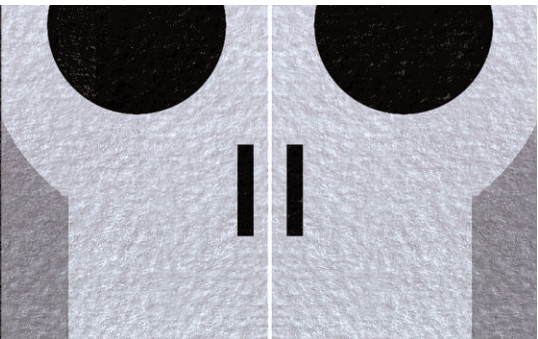
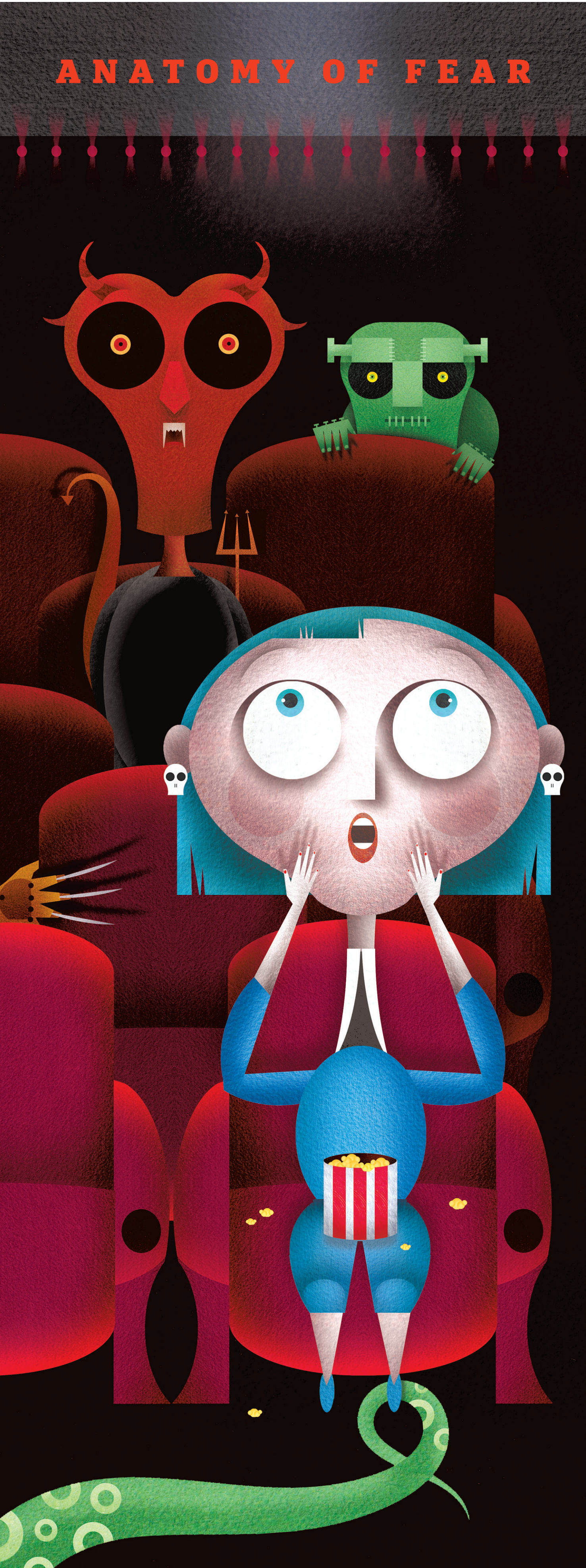




Don't let the emotion scare you.
Experiencing it yields some benefits.

Story by KERRI WESTENBERG
Illustration by NURI DUCASSI
Star Tribune staff

Freddy Krueger is good for your well-being — not despite his melted face and razor blade-embellished glove. Because of them.

The “Nightmare on Elm Street” murderer, who debuted in 1984, joined an already long list of creepy film characters, from Dracula to a creature that slithered out of a black lagoon. More will surely follow, given the recent boom of the horror genre.

Making their own marks on people’s psyches are the ghouls and zombies that put the “haunted” in houses.

This time of year, the Halloween marketplace teems with ways to pay for a good scream — and many people happily do so.

But others ask, emphatically, why? Getting scared with friends offers entertainment and exhilaration, for those who thrive on such things. But there are also less obvious reasons to be unafraid of fright.

Scientists who study the brain and emotions know that such experiences — with manufactured fear that is ultimately harmless — convey some surprising benefits for a healthy mind.

To understand those perks, it helps to brush up on brain science.

Throw out the old idea that fear emanates from the amygdala, the deepest part of the brain, nestled near the spinal cord. As that outdated thinking goes, we experience fear in that region, which then triggers physical responses.

In truth, the reverse occurs, according to Joseph LeDoux, a neuroscientist at NYU who focuses on the brain’s survival circuits and their effects on emotions, including fear.

In the face of danger, the amygdala triggers a burst of physical responses, from a racing pulse to quickened breath — part of the brain’s threat detection and defensive motivational systems. We feel fear secondarily. That emotion emerges only when the conscious brain, the workings of the prefrontal cortex, catches up with and processes the threat that the nonconscious, amygdala-fueled brain is already busy addressing.

As LeDoux has laid out, our response to threat is, “freeze first, flee if you can and fight if you must.”

It is that hardwired response, not our feeling of fear, that prepares us for action, said Christopher Vye, professor and chair of the University of St. Thomas’ graduate school of professional psychology. Our breathing rate increases. Blood vessels in the skin and other peripheral areas constrict. That allows more blood to rush to our muscles and vital organs, which get primed with oxygen and nutrients. The amygdala nudges the command center of the brain, the hypothalamus, to produce epinephrine — otherwise known as the darling of daredevils, adrenaline.

“What’s cool is that the whole system is preparing us for maximum performance,” Vye said.

Ever startle when a friend enters the room unexpectedly? That’s a small version of our body’s threat response jumping into action — until we laugh because our thinking brain knows we aren’t in danger. The system errs on the side of caution, revving up when even it’s not necessary to keep us safe.

In fact, all of these nonconscious responses are primitive, having evolved in humans — and animals, too — to promote survival.

Still, we can trick the system into action with made-up frights. That’s because the stimulus, say a flesh-eating zombie on a screen, triggers our defenses before we can remind ourselves that we are in a movie theater, eating popcorn.

Such Halloween spooks have a role to play in a healthy mind, said Richard J. Davidson, a professor of psychology and psychiatry and founder and director of the Center for Healthy Minds at the University of Wisconsin-Madison.

“There is something satisfying about activating fear and being able to regulate it. It is healthy,” Davidson said. It can buffer and prepare us for real-life stressful events. “To paraphrase a bumper sticker, stuff happens — we can’t control that. But what we can control is our own mind.”

He points to another side benefit to frights of the season. The brain contains a pathway that connects the prefrontal cortex and the amygdala, so the conscious brain can send a message to the nonconscious brain that, in fact, all is fine. That important pathway gets more efficient when it is exercised. It may also grow in size with use, Davidson said. Importantly, that pathway can help people learn to decrease their fears.

Finally, said Vye, there is a warm feeling that comes from finding ourselves on the other side of fear. “That relief is rewarding; it reminds us that we’re OK,” he said.