly burst into sound.
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_