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# Why Virtual Orchestras And Zoom Choirs Can't Compete With In-Person Rehearsals



**Eva Amsen** Contributor ⓘ

Science

*Writing about the overlap of science and art*

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As soon as they couldn't meet in person anymore, musicians took to the internet to share virtual performances. Whether it's [Nintendo musicians playing the Animal Crossing theme](#), the One World Together At Home concert with the [Rolling Stones](#), or your own local community choir, these online concerts have been a welcome distraction for everyone stuck at home. But the musicians involved in these projects are losing out on some of the most beneficial aspects of making music together — because they, too, are stuck at home.



A household in Hong Kong watching the Rolling Stones give a virtual performance during the One World ... [+] GETTY IMAGES

Not only is making music good for you, but making music together with other people is even better. For example, researchers have found that people who make music together **synchronize their brain waves**, and that **singing in a large choir releases endorphins**. Several other studies showed that musicians in an ensemble use certain cues and **non-musical interactions** to connect with each other while they play, and the **social bonding** experienced while making music together may be an important part of the reason why music is found across most cultures. Finally, the social aspects of music ensembles for school children not only contribute to their **quality of school life**, but also have a **positive effect** on their academic performance.

But when playing online, a lot of these social and community benefits of music-making are lost. Not only does the physical distance between musicians make it more difficult to connect while they play, but in many of the virtual performances you've seen in the last few weeks, the musicians have not even been on the same conference call.

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Video call latency issues makes it impossible to synchronize voices or instruments, so instead, musicians often prerecord their performances. Each musician is in their own home, playing their own instrument while listening to the main track or a [click track](#) to keep the right tempo. They only hear themselves, and not each other. The individual audio tracks are then assembled into one coherent performance, which can involves hours of editing for a few minutes of music.



The results of these collaborations are often stunning and impressive for the viewer, but musicians in these performances are not really playing together. They won't synchronize their brain waves if they're not even playing at the same time, and they can't see each others' visual cues.

There have been some instances where musicians have been able to connect a bit more despite social distancing. Some people have [made music with their neighbours](#) from a safe distance outside, while others have managed to make virtual meetings work for them, either by [muting everyone](#) or by using specialised software running on private servers with small ensembles. Still, besides the struggle with [Zoom fatigue](#), this type of rehearsal is [unfeasible for larger groups](#).

Musicians long for in-person performances to come back, but even in locations where lockdown restrictions are gradually being eased, large group gatherings seem a long way away. Not only does that make it unlikely that we'll be attending a concert any time soon, but for large groups even the rehearsal can pose a risk. The Skagit Valley Chorale in Washington State learned that the hard way. They had a [careful rehearsal](#) in early March, before lockdown. They didn't hug their friends, nobody touched or shared the same music, everyone stood six feet apart. Despite this, 52 members of the choir [contracted COVID-19](#), and two died.

There are other cases of choirs acting as "superspreader" events for COVID-19. In Amsterdam, 102 members of a 130 people choir fell ill as well. However, researchers [aren't all convinced](#) that the act of singing itself is what poses the risk. In fact, there is a lot we still don't know about how musicians spread coronavirus particles. The Vienna Philharmonic Orchestra worked with medical research Fritz Sterz to try to get some answers. They investigated the spread of aerosol droplets by musicians playing different instruments, and found that [no instrument spread droplets further than 80cm](#). The orchestra concluded that this would keep them safe as long as they sat at least a meter apart. However, that doesn't help orchestras who are limited to small cramped rehearsal spaces, as many amateur ensembles are.

So for the time being, many musicians will still be performing to their webcams. It may be impersonal, and they're missing out on the many

benefits of playing together, but at least it's safe.

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**Eva Amsen**

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