

Turn down the tunes to slow the spread

With the relaxation of restrictions allowing for restaurant reopening, hungry Utahns chomping at the bit to leave their houses can now chomp on some of their favorite dishes inside local eateries for the first time in weeks. In an attempt to minimize the spread of COVID-19, new guidelines limit gatherings to 20 people or fewer.

However, recent research highlights a small change restaurants can make that may have a big impact on limiting how the coronavirus is spread: Turn down the music.

Most people know that a sneeze or forceful cough can result in the spread and transmission of pathogens like the flu, common cold and COVID-19.

However, the spread of these airborne viruses through person-to-person conversations (speech) has received much less public attention despite potentially being a significant contributor to disease transmission.

In a research article



**BRIAN
MANTERNACH**

Special to The Tribune

published in *Nature* in February 2019, a team of researchers led by Sima Asadi evaluated the rate, size and magnitude of droplet particles emitted during human speech. Most interestingly, the researchers found that when subjects increased the volume (amplitude) of their voices, the rate at which particles were expelled also increased.

Due to the physiological principles within the larynx (voicebox) and lungs, when we breathe in and then exhale to speak, the fluids within these structures rupture or burst, causing more fluids to be dispersed into the air. When we



**AMANDA
STARK**

Special to The Tribune

increase the volume of our voices, we take larger inhaled breaths and increase the movement of our vocal cords.

According to the researchers, making our voices louder not only increases the number of particles released into the air, but the released particles are also larger than those emitted during softer speaking, which may increase the potential for disease transmission.

These findings would only be mildly concerning if we were able to reliably control the volume of our voices. Unfortunately, we often speak louder than we intend without even noticing it, due to a



**LYNN
MAXFIELD**

Special to The Tribune

phenomenon known as the Lombard effect. The Lombard effect describes our tendency to increase our individual loudness as the loudness of the environment around us increases.

You can picture how this effect works by imagining yourself sitting in an empty restaurant and carrying on a conversation with someone nearby. In this setting, you are likely able to communicate with a reasonably soft voice. However, as more and more customers enter the room and begin conversing, and the music gets turned up, you would naturally start

speaking louder and louder in an effort to “compete” with the increased background noise.

If, suddenly, all of the other patrons were to disappear and the music stopped, you would hear just how much louder your own voice had become. According to Asadi’s team, by increasing your vocal volume in this way, you may be increasing the risk of spreading any disease you may be unwittingly harboring.

Patrons returning to restaurants will do so with high hopes that at least some part of their lives can return to normal. Restaurant owners, eager to accommodate and desperate themselves to return to business as usual, may be tempted to crank the music in an attempt to create a feel-good, party-like atmosphere. This may be especially tempting if 20 patrons or fewer can make a normally bustling restaurant feel eerily quiet.

But we are returning to a new normal that still contains the risks that sent us into quarantine in the first

place. Keeping the music low or, better yet, turning it off completely, will encourage lower conversation levels that will prevent the louder speaking that is more likely to spread the virus.

As much as we miss our favorite establishments and the atmospheres they provide, this small step will have the added benefit of allowing us to better focus on what we have really been missing since physical distancing began: each other.

Brian Manternach, D.M., is a research associate at the National Center for Voice and Speech and an assistant professor in the University of Utah Department of Theatre. **Amanda Stark, M.S., CCC-SLP,** is a research associate at the National Center for Voice and Speech and a speech-language pathologist at the University of Utah Voice Disorders Center. **Lynn Maxfield, Ph.D.,** is the associate director of the National Center for Voice and Speech and an assistant professor in the University of Utah School of Music.