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Purpose and Well-Being Through Administering Network Performances

ANDREW MCMILLAN¹ & FABIO MORREALE²

Abstract

Due to the COVID-19 crisis, music communities who found themselves in social and physical isolation have been trying to find alternative solutions to keep some form of connection. Network performance is one of these solutions, one that is specifically aimed at enhancing communities' connectivity beyond one's intimate surroundings. In order for network performances to properly work, there are numerous roles that need to be filled; these include performers, administrators, technicians, and event organizers. This paper presents new discussions aimed at understanding these evolving roles and the way in which they are intertwined. These discussions are based on the autobiographical reflections of one of the authors, Andrew McMillan, and his experience as organizer and technician of network performances during this crisis. This article has two objectives: one is scholarly and one is pragmatic. First, we discuss the sociotechnical challenges and opportunities of managing organizational and technical aspects of network performances. We discuss how this form of social connectivity can be considered an autotelic experience, which also creates a strong sense of purpose and well-being in isolation. Second, we offer practical suggestions and technical solutions for running online performance series.

1. Introduction

Loneliness and weak social connections reduce lifespan to a similar degree of smoking 15 cigarettes a day and even greater than that associated with obesity.

—Dr. Vivek H. Murthy, “Work and the Loneliness Epidemic”

Social connectivity and cultural connectivity are mostly discussed in real-world interactions when defining their health benefits. When it comes to musical creativity, social connections might impact on individual and collective experiences on several layers. First, creativity in itself is associated with positive mental health and emotional well-being, as proven by the proliferation of art and music therapy.³ Second, music and creativity are conducive to hedonic and eudaimonic experiences: hedonism encompasses emotions such as happiness, pleasure, enjoyment, and

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³ Dean Keith Simonton, “Creativity: Cognitive, Personal, Developmental, and Social Aspects,” *American Psychologist* 55, no. 1 (January 2000): 151, <https://doi.org/10.1037/0003-066X.55.1.151>.

excitement; eudaimonism focuses on living life in a satisfying way, which includes providing meaning, purpose, engagement, interest, motivation, and confidence towards the completion of tasks.⁴ Third, music creation is one of the few activities that can lead to a sense of flow, the feeling of being completely absorbed by the activity at hand.⁵

The social aspect of making music together is paramount for well-being and playing alone is considered not as rewarding or immediately pleasurable as playing with others. The positive aspects that come into play when creating music are related to the eudaimonic qualities of the connection and connectedness both with the audience and with other players.⁶ In online performance, however, the connectedness and connection aspects are either limited or completely missing. It is currently unclear whether the lack of immediate response from the audience can have consequences in relation to hedonic and eudaimonic qualities of music performance.

In this paper, we contribute new knowledge to this issue by reporting and reflecting upon the case study of one specific performance community that is coordinated by Andrew McMillan, one of the authors. The performance series successfully continued operating their weekly performance series during the complete lockdown faced by Aotearoa-New Zealand in the first half of 2020 due to COVID-19, but it needed to be reimagined to be moved to an online environment.⁷

The contributions are twofold. First, by employing an autobiographical method, we reflect on how this network performance series created a sense of purpose and well-being for the author; for the whole community of performers, audience members, and others involved with the performance series, we offer new insights into the role of music for well-being. Second, we discuss the practical solutions that were adopted by focusing in particular on the different roles needed in network streaming performances. These reflections originate from autobiographical reflections into the different roles filled by Andrew McMillan during exceptional circumstances.

We first introduce the performance series and report how it fully shifted online due to social and physical distancing. We then discuss matters of locality and identity in the network performance streaming space. An outline for roles and responsibilities is presented, followed by practical results including benefits, issues, complications and solutions. Finally, a conclusion summarizes our findings and discussions.

⁴ For more on hedonism and eudaimonia, see Alan Waterman, "Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment," *Journal of Personality and Social Psychology* 64, no. 4 (April 1993): 678–691; Edward Deci and Richard Ryan, *Intrinsic Motivation and Self-determination in Human Behavior* (New York, NY: Plenum, 1985).

⁵ Mihaly Csikszentmihalyi and Judith Lefevre, "Optimal Experience in Work and Leisure," *Journal of Personality and Social Psychology* 56, no. 5 (May 1989): 815–822, <https://doi.org/10.1037/0022-3514.56.5.815>.

⁶ For more on the role of eudaimonia within music creation, see Karan Douglas, "'Without Music, Life Would Be A Mistake': The Impact of Music Listening and Playing on Hedonic and Eudaimonic Wellbeing," in *5th Annual Applied Positive Psychology Symposium: Proceedings of Presented Papers*, ed. Genevieve M. Cseh (Wymcombe, England: Buckinghamshire New University, 2019), 140, <http://bucks.repository.guildhe.ac.uk/id/eprint/17819>.

⁷ The authors have chosen throughout this paper to refer to what is commonly known as "New Zealand" as "Aotearoa-New Zealand"—in reference to the island's Maori name—and in order to partake in the ongoing process of decolonization for "Aotearoa-New Zealand."

1.1 Autobiographical Study

This study is based on autobiographical reflections through Andrew McMillan's experience with managing the performance series Vitamin-S Pool Nights, which moved online during Aotearoa-New Zealand's lockdown. In the time heading into the lockdown, Andrew's level of engagement and contact with artists in the creative community had been moderate. However, there were limitations due to his physical disability. Some were, for example, opportunities he missed to either be at performances, create, be part of certain collaborations, or travel to connect and perform with other creative communities. These limitations contribute to isolation of varying levels for somebody disabled, and can have an impact on their purpose and well-being. This scenario changed dramatically when the Vitamin-S Pool Nights were transferred online and Andrew took on multiple roles to facilitate the series.

2.1 The Performance Series

The performance series Vitamin S has an 18-year-long history of producing improvised performances. It was conceived to embrace a philosophy of openness to improvisation in all its forms and to embrace inclusivity and collaboration by its members. Based in Tāmaki Makaurau-Auckland in Aotearoa-New Zealand, the motivation for its existence came from a desire to bring a fractured local performance community together and to form a creative practice encouraging open collaboration and shared experiences.⁸ Vitamin-S embraces all and any forms of performance disciplines including: music/sound practice, movement/dance, spoken word, performance art, visual mediums, and design/object performance. Artists involved present their performances using whatever disciplines or media they desire without any direction from any of the community organizers.

The original concept and weekly event produced by Vitamin-S normally takes place at a local venue in Tāmaki Makaurau-Auckland every week. It presents two sets of randomly drawn trios performing completely improvised material. Titled "Pool Night," this weekly event has existed since the inception of the Vitamin-S collective. The decision to create randomly curated groups was taken to create diverse and unexpected lineups and to establish relationships between performers that might not have otherwise been made. Even though the concept of randomization is still a large part of Vitamin-S activities, there are also curated events and invitations to performers outside Tāmaki Makaurau-Auckland and beyond the shores of Aotearoa-New Zealand.

2.2 The Online Performance Series

As the effects of COVID-19 took hold of the world, not only countries' borders but whole local communities began to close themselves off in lockdown. Aotearoa-New Zealand also moved into a

⁸ The authors refer throughout this paper to what has commonly been referred to as "Auckland," the largest city in Aotearoa-New Zealand, as "Tāmaki Makaurau-Auckland," as part of the country's ongoing decolonization process.

strict isolation period for at least four weeks. This meant temporary isolation from one another and temporary closure of all non-essential businesses, which included our music and performance venues. As a consequence, Vitamin-S's regular Pool Night performance series was brought to a halt. However, the Vitamin-S community requested to move the series online and we thus decided to look for a solution.

Andrew, one of the coordinators for Vitamin-S, was motivated to look into network performance solutions that could work considering the characteristics of this community and this performance series. Specifically, the following requisites needed to be satisfied, for which we explored solutions. First, we wanted to run everything on a single platform: the audio and video had thus to be somehow integrated. Second, the platform needed to be easily and freely accessible to all members of the community. Third, the solution needed to guarantee a reasonable sound quality.

Throughout the lockdown period—in the 11 weeks from March 25, 2020 to June 6, 2020—we managed to run 10 online performance events involving 30 performers across different performance disciplines.⁹ The online series mostly involved locals but performers outside Tāmaki Makaurau-Auckland and outside Aotearoa-New Zealand also joined. Those events utilized a system that combined numerous software solutions for social connectivity, streaming, and processing video and audio (i.e., Zoom, Logic Pro X, OBS studio, and YouTube) to create a network performance streamed to an online audience.

Once the technical implementation was set up the shift to the online environment resulted in a number of new roles to be developed (See section 4.1 on “Applications and Platforms”). Andrew took on a number of these roles (See section 3.3 on “Roles, Responsibility, and Experiences”). First, he took the responsibility to establish the technical setup connecting the various applications needed to create the livestream. Second, he interfaced with performers as he helped them connect, organize, and coordinate. This interfacing took place in a technical and sound-check test session to familiarize themselves with the system before performing online. He also posted the test session as an unpublished YouTube video that performers could access to check whether and how their setups worked, and whether there was anything they would like to change before the subsequent performance.

Andrew was encouraged and motivated to further evolve the system and the roles over the duration of the online series. He responded to technical issues as well as aesthetic and stylistic choices in order to create a better-quality performance experience for the performers and audience. These changes and developments came from recognizing issues and stylistic opportunities from experiences with testing sessions and performances, as well as from reviewing uploaded performances and feedback from the public chat in the YouTube channel.

Some developments involved creating a more refined performance experience for the audience and having a separate virtual space—hidden from the livestream the audience were watching—for the performers to connect. To address this challenge, we created a number of preplanned scenes in OBS Studio streamed in sequence to YouTube. While a preplanned scene was streaming, the performers and Andrew were able to set up and deal with any possible issues behind the scene, hidden

⁹ As of this article's publication date, the streamed performances can be found on the Vitamin S-Tream YouTube channel, <https://www.youtube.com/channel/UCESaMMTFW-yFs4A2OxyR3yQ>.

from the YouTube audience (See section 2.3 “Locality and Identity Within the Streaming Environment” and 4.1 “Applications and Platforms”).

Even though Andrew took on technical, performer-coordination, and hosting duties, other Vitamin-S coordinators contributed by assisting with testing the systems and posting comments on the YouTube channel chat. These comments helped to post various sorts of updates for the audience (i.e., technical problems, delays with performance times, additions of performers’ names, et cetera). The coordinators other than Andrew, who were watching the performances on YouTube, were able to communicate with him if any issues with the streamed content arose, unbeknownst to him.

2.3 Locality and Identity Within the Streaming Environment

Part of the challenge connected with administering and hosting the online series has been trying to develop a performance space which creates a rewarding experience for the audience. In this respect, using OBS Studio has been crucial to the workflow in creating scenes that are unique to the Vitamin-S stream. Each of these scenes contains video and audio that can crossfade from one to the other. Being able to design a unique look for the stream provides an opportunity to create an identity, which we expressed through the images and audio contained in each scene.

Andrew curated the creative aspect of developing the stream and found high gratification from this task. This activity involved adding images and sound into each of the pre-prepared scenes in OBS Studio, thus bringing a unique type of performance flow for the audience tuning in (See figs. 1 and 2). This has developed considerably from the beginning. There is a noticeable difference between the very first stream and the latest one, in both the look and the flow of the performance.

Figure 1: Welcome scene (screenshot)



This image shows the scene used to begin the stream. It is a montage of images taken from the Wine Cellar, the local venue normally used for the Vitamin-S Pool Nights. There was sound playing along with this image when the stream began. The sound file used was an audio recording of a general audience or crowd hubbub.

Figure 2: Between sets scene (screenshot)

Between sets, Andrew played music from local artists. Andrew felt it affirmed a sense of locality: even though our spoken accents prevail—as does our language—our nuances, idiosyncrasies, and local identities can get lost within the worldwide streaming environment. Therefore, paying homage to the places which sustain us and in which we exist is almost more crucial within the internet space as we embrace its opportunities for global connectivity.

3. Scholarly Results

We discuss the sociotechnical challenges and opportunities of managing organizational and technical aspects of network performances. We discuss how this form of social connectivity can be considered an autotelic experience, i.e., an activity that has no task and no purpose outside itself, that also creates a strong sense of purpose and well-being in isolation.¹⁰

3.1 Connections to Performers and Community

One particular, serendipitous advantage of having to move the series online has been the ability to reach out to performers beyond our local community—not just outside Tāmaki Makaurau-Auckland, but beyond the whole of Aotearoa-New Zealand. This has provided the current Vitamin-S community the opportunity to reconnect with artists from around Aotearoa-New Zealand and overseas (such as artists with whom Vitamin-S collaborated in the past when they visited Tāmaki Makaurau-Auckland). Andrew and the other coordinators also made new connections with people who had watched the online performances and showed interest in being involved.

All this social and cultural connectivity has been invaluable in creating a sense of well-being for Andrew and arguably, for others within the community of performers and the audience. He was at his busiest and most active coordinating those performances and providing technical solutions. All this activity has been truly satisfying by contributing to a number of hedonic and eudaimonic emotions and experiences. The emotions and experiences for Andrew included excitement, happiness, motivation, purpose, and meaning. These emotions and experiences were crucial in sustaining good mental health throughout the isolation, as well as contributing to the autotelic experience of creating and administering the streaming network performance series.

¹⁰ Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience* (New York: Harper & Row, 1990), 67.

3.2 Autobiographical Experiences

Andrew's autobiographical account suggests that working to fulfill the requests of the community and maintaining connectivity with a creative community greatly reduced the potential for harm from negative mental health due to forced isolation.¹¹ Creating the Vitamin-S online series gave him a sense of worth and empowerment due to the feeling he, along with his colleagues, helped create cultural connections and activity during a time when the community was searching for it.¹² This type of cultural connectivity was a positive experience and demonstrated a positive outcome from using internet platforms.¹³

Even though Andrew did not perform in the series, creating a unique performance aesthetic fulfilled his creative purpose, enriched his social life, and gave him a greater feeling of connectivity with the performers and audience tuning in. His creative purpose and connectivity came from fulfilling the roles and tasks described in section 3.3. These descriptions show one way to formalize various roles and responsibilities in network performance from producing the Vitamin-S online series. Even though these roles are specific to the online Vitamin-S series, they can be used as a reference for any future online network performance, among other further discussions around attributing roles to groups or individuals.

The discussions and ideas around Andrew's experience of being the administrator and technician for the series demonstrate that just as creativity and performance contribute to mental health and well-being, so can fulfilling roles as an administrator and technician.¹⁴ Despite being specific to the set of circumstances surrounding the isolation experienced during the Covid-19 lockdown, these experiences are relatable to any situation where isolation can occur. From Andrew's perspective and situation as a person with a disability, he experiences isolation on a daily basis due to physical barriers and occasional health complications keeping him at home. Examples of other forms of isolation can come from other health complexities, geographical, or financial limitations.

3.3 Roles, Responsibility, and Experiences

When reflecting on the aforementioned administrative and technical challenges of running the streaming series, the autotelic aspect can be described using both eudaimonic and hedonic experiences that incur a sense of purpose and well-being. Music can have both positive and negative

¹¹ On the potential harm of loneliness and isolation, see Ortiz-Ospina Esteban and Max Roser, "Loneliness and Social Connections," *Our World in Data* (Feb. 2020), <https://ourworldindata.org/social-connections-and-loneliness>.

¹² Karan Douglas, "'Without Music, Life Would Be A Mistake': The Impact of Music Listening and Playing on Hedonic and Eudaimonic Wellbeing," 143.

¹³ For more on positive social effects of online connectivity, see Caroline Haythornthwaite, "Social Networks and Internet Connectivity Effects," *Information Communication & Society* 8, no. 2 (2005): 126, <https://doi.org/10.1080/13691180500146185>; Eric Weiser, "The Functions of Internet Use and Their Social and Psychological Consequences," *CyberPsychology & Behavior* 4, no. 6 (July 2004): 724, <https://doi.org/10.1089/109493101753376678>.

¹⁴ For more on motivation for completing tasks, see Edward Deci and Richard Ryan, *Intrinsic Motivation and Self-determination in Human Behavior* (New York, NY: Plenum, 1985).

effects on well-being. The positive effects and emotions are largely due to happiness from excitement, enjoyment, or achievement; situations that can garner these positive effects include those that allow for meeting challenges, motivation, skill enhancement, and community, cultural, and social connectivity with others.¹⁵ Negative effects and emotions come from more task-oriented activities; music-specific challenges in this realm may include learning difficult pieces or developing technique on one's own.¹⁶ Part of the challenge contributing to that negative response comes from the isolation incurred when performing those tasks.

In this autobiographical study, based on his experience running the Vitamin-S online series, Andrew also underwent hedonic and eudaimonic experiences when coordinating, administrating, and being a technician (i.e., organizing and running performances). Starting from Andrew's experience with the online version of the Vitamin-S series, we next list the schedule and roles involved in the Vitamin-S livestream networked performance series—there is a good deal of overlap among positions—and explain what each of them entail:

- **Coordinator (Performance Organizer)**
 - Choose a performance date
 - Send out invitations for people to perform as part of single or multiple communities
 - Coordinate with performers and invite them to the specific time and date to perform online
 - Replace, if needed any performer who may not be able to join
- **Technician (Sound, AV, and IT connectivity)**
 - Find the best sound-quality solution
 - Be able to properly adjust and monitor the sound solution
 - Control and connect platforms and applications for performers and audience
 - Set up and mix audio and video input/output devices (whenever possible, continuously monitor the setup)
 - Set up and monitor internet connectivity (troubleshoot if and when necessary)
 - Create and initialize the livestream when ready
 - Control any audio and video mixing, sequencing of scenes, or inputs to the livestream
- **Coordinator/Technician**
 - Contact all performers to inform them of the networked performance system they will use and make sure they can download or subscribe to it if necessary
 - Let them know everything needed for the technical and soundcheck setup test and the subsequent performance

¹⁵ For more on hedonic and eudaimonic experiences, see Alan Waterman, "Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment," *Journal of Personality and Social Psychology* 64, no. 4 (April 1993): 678–691, <https://doi.org/10.1037/0022-3514.64.4.678>.

¹⁶ For more on music and wellbeing, see Karan Douglas, "'Without Music, Life Would Be A Mistake': The Impact of Music Listening and Playing on Hedonic and Eudaimonic Wellbeing," 126–155.

- On a day that precedes the performance, organize a test to ensure all performers have the required setup and are familiar with balancing sound volumes in the chosen environment
- **Promoter**
 - Inform people about the local time for the performance through creating, maintaining, and promoting the event through email lists, newsletters, forums, and social media
- **Coordinator/Technician (Preparing sound and tech for performance)**
 - Connect performers on performance platform and perform final technical and sound checks
 - Connect streaming software and platforms (can involve the use of many options for creating, managing, and connecting a stream to the many available streaming services)
- **Host (Running the performance)**
 - Start streaming (or let the technician know ready to start streaming)
 - “Hosting” duties, such as welcoming the audience and introducing the event and all the performers
- **Moderator (Monitoring and moderating the stream)¹⁷**
 - Post or reply to comments. Communication might include notifying the audience of a late start due to technical issues or announcement of performers’ names
 - Provide feedback to technician or host to inform them of any issues during the performance
 - Debrief session with host, performers, and technician

3.4 Discussions

For every one of these roles, Andrew related to it as being either a hedonic or eudaimonic experience, or a combination thereof. These experiences came out of undertaking roles and tasks before, during, and after performances. These experiences contributed to a mixture of psychological feelings including buzz, excitement, accomplishment, relief, and anticipation toward the forthcoming performance or next opportunity. Other experiences which created motivation and meaning came from responding to the technical challenges provided with setting up the system and preparing for performers to connect with the system. On some occasions there were negative feelings including disappointment, lack of achievement, frustration, self-doubt, and even embarrassment.

The aforementioned negative feelings came, for the most part, from issues surrounding technical complications, such as those incurred when creating a scheduled streaming performance and the

¹⁷ It is worth mentioning that the moderator role was not Andrew McMillan’s role, but taken on by one of his colleagues.

subsequent difficulty in managing those issues. On those occasions, Andrew felt the pressure of needing to fulfill the expectations of performers, the audience, and himself. Those expectations came from a responsibility and desire to meet scheduled starting times, create the best quality of audio and video possible, have reliable and fast internet connectivity, and focus on performer accessibility and usability. These negative experiences, however, created a motivation to fix what went wrong and improve the quality of coordination and the technical systems as a whole.

Table 1. Roles and Responses

The following table maps roles and tasks to a specific type of experiential response (hedonic, eudaimonic, or both).

1. Schedule or curate a performance	Eudaimonic
2. Schedule or run a technical test with performers	Eudaimonic
3. Practice with performer(s) for technical test	Hedonic
4. Promote the performance	Eudaimonic
5. Prepare for the performance (connect performers with software, perform final sound and technical checks)	Hedonic/Eudaimonic
6. Host/introduce the performance	Hedonic
7. Monitor/moderate the performance stream	Hedonic/Eudaimonic
8. Post-performance debrief session with performers	Hedonic

When it comes to the challenges of dealing with issues or demands for development of the system or the stream, having responsibility drives a purpose toward solving these issues and further developing results. Solving these issues has not been something Andrew has undertaken alone, as he has on several occasions enlisted different colleagues to assist in testing sessions to discover solutions to solve them. These sessions themselves have established more connections within the creative community and further driven a sense of purpose and achievement when problems or issues were solved.

4. Practical Results

In this section we discuss the technical setup and how it developed. We also mention benefits, issues, complications and eventual solutions within the setup. This discussion is based on the experiences coming out of developing the Vitamin-S online series.

4.1 Applications and Platforms

Originally, Zoom was thought to be an inappropriate platform for a networked music performance; this reasoning was based on a perception of inferior audio quality, inflexible audio settings, and the inability to control latency. Although having video from each of the performers was important for the Vitamin-S streaming series, the high demand on bandwidth from using video in Zoom did raise some concerns. However, after a discussion with Sarah Weaver (a leader in the networked performance community and Editor-in-Chief of *JONMA*), Zoom's current worldwide ubiquity for network performance was highlighted as a temporary recommendation: for the time being, it was the best option. When Vitamin-S began running online performances at the start of the COVID-19 pandemic, other networked arts software had not yet been designed for home internet use.

In order to have more control over Zoom settings, Andrew was directed to a website link which would provide options for better quality audio settings.¹⁸ With this new information, it was therefore ascertained that Zoom provided a solution for the needs of the Vitamin-S community. It was also suggested that an application called OBS Studio would be valuable in how performances would stream onto YouTube. OBS Studio became integral to the setup to create and control content and when it would stream to be then presented on a YouTube channel.

The workflow solution for this streaming series was to use Zoom to connect performers; Logic Pro X to manage the audio feed from the performers and the host; OBS Studio to combine images and audio into scenes for a stream to send to YouTube; at the final stage, YouTube was used to stream the performance to the audience online (see fig. 3). The streaming applications were setup and layered one over the other on the main desktop (see figs. 4, 6, and 7). Zoom was on a second desktop (figs. 5, 6).¹⁹

¹⁸ The website link was to the YouTube channel for Jim Daus Hjernøe of the Royal Academy of Music Aarhus/Aalborg for the video "Zoom in Music Mode," <https://youtu.be/50NoWIIYECA>, accessed July 24, 2020.

¹⁹ For a more detailed look at the process of the performance environment, see Andrew McMillan, "Schematic of Vitamin S-tream Work Flow," May 20, 2020, <https://andrewmcmillan.weebly.com/accessibility-and-connectivity/schematic-of-vitamin-s-tream-work-flow>.

Figure 3: Zoom network performance and streaming environment

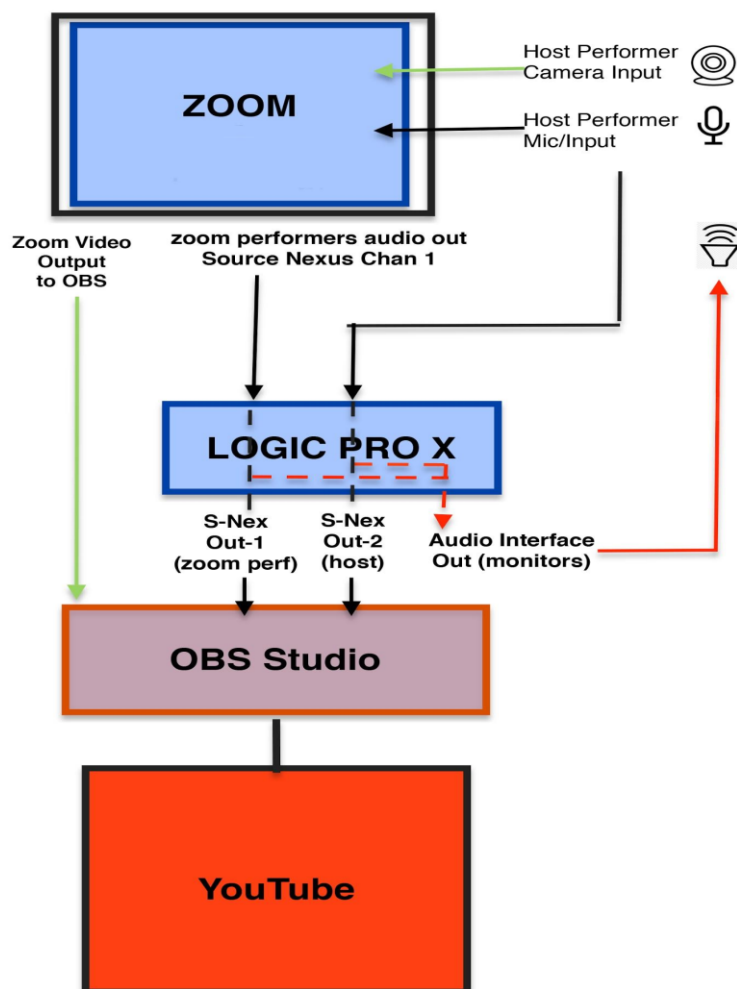
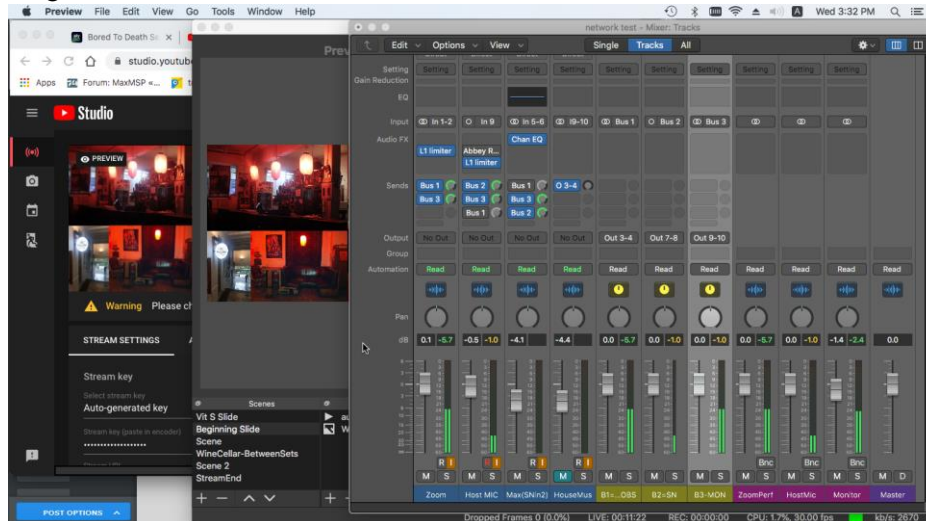
Zoom Network Performance and Streaming set-up

Figure 4: Main desktop applications

Main desktop applications, *left to right*: Google Chrome, OBS Studio, Logic Pro X

The applications are layered one over the other on the main desktop for the purposes of managing the streaming settings (YouTube, in Google Chrome), scene sequences (OBS Studio), and the audio (Logic Pro X).

**Figure 5: Zoom on second desktop**

Zoom with performers preparing on second desktop

This preparation happens in Zoom while a different scene streams from OBS Studio to YouTube.

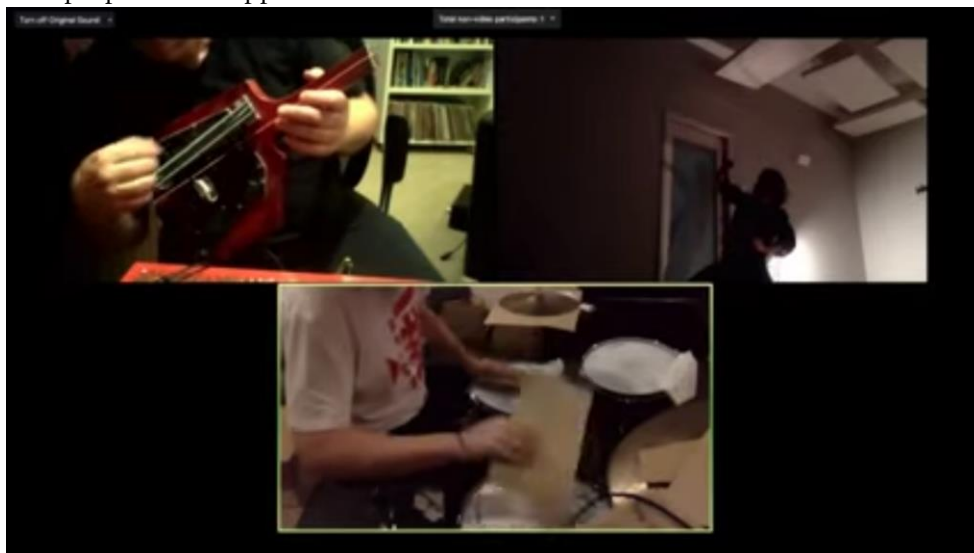
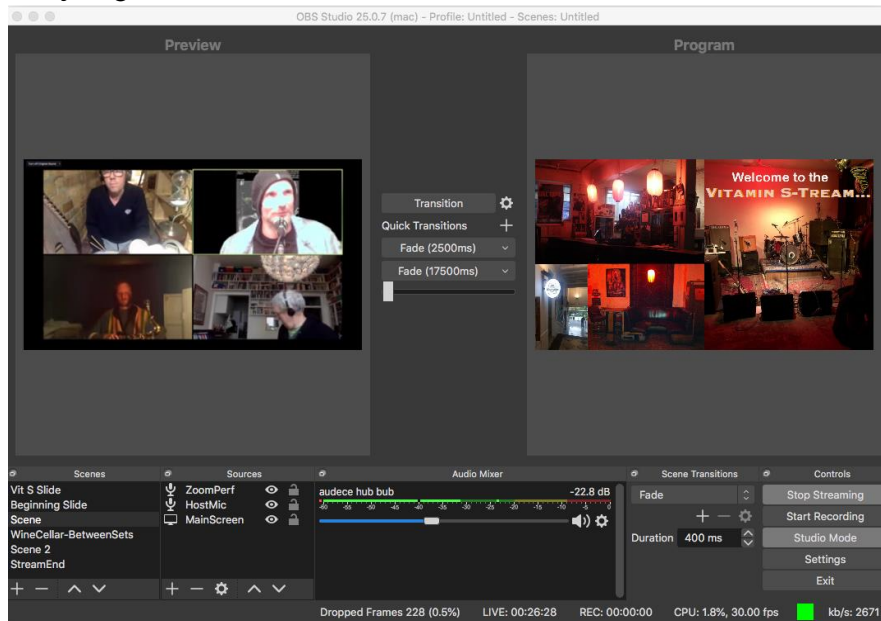


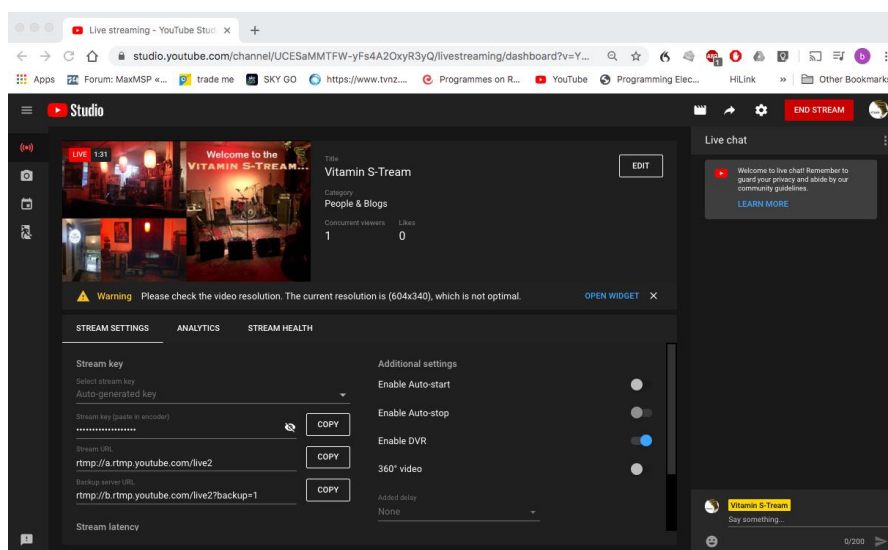
Figure 6: OBS Studio scenes

OBS Studio showing performance scene ready to crossfade over the “Welcome Scene”

OBS Studio has given us the option of creating and controlling a sequence of “scenes” where video, still images, and audio can be put together; further affordances include the ability to crossfade between these formats. The scene on the left waits to be faded across the scene on the right; it is ready to go “live” on the stream.

**Figure 7: YouTube stream**

Shows the feed from OBS Studio as it streams live on YouTube; the “Welcome Scene” from figure 6 plays



4.2 Benefits

The proposed solution of an integrated video and audio architecture offers numerous benefits. First, performers only need to use a single platform or application. (In our case, it was Zoom.) Second, this solution allows for audio control separate from that of the Zoom performers and the host's own audio; this separation of controls was accomplished by routing the internal audio to Logic Pro, while OBS Studio sent a separate stream to YouTube. Third, the experience for the audience and performers was seamless thanks to the creation and control of scenes in OBS Studio. This result was achieved by keeping the behind-the-scenes work away from the audience view. Regardless of any arduous performance setup or any technical issues, a preceding scene could be streamed to YouTube. As such, performers did not need to wait to join the livestream until everything was ready. This solution was beneficial for both the performers' experience when setting up and for the audience's experience when watching.

Pre-prepared scenes create a curtain for dealing with any issues as they "soften the blow" for potential tardiness or complications that may arise for the following reasons:

1. The stream can start on time with the "Welcome to the Stream" scene playing, even if the performers are not ready to perform yet.
2. The organizer can go back to any of the pre-prepared scenes if any technical issues arise, thus leaving the entire setup process less exposed to the audience. This solution also gives the technician the possibility to play a scene, with image and sound, to give the audience some level of online performance experience to keep them engaged. It also lessens the stress on performers preparing for the livestream.

4.3 Issues and limitations

Some of the main issues that arose from using Zoom as our performance platform had to do with sound issues. Zoom was not created for music or sound performance; its limitations in this regard become apparent in the artifacts that comprise the experience of collaborating and performing with it. Examples of these artifacts include sound dropout from a performer (due to prioritizing sound from others), sound glitches, and the inability to monitor a performer's own sound or balance performers' volume separately.

To go into further detail, even though the sound quality is quite good—especially if the option "original sound settings" is enabled—we experienced several issues with some performers' sound overriding that of others. Notably, this limitation was mostly experienced by drummers: drums and percussion players constantly experienced dropouts in their sound when performing with other instruments. Once we were notified about this issue, we conducted further testing and rectified it (which we discuss in the final paragraph of this section).

The other issue with using Zoom concerns the impossibility to separately control the volume of the different performers and to monitor a performer's own audio input from within Zoom. A

performer only hears the other performers they are playing with through their headphones but not themselves. This makes it difficult for a performer to be aware of their own sound and volume levels within the group. A possible workaround is for performers to use a separate digital audio workstation (DAW) to monitor their own audio. However, this solution does not accurately reflect the relation between their own and the other performers' volumes.

We eventually found a solution for drums and percussion to work more effectively in Zoom. We tried out a range of different solutions in two dedicated sessions—with percussionists only—in which we explored a number of different settings and setups. Contrary to our initial belief that using a good microphone for the audio input into Zoom was essential for audio integrity, the best solution was to use the integrated microphone and disable the background noise settings. For example, a higher quality microphone connected to the computer via an audio interface seemed to require stronger input from the performer, which meant that any subtle sounds would be lost. Performers' voices were dropped as other performers' feeds were prioritized; for percussionists in particular, their sound was often interrupted by other Zoom performers.

5. Conclusion

The COVID-19 crisis resulted in worldwide isolation, cutting individuals off from their families and workspaces. Many individuals were also cut off from recreational, cultural, and performance spaces, thus losing the ability to keep their engagement and interaction with their communities and creative practice. By examining a case study during the COVID-19 outbreak, this paper looks into the role that network performances can play when a performance community is placed into a state of social and physical isolation.

We discussed the various roles that occur in streaming network performances and how these roles are beneficial to psychological and mental well-being. Via an autobiographical account, we presented the case study of a specific setup used for a community of performers that successfully continued their regular performance events online during a period when their community was forced to isolate from each other.

Having commitments to provide technical solutions along with connecting with performers and community members provided meaningful engagements. These engagements created positive emotional experiences and attitudes when undertaking tasks and activities that create motivation for practical and technical solutions. Because of these commitments, the psychological impact of the period of isolation was diminished for Andrew.

The benefits of the activities surrounding the aforementioned roles and responsibilities can be associated with a combination of hedonic and eudaimonic experiences. These contributed to the autotelic experience surrounding all aspects of motivation or purpose, and the emotional enjoyment of creating and administering the streaming network performance series.

Although the initial motivation for the Vitamin-S online series was driven by the community, having the opportunity to contribute to the community by bringing performances to an online audience created a sense of self-worth. The positive emotions and experiences came from the opportunity to create cultural activity and connections during a time when the community was searching for it. These reflections align with experiences usually present in creativity and

performance, but in this case came from administering a streaming network performance series and aligning a community with practical solutions and opportunities to perform.

From this we propose that, like creative practice or performance, being the administrator and technician for this network performance series contributed significantly to good mental health. The roles and activities created a positive emotional cyclic effect between emotional positivity and practical purpose and motivation. The initial motivation from a practical purpose feeds into emotional well-being, and this emotional well-being can in turn motivate a practical purpose. The hedonic and eudaimonic experiences are interrelated, and mediators of each other.²⁰

Although Andrew, in the role of administrator, had a heightened range of activity and social and cultural connectivity throughout the period of the streamed network performance series, the performers and audience had a different experience. Future research should explore how experiences from a streamed network performance series translate differently for performers and audience. Even though this series and study focused on an online setting, people were still enjoying a shared experience at some level. It would be important to evaluate how an individual or group's creativity changes without an audience in front of them. What, if any shifts are there in performers' approaches that alter their expectation, response, and overall experience? What are individual and group differences in creative and shared experiences? How sustainable are the benefits of these experiences over time if they exist only in an online network performance setting? If changes in creativity and differences in approach and experiences do occur in the performance experience, how do these changes impact the well-being of performers and audience alike?

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²⁰ Karan Douglas, "'Without Music, Life Would Be A Mistake': The Impact of Music Listening and Playing on Hedonic and Eudaimonic Wellbeing," 151.

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