SCIENCE

What Drives Some People To Take Personal Risks To Help Strangers?

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ABIGAIL MARSH

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This summer, Florida beachgoers watched in astonishment as more than 70 strangers spontaneously formed a human chain that extended out into the whorls of a vicious

riptide.

Together they rescued 10 swimmers from drowning, including two young boys, their parents and their grandmother. Among the rescuers was Jessica Simmons, 29, who, upon hearing the swimmers' screams, told herself, as she later recalled to the *Panama City News Herald*: "These people are not drowning today... It's not happening. We're going to get them out."

And they did. With her husband, Derek, Simmons swam out to the end of the human chain, then repeatedly left its safety to haul the drowning swimmers back to safety, one by one.

Such acts of altruism — defined as costly or risky acts performed to benefit someone other than the altruist — are among the thorniest puzzles of human nature. For someone to risk her own life to save a stranger seems to violate basic tenets of biology and economics, according to which self-interest is the main driver of all behavior.

This seeming paradox can be reconciled by considering another major tenet of biology (if not economics): variation. Across nearly every physical and psychological trait imaginable, humans vary widely. There is no single human nature, no one force which motivates all people equally across all circumstances.

This is no less true for traits like self-interest and altruism. Perhaps 1 or 2 percent of all people qualify as psychopaths, who are motivated primarily by self-interest. A study by Andrea Glenn and her colleagues published in February assessed psychopathic personality traits like callousness, manipulativeness and a lack of guilt or remorse in a sample of more than 3,000 adults. The researchers found that people with high levels of these psychopathic traits are driven primarily by the desire for power, sensual pleasure, money, possessions and status. They are unmotivated, however, by the

desire to help their communities or even people close to them.

Hidden in these two findings are two distinct pieces of information. The first is that people exist who truly care much more about their own pleasure and gain than they do about others. The second is that this pattern of preferences is not universal. The very rarity of true psychopaths highlights the fact that most people are not like them, and are instead motivated to varying degrees by care and concern for others' welfare.

Research conducted in my laboratory has found that a small proportion of people seem *so* motivated by the desire to help others — call them "anti-psychopaths" — that they are capable of extraordinary acts of unselfish altruism.

For this research, we recruited a sample of 19 adults who had engaged in an act of life-saving altruism. Each had donated a kidney to a stranger, a risky and costly choice that was motivated, in their telling, simply by the desire to help someone in need. Such donations are very rare, with fewer than 200 taking place in the United States every year. Using a standard assessment of psychopathy, we found unusually low levels of psychopathic traits in the altruistic kidney donors we studied, and high levels of care and concern for others.

Brain scans revealed functional and structural differences in altruists' brain that may account for their unusually prosocial motivation. We focused on an ancient brain structure called the amygdala, which is involved in generating the experience of fear. Prior research has shown that those with psychopathic traits have amygdalas that are unusually small and under-reactive, leaving them with two parallel deficits: a bold, fearless nature and difficulty empathizing with others' fear. As a result, when confronted with others' distress they remain unmoved to alleviate or prevent it. By contrast, our brain imaging study showed the opposite pattern in extraordinary altruists: Relative to a group of 20 ordinary adults, their amygdalas were unusually large, and unusually responsive to others' fear.

This presents a seeming paradox of altruism. Because the amygdala plays an essential role in the experience of fear, you might imagine that those with large, reactive

amygdalas would be too fearful — too focused on possible harm to themselves — to help others. But the opposite seems to be true. Altruists' heightened sensitivity to fear enables them to empathize with others' distress, and moves them to help when help is needed. That activity in this ancient, emotional structure supports altruistic decision-making helps explain why those who save strangers' lives overwhelmingly describe their decisions as fast and intuitive.

It may also be why the altruists I have interviewed often struggle to explain their decisions. For them, the choice to donate a kidney to save someone's life seems like such an obvious, clear choice that it's difficult for them to put into words; indeed, they sometimes suggest it's the decision *not* to donate that is in need of an explanation.

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For the rest of us, the choice to risk one's life to help a stranger can seem inexplicable, even unnatural. Altruists are often described in supernatural terms like "saint" and "guardian angel"; Jessica Simmons was described as "God's angel" by one of the women she rescued. This may be a manifestation of a more general tendency to chalk up rare and puzzling psychological phenomena to supernatural forces. Psychopathy, schizophrenia and even left-handedness all are rare outcomes with invisible causes, and all were once viewed as the work of evil spirits. But as scientific understanding of the brain has improved, each outcome has come to be recognized as the result of naturally occurring variation within the brain.

So it may be with altruism. It may be difficult for those of us closer to the middle of the caring continuum to understand the unusual internal experiences and motivations of those at the far ends — psychopaths at one end, extraordinary altruists on the other. But that both extremes reflect variation in biological processes that support social and emotional processing is becoming clear.

Abigail Marsh is an associate professor of psychology and neuroscience at Georgetown University and author of the book The Fear Factor: How One Emotion Connects Altruists, Psychopaths, and Everyone In-Between. *You can follow her on Twitter: @aa_marsh.*

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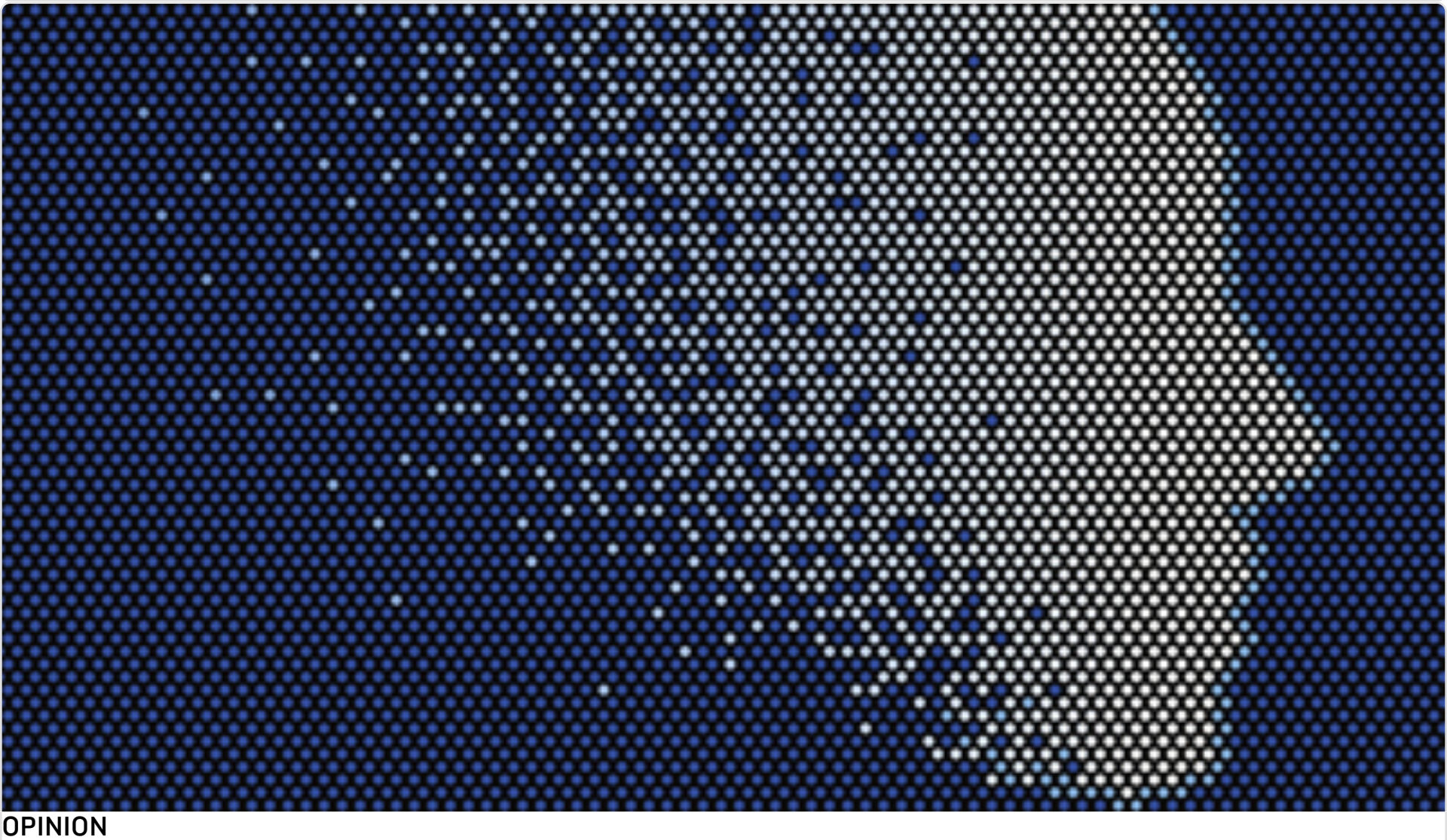

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