

# Want to control that 'hangry' feeling you sometimes get? UNC researchers explore how

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If my 3-year-old goes more than two hours without a snack, he turns into a screaming, hangry monster. And if we're being honest, so do I.

But Muslims fast from sunrise to sunset during Ramadan, which ended Thursday, and they don't all transform into the Hulk for a month.

UNC researchers have been studying [hunger](#) and anger and have found that awareness of your emotions may help vanquish the grumpy, hungry feeling sometimes called "hanger."

"Fasting during Ramadan is as much an emotional, mental and spiritual challenge as it is a physical challenge," Imran Aukhil, spokesman for the Islamic Association of Raleigh, said. "The UNC study is saying the human body experiences a heightened state of anger after experiencing a negative stimulus. Where the experience is different for Muslim people is that we understand that, and we push ourselves to go the opposite direction."

Hunger zaps you with stress hormones, tinkers with your blood sugar levels and causes physiological arousal, where you notice something happening to your body. For example, you might not notice your resting heart rate, but if you're scared, you'll notice your racing pulse.

Hanger happens when you mix up hunger, which is a bad physiological feeling, with a bad emotional feeling.

"I wanted to look at specific ways that the body contributes to emotion," study co-author and UNC graduate student Jennifer MacCormack said. "What's your first impression when you meet a stranger? (How) do you decide what to buy at the store? These unobtrusive physiological signals shape the way our brains process the world around us."

Researchers measured how hunger changed perceptions with an online study. They blipped positive, negative or neutral images on a screen—things such as kittens, an angry dog or an iron. Then participants saw an ambiguous Chinese character—the study excluded people familiar with Mandarin.

Participants rated how pleasant they thought the character was. Hungry

participants who had seen an angry dog image guessed that the Chinese characters were more negative than hungry people who saw kittens or irons.

But hunger by itself didn't affect the ratings. Only hungry, negative-exposed people acted more like Debbie Downers than people who were full. Hungry people exposed to neutral or positive images acted the same as full people.

"It's not the case that being hungry makes you a jerk," UNC professor Kristin Lindquist, the other study co-author, said. "You need to have some sort of instigating context. (Hangry) people attribute their reactions to the context, and hunger turns up the dial on what otherwise would be a mildly angry response."

After establishing that negative contexts turned hungry people hangry, Lindquist and MacCormack tested how people interacted with live experimenters.

First, participants saw a picture of "Jon," a generic white man, looking neutral, sad or angry. Then participants, who fasted for five hours or ate less than an hour before the experiment wrote short stories about what happened to Jon and why he felt that way. The researchers wanted to find out whether focusing on emotions makes you less likely to blame others in bad situations, like the one that participants then faced.

After completing 100 trials of a "tedious task" of counting whether a ring of circles was even or odd, their computer "crashed." They had to find the experimenter, who asked them, "What did you do? What keys did you press?" and then left after some tinkering.

Participants were more likely to say they felt "hate" or that the experimenter was "judgmental" if they were hungry and had written

about neutral-faced Jon.

"It was the unpleasant negative context that allowed people to misattribute their hunger to the experimenter in the study," MacCormack said. "A lot of times, our body is not directly producing a feeling of pleasantness or unpleasantness. It's making physiological arousal, and people interpret automatically what that physiological arousal means, (but it's) not a conscious process."

By learning more about how hanger arises, we can learn how to avoid it.

To write this story I tried to become hangry by not eating, but I was so focused on my emotions that I didn't overreact hangrily. Something similar might be happening when Muslims fast for Ramadan, Lindquist said.

"The key is awareness," Lindquist said. "I would imagine nothing makes you more aware of your hunger than fasting for religious purposes. In that case, people are acutely aware of the fact that they're very hungry and are good at not misinterpreting their body states."

"Injecting positivity" into your environment might also protect you from hanger, MacCormack wrote in a recent article. So if you're fasting, you can avoid hanger if you give positive connotations to the fast.

"Ramadan provides a positive, pleasant, meaningful context," MacCormack said. "The hunger could be interpreted and constructed as a very different emotion, like a sense of awe or humility or whatever religious emotions are special for people during that time."

Hanger can happen to anyone, though people who are more in tune with their bodies might be able to avoid it more. "Are there Muslim [people](#) who struggle and don't achieve those mental and spiritual goals and

experience hanger? Absolutely," Aukhil said. "The goal is to not do that."

MacCormack also noted, "If you're more aware of your bodily cues, you recognize that this is my body and this is not something happening in the world around me. You can better identify the so-called true cause of your feelings."

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