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The impact of Covid-19 on science journalists in South Africa: investigating effects, challenges, quality concerns and training needs

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Abstract

Since early 2020, the Covid-19 pandemic demanded ongoing media coverage unprecedented in its scope and reach. As a result, the pandemic dominated global and national news headlines for an extended period of time. Science and health journalists, and their colleagues covering other journalistic beats, were called upon to report on various aspects of the Covid-19 pandemic and many journalists found themselves in unchartered waters. To investigate the effects of the pandemic on journalists in South Africa, we adopted a qualitative approach and conducted semi-structured, in-depth interviews with 20 science, health, and environmental journalists. We explored the challenges and demands that they faced, as well as how the pandemic changed science journalism in South Africa. This study highlights journalists' capacity building needs as identified during the pandemic and suggests ways to strengthen science journalism in the country.

Keywords

Science journalism, Covid-19, South Africa

Background

In December 2019, Chinese health officials informed the World Health Organisation of patients with a mysterious form of pneumonia in the city of Wuhan (World Health Organisation 2020). At first, a few tentative media reports trickled through, but the situation changed rapidly. Soon, as Covid-19 spread around the world, it became an all-consuming media story.

During such a public health crisis, people turn to the mass media for information and guidance. As such, media coverage of the unfolding pandemic played a key role in informing the public and shaping citizens' perceptions and behaviour. Journalists working in mainstream media were conduits for information from public officials and scientists to the general public. Therefore, they bore a particular responsibility for reporting truthfully, accurately and critically. As stated by Chari and Akpojivi (2021: 304): "Covid-19 has reignited debates about the media's potency in shaping public perceptions of risk during pandemics and the media's normative obligation to disseminate relevant, credible and reliable information to mitigate such perceptions of risk".

While Covid-19 accentuated the need for timely and accurate reporting on health and science issues, it also highlighted that this can only be achieved by journalists who are able to meet the demands of specialised reporting in fast-evolving media ecosystems. However, the pandemic struck at a time when several scholars were calling attention to the widespread weakening of science journalism as a profession, resulting from several coinciding trends and pressures. These include ongoing digitisation and the rise of social media that resulted in continued job losses in the media industry, with particularly dire effects on the science journalism profession (Dunwoody 2021; Finlay 2019). Newspapers, that traditionally provided some room for specialised science reporting, have seen steady

drops in circulation in recent years, forcing science journalists to seek employment in other sectors or carve out freelance career opportunities (Dunwoody 2021; Schäfer 2017). As a result of these job losses, the small numbers of science journalists remaining in newsrooms face extreme time pressures and are often unable to find time for interviews or doing in-depth or investigative stories (Currah 2009; Murcott and Williams 2013; Van Hout and Van Leuven 2016).

Furthermore, the seismic nature of this pandemic meant that virtually all journalists, including those who have never written about science or health issues before, were expected to report on the pandemic, because 'every story became a Covid-19 story' (Perreault and Perreault 2021: 82). As noted by these authors, the relentless demands and pressures of reporting on Covid-19 proved to be challenging for journalists who found themselves operating in a new kind of disaster communication ecology demanding of them to sift through an avalanche of information, validate new materials and sources, and cope with an abundance of misinformation and misleading claims. At the same time, they continued to face job uncertainties, which were exacerbated by the economic impacts of the pandemic, while also navigating the personal health challenges the pandemic posed. All of these factors added up to an acute awareness of their own responsibilities, vulnerabilities and inadequacies.

Commented [FS1]: Just wondering if this is possible to reference. It would seem logical that science journalists were now paradoxically in a good place during the pandemic - and the results further down confirm that.

It is also important to keep in mind that, in South Africa, public and policy debates around Covid-19 took place in a politically tense environment marked by a lack of public trust in government actions, and with conflicting views fuelled by uncertainties about the science and misinformation in the public sphere (Abdool Karim, 2022). These factors added further challenges for science journalists.

Research gap and study rationale

In the context of South Africa, research related to science journalism is extremely limited (Malan 2006). As a result, scholars in the field have a limited understanding of the challenges and obstacles faced by specialist science, health, and environmental journalists, as well as general journalists who occasionally report on science-related topics.

Van Zuydam (2019) conducted a qualitative study about the state of science journalism in South Africa. However, the study was completed before the Covid-19 pandemic and the findings therefore do not include information on how the pandemic affected science journalism and journalists. It is reasonable to assume that the pandemic brought about additional stresses and challenges. Consequently, the principal aim of the research project featured in this paper was to investigate the state of science journalism in South Africa in 2021 , and discover how journalists who report on science perceived the impact of the Covid-19 pandemic on their profession.

Overview of the South African media landscape

South Africa has a diverse media offering that includes print, broadcast and digital media. The commercial media are dominated by Media24 (newspapers, magazine, online news platforms), Arena Holdings (newspapers and broadcast channels), Independent Media (newspapers and magazines) and Caxton Publishers (commercial and community newspapers) (Wasserman, 2020). However, television (public entity the SABC and free-to-air commercial station eNCA) and radio remain the most popular means of consuming news (Wasserman 2020).

According to Wasserman (2020), the media in South Africa has played an important role, both politically and socially, since the start of democracy in 1994: “Benefiting from strong constitutional guarantees of freedom of expression and a vibrant civil society, the South African media have contributed to a culture of democratic debate while playing a watchdog role to keep political power to account through investigative reporting into corruption and malfeasance” (Wasserman 2020: 451).

However at the same time there are significant economic challenges and [the] “Covid-19 pandemic eviscerated an already fragile print media industry, with the magazine trade and community newspapers suffering the most serious blows” (State of the Newsroom Report 2020:9). The first year of the pandemic saw a steep drop in mainstream newspaper circulation figures. This, coupled with decreased advertising revenue, led to pay cuts as high as 45% and a loss of “an estimated 700 jobs” in the media industry since the start of lockdown restrictions at the end of March 2020. In addition, the pandemic accelerated the shift to online news consumption, leading to booming online news sites, such as *News24*, *Daily Maverick*, *GroundUp* and *Vrye Weekblad* (Wasserman 2020; State of the Newsroom Report 2020).

Literature overview of science journalism in South Africa prior to the Covid-19 pandemic

Concerns about the quality of science journalism in South Africa – and other countries in the Global South and developing world – date back to long before Covid-19. The ongoing decline in the number of specialised journalists in the country has long been a concern, but there are also tensions between scientists and journalists (Claassen 2011) and challenges related to limited access to science news sources, as well as a general lack of infrastructure, funding and training for science journalism (Clayton and Joubert 2012).

Claassen (2011) asserts that many South African science journalists lack the specialised skills and training needed to give them a firm grasp of the subject matter and urges the South African media industry to pay serious attention to improving the quality of science journalism. He suggests more and better training and the establishment of dedicated science desks staffed by well-trained science editors and science reporters.

These perspectives on the challenges of science journalism in South Africa mirror the concerns that have been highlighted for the African continent (Finlay 2012) and the Global South (Nguyen and Tran 2019). Looking at climate change and HIV/Aids reporting in Africa, Finlay (2012) discusses the challenges presented by complexity and uncertainty of the science, combined with lack of training and insufficient resources in the newsroom As in the case of Covid-19, these challenges are exacerbated by political influences and the social and humanitarian urgency of the issues. Nguyen and Tran (2019) discuss similar challenges for science reporting in the Global South, namely: (1) dependence on foreign sources, especially the media of the Global North; (2) low status of the science beat in the newsroom; (3) the uncritical nature of science reporting that is easily influenced by other interests, for example by public relations in science; (4) strong political influences on science journalism, and (5) ineffective relationships between science and journalism.

We also know from earlier studies that the challenges experienced by science journalists in Africa intensify during a public health crisis. For example, during the Ebola crisis in Sierra Leone, journalists reported lack of topic knowledge and experience, difficulty in accessing credible experts and safety fears as key issues of concern (Antwi-Boasiako 2017). Furthermore misinformation about the disease and its potential cures, mostly spread via social, media pose extra hurdles for reporters (Oyeyemi et al. 2014).

Reflecting on an earlier period when the science of HIV/Aids was challenged in South Africa, Malan (2006) reports on the damage that can result when journalists lack basic scientific knowledge and critical reporting skills. Citing the example of Virodene that was punted (by a group of scientists) as a potential cure for HIV/Aids in 1979, she recalls how some journalists filed stories arguing that Virodene could be a potential remedy. This resulted in confusion and frustration amongst desperately ill people. Virodene turned out to be highly toxic. "For many in the media, the science of AIDS was completely unknown and unfathomable territory. There was therefore a real danger of them giving South Africans incorrect information which could expose the public to the risk of contracting a virus that the government had told them was harmless" (Malan, 2006: 44). Over time, however, the mass media played a key role in forcing the government to change its stance and to implement HIV treatment policies. Malan explains how quality, in-depth coverage of HIV/Aids depended on journalists who chose to specialise in the subject, adding that more training of a larger pool of journalists was desperately needed.

Science journalism during Covid-19: Literature review

While the spread of the coronavirus across the African continent was gradual, and even appeared to be initially almost absent in many countries (Ndlela 2021), South Africa was amongst the nations hard hit by the first Covid-19 wave. The first diagnosis was confirmed on 5 March 2020, with 402 cases by 23 March and 1170 cases by 28 March; resulting in the government declaring a national state of disaster, and introducing stringent lockdown regulations that included harsh restrictions on travel and all kinds of gatherings (Abdool Karim 2020).

In South Africa, as elsewhere in countries where infection numbers were escalating fast, science and health journalists were suddenly in high demand. If specialist journalists were not available, mainstream journalists were called upon to report on the unfolding pandemic, including its societal ramifications.

Many journalists found themselves on unfamiliar ground. It was a tumultuous period during which "science journalists were thrust from the fringes to the frontline" (Van Niekerk and De Villiers 2020: online). At times, reporting on the pandemic was "like building a plane while flying it – at warp speed in a hurricane" (Lewis 2022: online).

During this tumultuous period, journalists had to cope with "an avalanche of scientific information" on the one hand, while also trying to combat "a tsunami of misinformation spread across social media" (Van Niekerk and De Villiers 2020: online).

It is recognised that journalists made mistakes and, at times, contributed to the spread of misinformation, but Malan (quoted in Van Niekerk and De Villiers 2020: online) notes: "It's certainly not easy to send journalists who had been covering politics or crime off to cover a massive health story that relies so heavily on fast-track research and science that we are not that familiar with".

On the positive side, Malan (quoted in Ricchiardi 2020) highlights a key difference in reporting on Covid-19 compared to reporting on HIV/Aids around 20 – 25 years earlier. In the case of HIV, government officials had an extremely hostile relationship with the news media and access to health department information was virtually non-existent. However, with Covid-19, the government cooperated with the press to a much greater extent and used social media (for example WhatsApp groups) to provide information to journalists as quickly as possible.

Based on interviews with representatives of NGOs in Sub-Saharan Africa working in the field of health and science journalism, Wollnik (2021) reports that insufficient knowledge and understanding of the health issues were major hurdles for African journalists reporting on Covid-19. Other issues mentioned in this study were lack of personal protective equipment, coping with personal impacts of lockdowns and (in some African countries, but not in South Africa) restrictions on press freedom.

Despite the intense challenges related to science journalism highlighted by Covid-19, scholars generally agree that Covid-19 laid bare many of the pre-existing challenges and fault lines in the industry. For example, Allsop (2020: 2) states: "It's clear that the coronavirus didn't start the industry garbage fire as much as it threw accelerant on it". Therefore, Covid-19 should be regarded as a wake-up call for the importance of the profession, which requires scientific expertise in the newsroom and editorial support for quality science journalism (Van Niekerk and De Villiers 2020), as well as global assistance to improve and strengthen health reporting across Africa (Wollnik 2021).

Research questions

The overarching research question guiding this study is: How did Covid-19 affect science journalism in South Africa? Flowing from this, we sought to answer the following specific research questions in order to develop an understanding of the impact of Covid-19 on the science journalism profession in South Africa:

- What impact did Covid-19 have on the science journalism profession in South Africa?
- What were the main challenges that science journalists (or journalists who reported on science during the pandemic) faced in reporting on the pandemic?
- Did the pandemic change science journalism practice in South Africa, and if so, how?

- What can be done to improve science journalism in South Africa?
- What are journalists' capacity building needs (as highlighted and experienced during the pandemic) to improve science journalism in South Africa?

Theoretical framework

To best capture and describe the lived experiences of science journalists in South Africa during the Covid-19 pandemic, we applied the interpretive paradigm in social theory as a theoretical framework to guide this research project. The interpretive paradigm is particularly useful in the social sciences because it is used to understand the everyday world as it is experienced by those studied (Burrell and Morgan 1979).

The interpretive paradigm views social reality as relative and accepts that the social world assists people in structuring their reality. In addition, studying individual experiences can help researchers understand the social world according to the participants' background and lives (Burrell and Morgan 1979:31). Interpretive research can also be described as taking a leap into the minds of the participants to view their experiences as data (Van Manen 1990). As such, this framework could be used to understand the subjective professional experiences of journalists who were interviewed during this study.

Research design and methods

This research project follows a qualitative design, employing semi-structured interviews as the methodology for data collection. The interview questions were designed to gain an understanding of the perceived impact of the Covid-19 pandemic on the science journalism profession in South Africa.

Sampling

Purposive sampling was used to identify South African journalists who regularly report on science, health, and the environment. This sampling strategy is based on the researchers' personal knowledge of the science journalism landscape in South Africa, combined with snowball sampling, and a personal media diary kept during the coronavirus pandemic, as reported in Metcalfe et al. (2020). Babbie and Mouton (2001:166) explain that it may be appropriate to select a sample based on one's own knowledge of a population, while Bryman (2012: 418) states that 'the goal of purposive sampling is to sample participants in a strategic way so that those sampled are relevant to the research questions that are being posed'.

Data collection

Of the 38 South African journalists approached, 23 agreed to be interviewed. Based on availability and timing, 20 participants were interviewed between 12 April and 19 May 2021. The interviews were conducted using online conferencing platforms (Zoom and Microsoft Teams). All interviews were recorded and fully transcribed, with permission from the interviewees. The interviews lasted on average 56 minutes, with the shortest interview 31 minutes and the longest interview 1 hour and 40 minutes. Following the transcription of the interviews, the data was qualitatively coded according to the research questions.

Amongst the 20 participants, 12 were freelancers and eight were employed as full-time journalists. Those permanently employed said they worked for African News Agency (Independent Media), Health24 (part of Media24, owned by Naspers), Primedia Broadcasting, Business Day (Arena Holdings), and Bhekisisa Centre for Health Journalism (non-profit organisation). Those who indicated they were freelancers said they regularly

write for publications such as City Press (Media24), The Mercury (Independent Media), Die Burger (Media24), Netwerk24 (Media24), Vrye Weekblad (Arena Holdings), Rapport (Media24), The Conversation Africa, University World News (Higher Education Web Publishing Ltd.), Sunday Independent (Independent Media), Health-e News, Daily Maverick (independently owned), Mail & Guardian (M&G Media Ltd.), New Frame (non-profit organisation) and GroundUp (Community Media Trust/Cape Town's Centre for Social Science Research).

In terms of gender, there were 13 females and seven males, while the population groups in South Africa were represented as follows: 10 white, two Indian, one coloured (brown or mixed race) and seven black African (see Table 1).

Table 1: Participant information

Participant code	Gender	Population group	Current position	Media organisation
SA01	Female	Indian	Senior health journalist	Bhekisisa Centre for Health Journalism
SA02	Female	Caucasian	Science writer and trainer	Freelance
SA03	Female	Caucasian	Science and environmental journalist	Freelance
SA04	Male	Caucasian	Environmental journalist	Freelance
SA05	Female	Caucasian	Environmental journalist	Freelance
SA06	Female	Caucasian	Science editor	Freelance
SA07	Female	Caucasian	Science, health and education journalist	Business Day
SA08	Male	Coloured	Health editor	Media24
SA09	Female	Caucasian	Editor-in-chief	Bhekisisa Centre for Health Journalism

SA10	Male	Black African	Health journalist	Freelance
SA11	Female	Black African	Health journalist	Freelance
SA12	Male	Black African	Health journalist	Freelance
SA13	Male	Black African	Intern journalist	Bhekisisa Centre for Health Journalism
SA14	Female	Black African	Health journalist	Media24
SA15	Male	Indian	Science, technology and education journalist	University World News
SA16	Male	Black African	Journalist	Independent Media
SA17	Female	Caucasian	Science journalist	Freelance
SA18	Female	Caucasian	Radio presenter	Primedia Broadcasting
SA19	Female	Caucasian	Science journalist	Freelance
SA20	Female	Black African	Health journalist	Freelance

Data analysis

We analysed the dataset according to our research questions through repeated reading and thorough coding of the transcripts. A coding framework was developed according to the research questions to guide the initial coding process. The codes were organised based on the impact of Covid-19 on the science journalism profession (IMPACT), the changes experienced in science journalism practice (CHANGE), challenges reporters faced in reporting on the pandemic (CHALLENGES), the quality of science journalism in light of the pandemic (QUALITY) as well as training needs journalists identified during the pandemic (TRAINING). These

categories were then grouped together to address the research questions in the results section below.

Results

We present below the results of the interviews to answer the research questions identified for this project. The main findings are highlighted, supported by illustrative quotes,. extracted from participants' responses; some have been lightly edited for length and to improve readability.

1. **What impact did Covid-19 have on the science journalism profession in South Africa?**

Participants agreed that the coronavirus pandemic had a significant impact on the science journalism profession in South Africa and changed science journalism in the country in a number of ways. Overall, science and health reporting attained a higher profile and prominence in the mass media, thereby highlighting the importance of and need for high-quality science journalism. The increased recognition of science journalism as a specialist journalistic beat strengthened the position of science journalists who have long argued for more recognition for science journalism.

> […] the forerunners of journalism in South Africa are politics and economics – those are your main ones […] health journalism has been undermined for the longest time and the pandemic really highlighted the importance of it […]. – Participant 14, health reporter

> […] before COVID we, health reporters, were sort of the forgotten sort of reporters of the newsroom […]. – Participant 11, freelance health journalist

> All of a sudden science and researchers and clinicians who worked on COVID treatments and so on were all over our newspapers and our laptop screens […]. – Participant 17, freelance science journalist

> […] for years and years, the specialised science journalists were losing their jobs […] and what this showed (the pandemic), it showed the lack of experience of the general reporter in writing very complex science […]. – Participant 3, freelance science journalist

> […] I think people have started to dig deeper and to access a wider range of scientists and it's given science a higher profile in that sense. – Participant 4, freelance environmental reporter

2. What are the main challenges that journalists faced in reporting on the pandemic?

From the interview data, we identified several key challenges that science journalists faced when reporting on the Covid-19 pandemic, namely:

- Lack of experience and training in specialist science and health reporting
- Restrictions on movement and social distancing requirements
- Lack of newsroom capacity and resources
- Dealing with information overload and the ever-changing nature of information
- Distilling high-level research into understandable information for lay audiences
- Government bureaucracy resulting in barriers to information access

2.1 Lack of experience and training

Despite the higher demand for science and health reporting, the quality of reporting was compromised at times, because mainstream journalists with little or no science reporting experience were co-opted to take on the role of specialist reporters, or even

compelled to become science journalists overnight. For many of these journalists, it was the first time they dealt with science and health topics. Overall, participants agreed that the Covid-19 pandemic emphasised the lack of science journalism skills among general/mainstream reporters.

> […] if you weren't a science reporter before the first case hit, you definitely are now. – Participant 1, senior health reporter

> […] it's extraordinary how many journalists are writing about the pandemic that really don't know very much, at all. – Participant 2, freelance science writer and trainer

> […] it (the pandemic) turned people into health journalists overnight, but not necessarily with the knowledge and the skills […] we've seen […] lots of […] misinterpretation happening in the media because not all journalists had the background […]. – Participant 9, founding editor of a specialist health publication

> […] I think unfortunately what's happened is that people have been thrown into sort of science journalism, without any proper training […] the reporting has been […] pretty poor around issues of Covid-19 and it's where the specialists (science journalists) have really come to the fore […]. – Participant 6, freelance journalist

> […] what this showed us, very, very clearly […] we need specialised science reporters to unpack very difficult science and forever-changing science […]. – Participant 3, freelance science journalist

2.2 Restrictions on movement due to lockdown regulations

Several participants commented on how restrictions on personal movement and in-person interactions made it difficult and sometimes impossible to network and interact with scientists in person, thereby affecting their ability to report on the pandemic.

> […] you have to rely on having inside sources inside the hospitals to tell you what's going on or send you videos. You can't go there yourself […]. – Participant 11, freelance health journalist

> […] one of the difficulties of the current working environment is we have lost many of our usual opportunities to network and meet people. It's actually really difficult to establish new relationships with people when your press conferences or announcements are either the televised addresses or virtual meetings on Zoom. – Participant 7, science, health, and education reporter

2.3 Limited newsroom capacity and resources

The challenges faced by mainstream and specialist journalists were exacerbated by an overall lack of newsroom capacity and resources, resulting in increased demands on journalists. One participant reported that the pressure caused by lack of resources resulted in her resignation, while others spoke openly about the toll on their overall health and well-being.

> […] back in the day […] you went out with an actual photographer, but now you're now just taking your own still pictures; you're also doing your own video and at the same time you're live tweeting something […]. – Participant 17, freelance science journalist

> […] it's put us in this position of needing to constantly expose yourself to information about the pandemic but also needing to make sure that you take time to take care of yourself and your mental health […]. – Participant 13, health reporter

> […] as much as you have seen some bad science reporting in the pandemic, you've also seen a very big shrinking of resources in newsrooms, and that puts those reporters in a

more vulnerable position when it comes to actually being able to do the job correctly." – Participant 13, health reporter

[…] any newsroom you go to, everyone is so discontented, because they are feeling the exhaustion and just the burnout from having to write for online, having to write for print, having to take video, having to take pictures and this is all one person. – Participant 11, freelance health journalist

2.4 Dealing with the nature and volume of information related to the pandemic

Most participants reported that they struggled to cope with the volume, complexity and transient nature of information surrounding the Covid-19 virus and distilling the information for their audiences. At times, journalists were frustrated in their attempts to obtain locally relevant information and responses to questions about the Covid-19 pandemic from the South African government.

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[…] things are a lot less black and white, and facts are not as certain as you would hope that they would be […]. – Participant 1, senior health journalist

[…] (the) challenge of absorbing that much quite high-level information and distilling it down in a way that ordinary people will understand." – Participant 6, freelance journalist

[…] dealing with (the) Department of Health […] I do believe I found myself in like a seventh circle of hell. – Participant 19, freelance science journalist

3. Did Covid-19 change science journalism practice in South Africa? If so, how?

Participants noted several pertinent changes in their daily journalistic routines and practice resulting from the pandemic. The changes mentioned include more opportunities for explanatory journalism, stronger relationships with scientists,

increased use of pre-prints as information sources, increased use of social media channels as sources of information and contacts, as well as for supplementing mainstream reporting with multimedia content.

> […] we break down far more science concepts than we previously did. So that definitely opened up a role for more explanatory journalism […]. – Participant 9, founding editor of a specialist health publication

> […] we (journalists) have the opportunity to deal with scientists on a closer level, you know, and learn more from them than you would have been able to previously learn from them […]. – Participant 9, founding editor of a specialist health publication

> […] you have this idea in your head that peer-review is the gold standard, and you would never report on any science that hadn't undergone peer-review, prior to COVID […]. – Participant 1, senior health reporter

> […] one of the big changes has been that I'm paying more attention to what scientists say on Twitter […]. – Participant 7, senior science, health, and education reporter

> […] social media is very helpful in distributing either videos from hospitals or something that someone feels was an injustice […] and then we can take those forward in terms of more in-depth stories […]. - Participant 11, freelance health journalist

4. **What can be done to improve the quality of science journalism in South Africa going forward?**

Reflecting on their experiences during the pandemic, participants identified a number of options for improving the quality of science journalism in South Africa. This included re-

establishing science journalism as a specialist journalistic beat, including acknowledgement from media managers and editors that quality science journalism requires time and specialised skills, as well as that media managers should invest in developing science writing skills and expertise. Some participants highlighted the need for experienced mentors and mentorship programmes to nurture the skills of young science journalists.

> I think there is a need to re-establish a core of specialist reporters, particularly in the area of science and the environment. – Participant 4, freelance environmental reporter

> […] they (journalists) need more time to put their stories together but I don't really know how feasible that is in an actual breaking news space […]. – Participant 1, senior health journalist at a specialist health publication

> I think it's also important for science journalists, myself included, to try and mentor and be more willing to impart their knowledge to younger journalists […]. – Participant 4, freelance environmental reporter

> The editors and the publishers should be seeing to it that their generalist journalists have some kind of basic training in science, because this is going to happen again [...] COVID is not the only pandemic we're going to see and it's not the only science-based disaster we're going to see. – Participant 17, freelance science journalist

5. **What are journalists' capacity building needs (as highlighted and experienced during the pandemic) to improve science journalism in South Africa?**

From the insights gathered during the interviews, there is little doubt that specialised science journalism training is critical to improve science journalism in South Africa. In particular, participants noted that journalists with training in science and health writing had an advantage during the Covid-19 pandemic and were better able to serve the needs of their readers, listeners and viewers. They emphasised that editors must support this kind of

training, despite the capacity challenges in newsrooms. It was noted that science journalism training needs to include training in digital and multimedia reporting, as well as innovative skills, such as science storytelling.

> I basically think that as people who are health journalists, we were a couple of steps ahead of general journalists […]. – Participant 14, health reporter

> […] now, all of a sudden, there's this real need for some sort of basic training or at least acclimatisation into the health beat […]. – Participant 11, freelance health journalist

> […] with science journalism it's different than political journalism – it's about taking sometimes extremely complicated and jargon-loaded stories and making it accessible and that's not an easy thing to do, you need training for that. – Participant 5, freelance environmental reporter

> I don't think that editors are invested in training […] I think that newsrooms, for example, are so thin on the ground that I don't think they can afford to send people away for training. – Participant 2, freelance science writer and trainer

> […] training and skilling yourself up is two-fold, it's a two-way street, editors need to encourage it and of course staff need to take leadership of it. – Participant 8, health editor at a large online news platform

> […] I think it's important that you're able to give […] journalism students an opportunity to get the tools to help them specialise because that adds value within the journalism industry […] it really starts with institutions. – Participant 14, health reporter

> […] working with data more, I'd be interested in doing that and visualisations and stuff. – Participant 20, freelance health journalist

> […] the biggest challenge science journalists face […] is a storytelling ability, that's what's most lacking in South Africa. – Participant 9, founding editor of a specialist health publication

In the following section we reflect on these results.

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Discussion and conclusion

From the extensive literature review and interviews conducted within the interpretive paradigm of social theory, it is clear that the Covid-19 pandemic had a marked impact on science journalism (and science journalists) in South Africa. Participants agreed that the pandemic highlighted the importance of science journalism because it shifted the focus from other beats, such as politics and economics, to science and health. Earlier, science journalists often operated in the shadows of newsrooms and were often the first to be retrenched in response to financial pressures. Now, amidst a global pandemic, they received the recognition they have long desired from editors and media managers. This mirrors the findings of Van Niekerk and De Villiers (2020) that science journalists were thrust to the frontline because of the coronavirus pandemic.

Our study, which explored the lived experiences of science journalists, found that mainstream journalists were forced to take on the roles of specialist science and health reporters, without the necessary training and experience. According to some participants, the lack of experience and training led to poor reporting about the Covid-19 pandemic. Claassen (2011, 2020) has long argued that there is a lack of scientific knowledge and understanding among journalists. Our study echoes earlier findings by Claassen that better and more (ongoing) science journalism training is critical to improve the state of the industry, as Covid-19 is not the only public health crisis journalists are likely to face during

their careers. In fact, some experts warn that the next pandemic may be just around the corner, and we need to be better prepared in future (Van Niekerk and De Villiers 2020).

In terms of the types of training needed, participants expressed a need for training in digital journalism, working with data, storytelling, and visual journalism skills, in order to be able to report effectively and responsibly on science advances, developments and debates in South Africa. Finally, participants agreed that it was crucial that both editors and journalists should take responsibility to ensure that training opportunities are used to maximum benefit.

Coming face-to-face with the realities of reporting during a health crisis, our findings reveal how restrictions on movement, social distancing requirements and lockdown regulations, impacted journalists' ability to report effectively and timeously. This, coupled with an overload of ever-changing information, the fast pace of news reporting and a lack of resources in newsroom, took a toll on participants' mental health as they were constantly bombarded with information about the pandemic and its devastating effect on the world. Furthermore, journalists were faced with navigating the use of preprints as sources of information. Prior to this, they had always held full peer review as crucial before any results were reported, but during the pandemic the pace of news speeded up considerably and required a different approach.

In addition, and in agreement with findings from Nortier (2021), participants said they were frustrated in their search for credible information from spokespeople and other sources in the South African government. This contrasts, at least to some extent, with the view by veteran journalist Mia Malan (quoted in Ricchiardi 2020) that government cooperated with the press and provided information effectively.

However, according to participants, the pandemic also had a positive effect in certain domains. It offered scientists and journalists the opportunity to work more closely together and build stronger relationships, mirroring the findings of Nortier (2021). In addition, in agreement with Suárez (2020) and Nortier (2021), participants recognised the opportunity for explanatory journalism and making science accessible to lay audiences through the mass media. Because of lockdown and social distancing restrictions, participants agreed that social media channels provided an opportunity for scientists to share their research and expertise, for journalists to share their stories and for members of the public to act as citizen reporters.

In addition to the need for training, and improving the quality of science journalism in South Africa, participants suggested that science journalism be re-established as a specialist beat and that senior science reporters provide mentorship to younger journalists.

Study limitations

This study does not provide a comprehensive overview of the experiences of all journalists in the South African media industry. As mentioned in the section on research methodology and sampling, 20 interviews were conducted with South African science, health, and environmental reporters. Environmental reporters were included because there are few fulltime science journalists in the country. Finally, this study was undertaken in 2021, while the Covid-19 pandemic was ongoing. Thus, further research should be undertaken to provide a more complete picture of science journalists' experience of the pandemic.

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Ethical clearance

This study was approved by the Research Ethics Committee: Social Behavioural and Education Research (REC: SBE) at Stellenbosch University on 22 February 2021; Project title: Investigating the landscape of science journalism in South Africa; Project number 21638.