

## What negative candle reviews might say about the coronavirus.

By Christopher Ingraham

Dec. 1, 2020 at 4:41 p.m. EST

Terri Nelson had an unusual question about covid-19: If the virus robs people of their sense of smell, would that be reflected in online reviews of fragrant products? To find out, the Portland, Ore., science illustrator and cartoonist said she looked up reviews of “the stinkiest holiday thing I could think of” — scented candles.

“There are angry ladies all over Yankee Candle’s site reporting that none of the candles they just got had any smell at all,” she wrote on Twitter last week. “I wonder if they’re feeling a little hot and nothing has much taste for the last couple days too,” she added, a nod to other common coronavirus symptoms.

Nelson’s observation, which generated thousands of retweets and likes on the social media site, read like the punchline of a late-night joke. But it caught the attention of Kate Petrova, a research assistant with the Harvard Study of Adult Development at Bryn Mawr College, who decided to test the hypothesis by scraping roughly 20,000 reviews of the most popular scented and unscented candles on Amazon.

“It is rare, at least in my line of work, to stumble upon an anecdotal observation that can be examined using such vast amounts of easily accessible data,” said Petrova, who stressed that this was a personal project with no relation to her research work.

The results were surprisingly clear: Before 2020, reviews of the top scented candles hovered between 4 and 4½ stars, year after year. Since January, however, those grades have fallen roughly one full star.

Unscented candle reviews, meanwhile, don’t show the same pattern.

To further strengthen the coronavirus correlation, Petrova analyzed the reviews to see if they contained terms like “no scent,” “no smell” and “can’t smell,” indicating complaints about a perceived lack of scent. She found that the proportion of scented candle reviews containing these terms nearly tripled from January to November, from roughly 2 percent to 6 percent.

Representatives from Yankee Candle and Village Candle, two leading American candle manufacturers, told The Post they haven’t noticed an increase in customer complaints during the pandemic.

Still, many reviewers made their displeasure known online. On Nov. 19, “Shak” assigned one star to a recent purchase of Christmas cookie-scented candles: “There is no scent at all,” the Amazon posting said. (Amazon founder Jeff Bezos owns The Washington Post.)

“I literally had to bring my nose to the rim of the jar to notice any scent,” another reviewer wrote the same day.

“This is one of the weakest Yankee Candle scents I’ve ever had the displeasure of purchasing,” a different customer wrote a week earlier.

Petrova collected reviews from a variety of candle manufacturers to help rule out the possibility of something like a formulation change driving the complaints.

“Horrible candles, no scent at all,” according to a one-star review of Linuo scented votive candles earlier in the month. “I smell literally no citrus when this candle is lit, even putting my nose inches from it,” “Tim” wrote in a one-star rating of a Chesapeake Bay “Balance + Harmony” scented candle.

Taken together, the data collected by Petrova amounts to what social scientists might call “strongly suggestive” evidence that people unknowingly infected with the coronavirus are dragging reviews of some scented products down. However, she cautions against reading too much into it.

“While I am pleased that so many people are getting excited about the power and potential of data,” she said, “I also want to remind everyone that what I posted on Twitter was just a fun exercise at data visualization — not a peer-reviewed study.”

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