Attack of the contagious yawns [1]

Dear Alice,

In reading the answer to Why do we yawn? [2], I was eager to find out why, then, are yawns contagious? It really seems to be true that if you watch someone yawn, within moments, you will yawn as well. It's a very curious thing.

— Right under your nose

Answer

Dear Right under your nose,

You aren't the only curious observer of human behavior; those who study yawning agree that humans are prone to contagious yawns, or at least tend to yawn in groups (a single yawn by one person may be followed by yawning from others). The "why" part, however, is a little more inconclusive.

Yawning — the involuntary process of opening your mouth wide, deeply breathing in, and slowing breathing out — is primarily the result of drowsiness. The act of yawning stimulates the brain and lungs by increasing the amount of oxygen in these organs whenever people experience a stretch of inactivity. For example, a person may get a case of the yawns after sitting at their desk for a long time without moving. Sound familiar? Along with reviving the brain during periods of inactivity, yawning also helps cool down the brain by activating facial muscles and subsequently releasing heat. This may be why people are more likely to yawn when exposed to higher temperatures. Whilst the brain receives more oxygen during a yawn, yawning isn't a direct response to the low levels of oxygen in the brain, which was previously thought to be the case.

While the exact function of contagious yawning remains a bit of a mystery, researchers suggest that the ability to catch someone else's yawn may be an evolutionarily advantageous and automatic response developed to show empathy and understanding. Social skills such as being able to communicate and interpret the emotions of others prompt prosocial behavior, or behaviors that help other people (e.g., helping, sharing, volunteering). Prosocial behaviors oftentimes are necessary for human survival and studies show that people who are rated as more empathetic experience contagious yawning more. For example, women have been rated as
more empathetic than men and contagiously yawn more, whereas people diagnosed with autism, a developmental disorder associated with social impairments, are less likely to yawn when they see someone else do it. The strength of relationships among groups of people are also associated with higher rates of yawn contagion, as people more familiar with one another experience more yawn contagion than those surrounded by strangers. Studies using brain imaging technology also show that parts of the brain’s neural network associated with empathy and prosocial behavior — the posterior cingulated area and ventromedial prefrontal cortex — are active during yawn contagion.

Although most researchers agree that contagious yawning likely has to do with empathy, it’s key note that no direct correlation between contagious yawning and prosocial behavior has been found. This means that just because someone demonstrates contagious yawning, they aren’t more likely to exhibit prosocial behaviors. The jury is still out in regards to exactly how and why contagious yawns exist, and researchers also continue to question how empathy is connected to brain activity, as well as the link between empathy and helping behavior.

Thank you for bringing this to readers’ attention! If you’re wondering about other topics regarding human behavior and health, be sure to check out the Go Ask Alice! General Health [3] archives. Stay curious!

Alice!
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