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Topic –

**Analysing Misinformation Coverage By Three Newspapers During the 2nd
Phase of Covid-19 Vaccination in South Africa: The *Daily Sun*, the *Daily
Maverick*, and the *Sowetan* from 7 May to 7 July 2021**

A research report submitted in partial fulfilment of requirement for the Masters of Arts degree in Journalism and Media Studies at the University of Witwatersrand in the Faculty of Humanities.

PLAGIARISM DECLARATION

I declare that this research report is my novel single-handed work. It has not been submitted at any other institution for a degree or examination. It is submitted in partial fulfilment of the requirements for the degree of Master of Journalism and Media Studies at the University of Witwatersrand in the Faculty of Humanities' Centre for Journalism. I further affirm that ethics authorisation and consent to carry out this research was obtained reference number **JOMS 2023/2**.



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ABSTRACT

As South Africa geared up for a mass vaccination programme to inoculate its citizens, with the public eager to return to normalcy after enduring varying degrees of lockdowns for over a year, the enigma surrounding the virus provided fertile ground for anti-vaccine groups to propagate misinformation consisting of misconceptions, myths, fake news and rumours. The mainstream media, wielding significant power and influence, played a pivotal role in disseminating information to enhance public health awareness during the pandemic before and after vaccines became available. This paper endeavours to assess how three national newspapers addressed the prevalent misinformation at the time. It does so by reviewing articles published 10 days before the phase two vaccination campaign commenced up to two months after the aforementioned commencement. The results indicate that one newspaper attempted to address the misinformation explicitly, another did so through subtle discourse whilst the last one remained resolute in its pro-vaccine stance and did not entertain the misinformation.

Keywords: agenda-setting, COVID-19, fake news, framing, misinformation, newspapers, vaccines

DEDICATION

This study is a heartfelt dedication to all those who supported and guided me through the challenges and joys of bringing this manuscript to life. I extend my deepest gratitude to my family, whose unwavering love and encouragement lifted me up, and to the cherished friends who remained steadfast by my side. Special thanks to my supervisor and boss for their enduring support and belief in me as I journeyed through the creation of this work. Your presence and encouragement have been the guiding light that helped me navigate through every step of this journey.

Table of Contents

PLAGIARISM DECLARATION.....	ii
ABSTRACT	iii
DEDICATION.....	iv
ACRONYMS AND ABBREVIATIONS.....	vii
1. INTRODUCTION.....	1
1.1. Introduction and background.....	1
1.2. Research problem.....	2
1.3. Research aims and questions.....	4
1.4. Rationale.....	5
1.5. Structure of the study.....	5
2. CHAPTER TWO: LITERATURE REVIEW.....	7
2.1. Introduction.....	7
2.2. Conceptualisation of misinformation.....	7
2.3. Misinformation during Covid-19.....	8
2.4. Pandemic communication tools.....	12
2.5. General overview of the media.....	13
2.6. State of South African print media before the pandemic.....	13
2.7. Conclusion.....	14
3. CHAPTER 3: THEORETICAL FRAMEWORK.....	16
3.1. Introduction.....	16
3.2. Agenda-setting theory.....	16
3.3. Traditional theoretical role of the media in agenda-setting.....	16
3.4. Framing and other relevant theories.....	17
3.5. Conclusion.....	18
4. CHAPTER 4: METHODOLOGY.....	21
4.1. Introduction.....	21
4.2. Summary of the three selected newspapers.....	21
4.3. Data collection method.....	23
4.4. Sampling.....	23
4.5. Ethical considerations.....	25
4.6. Conclusion.....	25
5. CHAPTER 5: DATA PRESENTATION AND INTERPRETATION.....	26
5.1. Introduction.....	26

5.2. The <i>Sowetan</i> 's coverage.....	26
5.2.1. Addressing misinformation in the article: "Fake news still drives negative thoughts, says health department"	30
5.2.2. Addressing misinformation in the article: "Here's why some people are sceptical about COVID-19 vaccines"	31
5.2.3. Addressing misinformation in the article: "Fear, fake news, registration process affecting vaccination of elderly: Kubayi-Ngubane"	32
5.3. The <i>Daily Maverick</i> 's coverage	33
5.3.1 Mitigating misinformation: A pro-vaccine stance reinforced through subtle discourse	36
5.4. The <i>Daily Sun</i>	38
5.4.1. Neglecting to address misinformation.....	44
5.5. Discussion on the <i>Daily Maverick</i> and <i>Daily Sun</i> 's "lack" of explicit mention of misinformation.....	46
6. CHAPTER 6: STUDY OVERVIEW AND RECOMMENDATIONS	51
6.1. Introduction.....	51
6.2. Findings and recommendations	51
6.3. Possible tools to help fight misinformation	54
6.4. Limitations and future research	56
CONCLUSION.....	55
List of all newspaper articles	57
SOWETAN	57
DAILY MAVERICK	58
DAILY SUN	59
REFERENCES	61

ACRONYMS AND ABBREVIATIONS

ANC – African National Congress

BCHJ – Bhekisisa Centre for Health Journalism

COVID-19 – Coronavirus disease of 2019

DA – Democratic Alliance

EFF – Economic Freedom Fighters

HIV/Aids - Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (AIDS)

SA – Republic of South Africa

WHO – World Health Organisation

1. INTRODUCTION

1.1. Introduction and background

The emergence of the COVID-19 (Covid-19) pandemic led to the abrupt interruption of everyday life since it was first detected in Wuhan, China, in December 2019 (WHO, 2019). Like many other countries, South Africa was not spared from the domino effect of the virus. It officially introduced national lockdowns in March 2020 in order to contain its spread. South Africa recorded the highest number of cases on the African continent (*Trading Economics*, April 2023) and was amongst one of the highest globally. As of the 20th of April 2023, the South African Coronavirus website reported that the country had recorded over 4 million infections with a little over 38 million vaccines administered. South Africa is known to be one of the most unequal countries in the world (World Bank, 2022) because of racial and socio-economic divisions. The country's demographic composition is predominantly individuals from the black ethnic group, a significant proportion of whom experience major socio-economic challenges, reside in impoverished conditions and face daily struggles to meet their basic needs. The Covid-19 pandemic exacerbated these already deep socio-economic divisions in South Africa, which manifested in food riots among the poor (mostly in townships and informal settlements) while wealthy and affluent citizens stocked up on food items (Habib, 2020). According to Madonsela (2020), the pandemic's impact on socially racialised injustices has been substantial, and most restrictions ultimately imposed a disproportionately higher burden on poor and historically disadvantaged communities than it did on wealthier communities. Those with resources and means of production could get by while the masses relied heavily on Covid-19 relief funds and food parcels from the government.

The lockdown limited movement of people, goods and services. Whilst the public was confined to their homes, political parties were divided on how the government should manage the pandemic and the resultant lockdown. The official national opposition party, the Democratic Alliance (DA), was concerned with saving the economy through the suspension of the lockdowns and wanted the re-opening of businesses, while the Economic Freedom Fighters (EFF) was concerned with the daily struggles of the marginalised people due to endless lockdowns which hindered income generation for households. The African National Congress (ANC), which is the ruling party, was dealing with several internal issues such as corruption, internal party conflicts, mass looting, national load shedding (interrupted electricity supply) and other challenges over and above managing the pandemic. Like many other countries in the world, South Africa experienced pressure and difficulty in managing Covid-19 and acquiring enough vaccines for its citizens. Dzinamarira et al. (2021) argued that South Africa, like other Sub-Saharan countries, experienced additional pressure to its already strained health system.

However, some countries managed to get through the dreadful period through preventative measures such as quarantines and lockdowns. The lockdowns came with unintended consequences, such as the widening of economic inequalities, mental health problems, and a sharp increase in gender-based violence (Dzinamarira et al., 2021). South Africa was not spared, it also experienced increased psycho-socio-economic phenomena.

On a positive note, South Africa became the first country in Africa to receive Covid-19 vaccines (Dzinamarira et al., 2021) once approved for human administration by the World Health Organisation (WHO). Cooper, et al., (2021) posited that the development of Covid-19 vaccines brought a new sense of optimism. The country started mass vaccination programmes in February 2021 (Moosa, 2021) with a three-phase approach. The first phase targeted the vaccination of healthcare workers and frontline workers. The second phase prioritised people older than 60 years, adults with comorbidities and those in congregated environments such as old age homes, prisons and mental health asylum centres. The third phase focused on the remaining adult population above the age of 18 (Cooper et al., 2021).

The primary focus of this study is the second phase of the vaccination programme, which comprises a large sector of the population. From the onset of the Covid-19 pandemic to the rollout of vaccines across the globe, a pertinent issue of misinformation was on the rise. Ahinkorah et al., observed that “misinformation related to the Covid-19 pandemic gained much popularity and amplified the threat facing humanity about the continuous spread of the virus regardless of one’s location” (2020, p.1).

1.2. Research problem

Misinformation about health-related issues may have dire consequences which can lead individuals taking risky decisions about their health due to a lack of resources and/or adequate knowledge or information. The WHO (2020) warned about an overabundance of information about the Covid-19 pandemic, an occurrence referred to as an “infodemic”. It used the term to refer to an abundance of unverified information circulating about the pandemic which was often misleading and even harmful. Mudenda (2021) argued that misinformation about the Covid-19 contributed to vaccine hesitancy. The increase of inaccurate content and information about the virus as well as the vaccines were more prevalent on social media platforms such as Facebook and Twitter (Friedman, 2021), thus creating room for vaccine hesitancy amongst people which ultimately had a negative impact on the number of people being vaccinated (Mudenda, 2021).

The sources of health and vaccine-related information play a critical role in the choices people make about vaccination. Current research points to an information overload, misinformation, and myths on the internet and social media platforms as potential threats to vaccine uptake (Mudenda, 2021). Scheufele and Tewksbury's three models of political communication concepts revealed that audiences' processing of mass media messages is determined by their predispositions, schema and other character attributes (2007). There was a lot of uncertainty during the pandemic and this influenced how information was consumed.

A study by Roldan de Jong (2021, p.1) emphasises the importance of understanding how individuals and populations perceive and comprehend Covid-19 vaccines. This comprehension is crucial for shaping effective risk communication, community engagement strategies, and interventions to promote vaccine acceptance and adherence to preventive measures against Covid-19. The news media can also be a link between health professionals and the public, thus encouraging behaviours to limit the spread of the virus (Wasserman et al., 2021) and the efficacy of the vaccines. The role played by the media to educate and inform the public about the virus from its inception has been intense, thus the coverage of vaccination is significant in this regard. One would ask whether the newspaper reports were subjective in their reporting of news about vaccines, and/or if they presented factual information to curb spread of misinformation about vaccines.

Humans learn about the world by cooperatively attaining information, filtering it, and sharing what they know (West et.al, 2020). These scholars assert that misinformation undermines collective sense-making and hampers collective action. Mian and Khan (2020) on the other hand, have observed that the spread of misinformation has drowned out the trustworthy sources of information. This is why it is important to examine the role played by the mainstream media in combatting misinformation. It is crucial to investigate the role the mainstream media played in addressing misinformation to determine its contribution to the population attaining herd immunity during the second phase of the Covid-19 vaccination campaign in South Africa.

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19 contributed to vaccine hesitancy. The increase of inaccurate content and information about the virus, as well as the vaccines, were more prevalent on social media platforms such as Facebook and Twitter (Friedman, 2021), thus creating room for vaccine hesitancy amongst people, which ultimately had a negative impact on the number of people being vaccinated (Mudenda, 2021).

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1.4. Research aims and questions

This research aims to examine the agenda-setting function of mainstream media during the pandemic, specifically focusing on three newspapers— the *Daily Maverick*, the *Daily Sun*, and

the *Sowetan*. The study covers the period from the 7th of May, 2021, to the 7th of July, 2021, spanning a few weeks before and after the initiation of the second phase of vaccination. The primary objective is to assess how the media approached its role in mitigating misinformation related to Covid-19 vaccines during this critical period. The significance of selecting these dates is that they fall within a period where the hype or agenda about Covid-19 vaccines was starting to gain momentum. While people were sceptical about the vaccines, misinformation was heightened during this period. The announced date for the second phase of vaccination was the 17th of May 2021, aimed at people over 60, people with comorbidities, essential workers and those in congregated settings such as prisons, homeless shelters and old age homes. The study's main aim is to examine the role (if any) played by the selected newspapers in setting an agenda to curb the spread of misinformation about Covid-19 vaccination. The study aims to answer the following research questions:

- How did the *Daily Maverick*, the *Daily Sun* and the *Sowetan* newspapers report news of the second phase of vaccination in South Africa to combat misinformation and inaccuracies?
- Did these newspapers attempt to dispel any misinformation? Which elements of misinformation did the three selected newspapers identify in their coverage of the second phase of the Covid-19 vaccination period, and how did they address it?

1.5. Rationale

The proposed research highlights the pivotal function of the media in disseminating accurate and verified information concerning vaccines during the vaccination phase. While acknowledging the shared responsibility among various stakeholders, including government officials, societal leaders and scientists, it accentuates the media's collaborative role with these entities. This collaborative endeavour is essential to mitigate confusion and counter the potential impact of misinformation. Notably, existing scholarly enquiries have predominantly concentrated on the media's framing of the Covid-19 pandemic, with limited attention given to the framing of news pertaining to Covid-19 vaccination. Hence, this study endeavours to address this gap by offering valuable insights into agenda-setting and framing practices within the realm of print media during a designated vaccination period in South Africa.

1.5. Structure of the study

The structure of the study consists of six sections or chapters. The **first section** consists of the study's introduction and background, research problem, aim and objectives, research justification and delimitations. The **second section** provides a review of the relevant literature on the interpretation of the concept of misinformation in general as well as during Covid-19; a general overview of the media; the state of South African media; and lastly, Covid-19 vaccine

hesitancy and acceptability in South Africa. The **third section** outlines the theoretical framework which focuses on the agenda-setting and media framing theories and their application to the study. The **fourth section** discusses the methodology adopted, which includes qualitative content analysis, data collection, purposive sampling, data analysis, and ethical considerations. The **fifth section** provides data presentation, findings and interpretation. The **final section** outlines the concluding overview of the study and the recommendations for further research.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This section of the study will encapsulate a review of literature on misinformation, and a general overview of the mainstream media in South Africa. Lastly, vaccine hesitancy and acceptability in South Africa will be explained.

The chapter is structured into five distinct sections. The initial section is dedicated to a comprehensive examination of the concept of misinformation and its prevailing interpretations. In section two, the segment expounds upon the prevalent thematic elements associated with misinformation. Section three offers a comprehensive overview of the contemporary mainstream media landscape. In section four, the chapter delineates the status of the South African media during the pandemic, particularly in the context of its historical legacy and its adaptation to democratic political dispensation. Lastly, part five conducts an evaluative exploration of the historical backdrop of vaccines and delves into the South African populace's reception of the Covid-19 vaccine.

2.2. Conceptualisation of misinformation

Guess and Lyons (2020, p.10) state that misinformation is "a claim that contradicts or distorts common understandings of verifiable facts. Misinformation can be actively transmitted with the intention to deceive." Ahinkorah et al., (2020) define misinformation as "any claim of fact that is currently false due to lack of scientific evidence." Cook et al. (2015) argue that much research has explored how misinformation originates and propagates through society and what its effects are at a societal level, not an individual level. In addition, Cook et al. (2015) postulate that misinformation is impervious to correction. Misinformation and false beliefs continue to influence people's reasoning and judgments (Cook et al., 2015, p. 2).

Misinformation and disinformation are used in contrast with one another. UNESCO (2018, no page number) described the distinction between the different forms of inaccurate information as follows: (a) misinformation as information that is false but created with the intention of causing harm; (b) disinformation as information that is false and deliberately created to harm a person, social group, organisation or country; and (c) mal-information as information that is based on reality, used to inflict harm on a person, social group, organisation or country.

The digital technology era has led to people utilising more digital tools and networks such as social media to access information at the palm of their hands, thus this has led to people relying on social media as an alternative source of information over mainstream media.

Humprecht et al., (2021) argue that distrust in the media increases motivation to use alternative sources, which are more likely to publish misinformation, thus increasing people's exposure to misinformation and decreasing resilience. The nature of a social media platform such as X (formerly known as Twitter), for example, is that they draw and attract the user's attention to "trending" topics regardless of their interests. According to Ren et al. (2022), once attention is triggered, people will seek further information reported professionally in traditional media, but this is not always the case. Traditional media does not always have first-hand information, and sometimes their frames can be in contrast with what is trending on social media.

Boulianne et al. (2022) suggest that using social media for news increases exposure to and sharing misinformation. Several factors, such as time, accessibility and/or affordability of owning a television set, can be exacerbated by using alternative sources of information. Some scholars, such as Anspach and Carlson (2020); Shin and Thorson (2017), Valenzuela et al. (2021), and Humprecht et al. (2020), argue that exposure to misinformation needs to be considered in conjunction with what people do when they encounter it, such as whether they believe false claims and share them with others.

In fighting misinformation during the COVID-19 pandemic, and more especially during the mass vaccination programme, the first step is to understand that misinformation is a multidisciplinary subject where cultural principles, individual reasoning, societal developments, developing technology, and evolving media all come into play (Cook et al., 2015).

Employing frameworks such as the backfire effect from scholars Peter and Koch (2016) and scrutinising the relational dynamics within mainstream media will significantly facilitate the comprehension not just of how misinformation is propagated, but also of its constituent components. The backfire effect pertains to the phenomenon wherein efforts to correct misinformation may inadvertently result in individuals recalling the erroneous information as accurate, thus leading to a reversal of the intended corrective outcome. In addition, Wilce's investigation into the behavioural patterns between broadsheets and tabloids will be utilised to assess any similarities in how the three newspapers covered misinformation.

2.3. Misinformation during Covid-19

In this section, the research will delve into some of the prevalent themes of misinformation such as the global infodemic that accompanied the virus; conspiracy theories and myths;

socio-demographics factors as well as language and literacy levels on science communication. The morbidity and mortality of Covid-19 was compounded by the parallel internet misinformation from the onset of the pandemic. Fear and desperation prevailed as in the 1918 influenza pandemic, but with the added swiftness of rumour propagation by social media (Love et al., 2020).

It is important to note that this research paper focuses on misinformation as opposed to its relative, disinformation. While both terms revolve around the dissemination of inaccurate information, the distinction lies in the absence of malice in the former and the deliberate intent to deceive in the latter. This choice is informed by the perspective of Evanega et al. (2020), who predominantly considers misinformation as a phenomenon associated with social media.

Since the onset of the pandemic, as nations globally grappled with surges in infection rates, there was a heightened demand for information on the origins of the virus, including how to treat and manage it. However, owing to the unique nature of the virus, verified content in mainstream media was limited. Consequently, individuals shared their personal experiences, observations and interpretations of Covid-19 on various social media platforms, resulting in a proliferation of unverified claims (Metcalf et al., 2020). These unverified claims are regarded as misinformation.

Misinformation is understood to refer to misleading information that is spread, shared, or disseminated, often unintentionally, through various channels such as social media, news outlets, word of mouth, or online platforms. It involves the dissemination of incorrect facts, misleading narratives, or fabricated stories that can mislead or deceive individuals or the public. Wu, Morstatter, Carley, and Liu, (2019) define misinformation as “false or inaccurate information that is deliberately created and is intentionally or unintentionally propagated.”

Misinformation can be created and shared due to various reasons, including misunderstanding, lack of knowledge, biased perspectives, or deliberate efforts to manipulate public opinion. It can have significant consequences, impacting people's beliefs, behaviour and decision-making. It can also contribute to the erosion of trust in reliable sources of information.

Misinformation exhibits a multifaceted nature, comprising a spectrum of an overabundance of false information, myths, conspiracy theories, rumours and inaccuracies disseminated in the public domain.

The first category of misinformation is the overabundance of both accurate and inaccurate information also known as the “infodemic.” The term was coined by the World Health

Organisation (WHO). Patel et al. (2020) assert that the infodemic contributed to widespread confusion, panic and anxiety. An infodemic often includes misinformation, rumours and unverified claims that spread rapidly through various communication channels, making it challenging for individuals to access reliable and trustworthy information. This unverified and unregulated information posed a substantial risk, hindering the acceptance and execution of strategies and tactics designed to manage the pandemic (Patel et al., 2020, p. 189).

The second category of misinformation pertains to myths. Myths concerning diverse infectious diseases and their corresponding vaccines have endured across historical contexts, demanding ongoing endeavours to refute them through evidence-driven methodologies (Sahoo et al., 2020). According to Mudenda (2021) myths surrounding Covid-19 and the vaccines significantly contributed to people's hesitancy to get vaccinated (2021).

Thirdly is the prevalence of conspiracy theories. Similar to myths, conspiracy theories have deep roots in society and they also pervaded social media during the period under review. Notably, conspiracy theories associated with the pandemic, a significant aspect of vaccine misinformation, were left unaddressed by mainstream media, scientists and government officials from the outset.

The media had a crucial role in countering various conspiracy theories and disinformation related to the pandemic (Wasserman et al., 2021). Additionally, Covid-19 misinformation proliferated extensively through social media. Shin and Thorson (2017) observed that social media serves as the primary amplifier of misinformation. Hence, this study cannot disregard the significant role and influence of social media and the internet (specifically, the World Wide Web) in thoroughly examining the propagation of misinformation.

Fortunately, the prevalence of conspiracy theories is not confined to South Africa. A study conducted by Enders et al. (2020, p.5) in the United States of America revealed that some conspiracy theorists labelled Covid-19 as a "bioweapon," alleging a plot to "force a dangerous and unnecessary vaccine on Americans." Additionally, a substantial number of respondents in the study subscribed to beliefs that vaccines were a tactic to "install tracking devices inside our bodies." Notably, the then United States president, Donald Trump, openly expressed anti-vaccine sentiments and utilised his social media platforms to convey his views on vaccines. Conspiracy theories have existed prior to the advent of social media; for instance, the death of Princess Diana of Wales in the early 1990s was surrounded by conspiracies, including a prevalent theory suggesting she was assassinated by a covert group rather than dying in a car accident as reported in mainstream media. The contemporary difference lies in the digital era we inhabit, marked by the incessant sharing of content, exposing us to a plethora of information compared to those who lived in the 1990s.

The digital era has witnessed a surge in conspiracy theories on social media, particularly concerning the origins of the coronavirus and vaccines. However, misinformation is not exclusively propagated through the internet and social media platforms. Mudenda (2021), suggests that socio-demographics, gender and marital status have also been reported to affect the acceptability of Covid-19 vaccines. This was in addition to the lack of information about the actual Covid-19 vaccines which was also a contributing factor to vaccine hesitancy (Mudenda, 2021, p.1000). A recent example is seen in Mian and Khan (2020) who argue that during the early years of HIV epidemic, misinformation was widespread. Moreover, it was plagued by conspiracy theories, rumours, and misinformation for many years, with the effect still visible in some regions to this day. One of the key historical events was the rejection of scientific evidence surrounding the effectiveness of HIV medication by former South African President Thabo Mbeki's administration, which fuelled HIV denialism in the early 2000s (Mian and Khan, 2020). Mudenda (2021) further argues that political leaders can deteriorate vaccine misinformation, preventing many citizens from receiving the vaccine.

Amidst the proliferation of misinformation on the internet, efforts were made to counteract this trend. One key strategy adopted by the South African government involved the utilisation of language as a strategic tool to effectively communicate essential information, thereby preventing it from being overshadowed by the prevailing wave of misinformation wave. In South Africa, health information and scientific terminology are commonly crafted in English and subsequently translated into other languages to accommodate speakers of various indigenous languages mainly for academic purposes. During the vaccination period, English emerged as the predominant language in communication materials. Rudwick et al. (2021) underscored the pivotal role of language in disseminating Covid-19-related information, particularly concerning vaccination efforts aimed at achieving herd immunity.

Despite its inherent complexity, the pandemic provided an opportunity for science to reach a broader audience, a significant achievement as its visibility increased in the public domain. This increased visibility necessitated the simplification of scientific concepts to make them accessible to as many people as possible, facilitating the communication and comprehension of scientific information for public consumption (West and Bergstrom, 2020). Despite the predominance of English in the selected newspapers, the educational background of their readership remains a crucial factor, influencing how information is packaged, received and understood. Additionally, the targeted readership of each newspaper plays a role in shaping journalists' language choices and writing styles. This dynamic influences the agenda-setting process and predisposes each newspaper to adopt particular frames. For instance, the *Daily Sun* may opt for oversimplified information, contrasting with the more educated readership of the *Daily Maverick*.

Rudwick et al. (2021: 243) state that even though “English is widely accepted as a common lingua franca in South Africa, it excludes others who are not proficient in the language.” Nevertheless, the South African government was compelled to guarantee the dissemination of messages and information related to the Covid-19 pandemic and the vaccination process in all official languages. This practice was evident during the broadcast of updates, where ministers would initially deliver their speeches in English and promptly transition to their respective vernacular languages. However, not all South African vernacular languages are printed in mainstream media.

Though the spread of misinformation has been studied in journalism, the accessibility and anonymity of social networking platforms has highlighted the breakneck speed that these untruths can rapidly circulate globally, which brings about unprecedented challenges. The mainstream media needs to at least match this speed by actively spreading accurate reliable information or at least find experts faces and voices to curb misinformation or use any other pandemic communication tools.

This researcher will evaluate all three newspapers’ utilisation of pandemic communication or any other tactics or tools in order to allay fears and/or to combat misinformation.

2.4 Pandemic communication tools

Pandemics and other significant disease outbreaks transcend the realm of public health crises, encompassing intricate dimensions of politics, sociology, and economics (Abraham, 2017). In 2005, the World Health Organization (WHO) published the Outbreak Communication Guidelines with the primary objective of furnishing the general populace, including media practitioners, with a comprehensive set of instruments designed to facilitate the implementation of efficacious communication strategies in the event of pandemics and other serious disease outbreaks.

Some of the main concerns that were raised about the toolkit was the necessity for a vaccine and vaccination safety communication; the need for continued vigilance as well as questions about the quality of the public health response, accountability, costs and other long-term effects associated with pandemics (Abraham 2017, p.2). There had been no evidence of these concerns being addressed at the time of this research. Another criticism was the lack of support for human behavioural change which indicated an inadequate system for long-term participatory health communication principles for global disease outbreaks.

The Covid-19 pandemic was not the first such global major outbreak since the dawn of the internet unlike other preceding diseases such as the Spanish Flu (1918-20) and the HIV/Aids epidemic when it was first detected in the early 1980s. Although there have been other variants of the coronavirus, none was as lethal as the C-19. Wasserman et. al (2021, p.335) posit that the first coronavirus, called the Severe Acute Respiratory Syndrome (SARS-CoV) was detected in 2003 and it was followed by the Middle East Respiratory Syndrome (MERS-CoV) in 2012. During the Covid-19 pandemic the internet added a whole new dynamic to pandemic communication which nobody could have anticipated.

2.5. General overview of the media

Mainstream media is a vital component of society and exerts influence over societal perspectives and perceptions. Serving as a gateway to external realities, it offers platforms for societal discourse on pertinent issues and facilitates informed decision-making. This medium serves as a window through which collective knowledge is acquired, even in times of crisis, enabling a better comprehension of the world (West and Bergstrom, 2020, p.1). The central role played by the media during a crisis has been regarded as fundamental (Wasserman et al., 2021). During a public health crisis, experts (in this case medical professionals and scientists) are needed to clarify intricate matters and contextualise news for the media consumers (Joubert, et al., (2022). Furthermore, Joubert et al. (2022, p.1) assert that journalists must depend on experts to provide insights, enhance credibility and augment the news value of science-related mass media coverage. Expert sources are considered indispensable contributors to journalistic practice and the production of news, particularly in the realm of specialised scientific topics.

For the media, Covid-19 pandemic has been an era like no other in the coverage of health emergencies and crises. Moreover, the media played the principal role of delivering and being the key source of health information for the public good (Wasserman et al., 2021: 334). Media provides a rich archive that we can investigate to better understand how science is communicated and debated, and how media stories are amplified through various social media channels (Metcalf et. al., 2020). On the other hand, Pearman (2021) is of the view that the media represent an important bridge between science and society, as citizens turn to mass media to inform and shape their attitudes, perspective and behaviours. Moreover, the media functions as an important interpreter, from the formal spaces of science to the informal spaces of everyday life (Pearman, 2021).

2.6. State of South African print media before the pandemic

Historically, the South African media operated under direct control of the apartheid regime, functioning as a tool for propagating its agenda. During this period, media messages and content were carefully framed to align with a particular narrative favoured by the previous government. Cowling and Mwale (2020, p.67) contend that the media's historical association with the apartheid government and businesses benefiting from it continues to impact its credibility. This influence persists today, with a tendency to side-line the concerns of marginalised and economically disadvantaged communities. The disparity in the coverage of Covid-19 stories between elite and marginalised populations is influenced by this historical backdrop. Understanding this historical context is crucial for the present study, as it delineates the operating environment of mainstream media prior to the Covid-19 era.

In the preceding decades, South Africa's print media landscape has confronted a formidable economic downturn, leading to the cessation of operations of several newspapers and magazines, and prompting a gradual transition towards digital platforms as a means of sustainability. Hadland (2007) contends that the decline in South Africa's print media commenced after the democratic elections of 1994. The decline in South Africa's print media, as observed by Hadland (2007, p.11), was widespread and affected various publications, including both daily and weekly newspapers. Notably, the *Cape Argus* experienced a substantial drop of nearly 20% in readership from mid-1994 to the end of 1995. Similarly, Durban's *Daily News* witnessed a decrease of its daily circulation figures from just under 100,000 in the first half of 1993 to 75,960 in the last six months of 1995. In Johannesburg, *The Star* saw a decline from 216,684 in January to June 1993 to 165,171 in the latter half of 1995.

According to Kolbe (2005) newsrooms also faced challenges after the first democratic elections in 1994. There was considerable uncertainty due to the fact that large sections of the South African print media were deeply entrenched in the machinery of apartheid. Kolbe (2005, p.3) highlighted the pervasive racism in many newsrooms, which necessitated a comprehensive restructuring of resources to promote equitable distribution. At the very least, there was a moral obligation for the mainstream media to actively participate in the transformation process, similar to the obligation imposed on all sectors of South African industries and trades to adhere to Black Economic Empowerment objectives.

Publications such as the *Sowetan*, initially established as a liberation struggle newspaper, underwent challenges despite its historical significance. Since 1994, it has undergone multiple changes in ownership, transitioning from New African Investments Limited to Times Media Group, then to Avusa, and currently belonging to Arena Holdings (formerly Tiso Blackstar Group). The *Daily Maverick*, the youngest publication in this study, was founded in 2009 as an online daily newspaper and officially only became a weekly publication in 2020. It

emphasises its status as an independently owned, private company with no affiliations to other media groups, political parties, or religious organisations, according to its website. The *Daily Maverick* and the *Sowetan*, both of which operate as broadsheets, have navigated the challenges posed by declining print sales by establishing robust digital presences to complement their traditional print offerings.

Conversely, the *Daily Sun*, South Africa's first tabloid, was launched in 2002 by Media24, a division of the Naspers group. It was conceptualised by veteran journalist Deon du Plessis, who served as its publisher and minority shareholder until his passing in 2011. Tabloids, including the *Daily Sun*, have historically been scrutinised for their perceived impact on democratic values and the perceived superficial treatment of significant news (Bosch and Wasserman, 2023). However, this is not unique to South Africa or the *Daily Sun*. Sparks (2000) notes that tabloid newspapers often face criticism for compromising journalistic standards, prioritising sensationalism over substance, and steering readers away from serious news toward entertainment, potentially sacrificing ethical values. Analysing the role of the *Daily Sun* in addressing misinformation is crucial for this study, considering the unique challenges faced by tabloid publications during strict lockdowns, where public gatherings and events were prohibited, necessitating adaptive survival strategies.

2.7. Conclusion

The literature review delved into pivotal concepts central to the study, with a primary focus on misinformation, particularly its prevalence during the Covid-19 pandemic. The discussion encompasses the role of language in both communicating and addressing the issue of misinformation. Additionally, an exploration of misinformation during the Covid-19 era contributes to an examination of the media's role in this context. A comprehensive overview of the media landscape, both globally and specifically in South Africa during the pandemic, provides a high-level understanding of the prevailing circumstances at the onset of the Covid-19 outbreak.

3. CHAPTER 3: THEORETICAL FRAMEWORK

3.1. Introduction

This section of the study interprets two interconnected theories: agenda-setting and media framing. The study's aim is to provide an analysis of the three selected newspapers in setting an agenda (either positive, negative or neutral) in the news during the second phase of Covid-19 vaccination in order to curb misinformation about vaccines. The agenda-setting theory forms the basis of the proposed research project supported by other interlinked concepts such as framing and priming.

3.2. Agenda-setting theory

Scheufele and Tewksbury (2007) define agenda-setting theory as an idea with a strong correlation between the emphasis that mass media places on certain issues that is based on placement and/or the amount of coverage. This theory is enlarged by one of the founding fathers of agenda-setting theory, Maxwell McCombs, who states that the agenda-setting role of the media is multi-dimensional; it does not only end on emphasis of the messages but also influences the audiences' "understanding and perspective" on the news topic (McCombs and Valenzuela, 2007, p. 45). In the South African context, scholars Cowling and Hamilton (2011) emphasised agenda-setting theory's focus on ways in which news media can set the agenda for public discussion. Weiss (1989) on the other hand, refers to agenda-setting as the process by which some problems come to public attention at given times and places.

The agenda-setting theory plays a crucial role in evaluating how information is crafted for public consumption (Drery, 2000). This crafting involves two pivotal elements that underscore the media's influence: prominence and repetition. The initial enquiry is whether the media endeavoured to address vaccine-related misinformation or public concerns. Subsequently, the analysis will scrutinise the methods employed, considering factors such as the frequency of vaccine-related stories, the persistent coverage of specific issues over time, and the positioning of articles within the newspaper, including their placement on the front page. In the study's context, newspapers would set a vaccine-related agenda by allocating more attention to vaccine stories, aiming either to bolster or diminish vaccine hesitancy. Conversely, if a publication did not address misinformation, the research will explore the emphasised topics.

The mainstream media shapes the agenda by giving prominence and significance to specific topics and actors (Metcalf et al., 2020). Cowling and Mwale (2020, p.68) question why information on certain issues is disseminated to the public while other topics remain undisclosed. This phenomenon is apparent in how information about the virus was not initially fully disclosed to the public, leading to the emergence of various conspiracies about the virus and later, the vaccines. It is important to note that the media cannot be faulted for a lack of

comprehensive information about the virus, as such information was not initially made available for public consumption.

Cowling and Hamilton (2011, p.49) argue that agenda-setting also examines how the media agenda is set and by whom. Many agenda-setting studies demonstrated how a combination of news events and/or lobbying by individuals or groups can push an issue onto the media agenda and keep it there for public attention. In this instance, the editorial team of the newspaper selects stories that make news or goes into the publication. Certain factors are taken into consideration when such decisions are made. As the Covid-19 pandemic and vaccination drive were dominating the discourse at the time, the editorial team would look for stories that have an impact and are able to set an agenda, thus increasing readership.

Lastly, it is also critical not to ignore the partial role social media plays in setting the agenda which can also influence that of traditional media. In the digital era, social media platforms have played a prominent role by first, “breaking the news” and setting conversations for public discussion. McCombs et al. (2014) state that some of the messages that define the social media agenda emanate from citizens’ longstanding and often passionate-interest in particular issues. They are referred to as “hot button issues” such as abortion, gay marriages, crime and other popular issue. Most of the time, news organisations monitor conversations with the result that high levels of social media activity sometimes prompt continuing news coverage (Messner and Garrison, 2011; Wallsten cited in McCombs et al., 2014).

3.3. Traditional theoretical role of the media in agenda-setting

In contrast to earlier historical outbreaks, the Covid-19 pandemic encountered the dual influence of the internet and social media. Negotiating these new technological landscapes, mainstream media faced the challenge of disseminating information and raising awareness about a novel virus that had precipitated a global economic standstill. The internet has granted the public access to diverse sources of information, enabling individuals with smart devices to retrieve information globally and at their convenience. During the period spanning 2020 to early 2021, there was a plethora of unverified scientific information available to the public regarding the origins of the pandemic. Various narratives, emanating from social media, websites, blogs, YouTube channels, and scientists representing different perspectives, proliferated, shaping beliefs about the virus's causation. By the time vaccines were ready for public distribution, a prevailing negative narrative had already emerged. This narrative contributed to the perceptions that linked the pandemic's severity to the influence of the pharmaceutical industry (Abraham, 2017, p.2) and led to a host of conspiracy theories and myths.

The mainstream media has always been scrutinised for its role on having some sort of influence on the public discourse. Scholars have used the agenda-setting theory to analyse how the media sets the tone in the public for political communication research by analysing coverage of electioneering. The theory has also been used by Dearing, et al. (1996) to analyse the media coverage of the HIV/Aids from 1981 to 1987 among other topics.

According to McCombs (2002) the news media not only serves as a conduit for imparting factual information on public affairs to the audience, but also plays a significant role in shaping perceptions of the importance attributed to various topics. Newspapers, through elements such as lead stories on the front page, prominent display, and large headlines, offer cues regarding the salience of daily news topics. Similarly, television news employs cues such as the opening story and the duration dedicated to it to signal the importance of specific issues. The consistent repetition of these cues on a daily basis effectively establishes the agenda for public attention, influencing the formation of public opinion around a limited set of issues. Although McCombs' research was based on election campaigns, most of the principles can be applied to the vaccination topic as they involve mainstream media and mass participation.

However, Wasserman (2021, p.335) noted how historically the mainstream media was accused of being alarmist during disease outbreaks. Abraham (2017, p.3-4) also observed that the media tended to want to attribute blame to "someone" by approaching news from risk and restitution angles as opposed to more solutions-focused angles.

3.4. Framing and other relevant theories

Boykoff (2006, p.204) defines "a frame as interpretive representations that simplifies and condenses the world out there by selectively punctuating and encoding objects, situations, events, experiences, and sequences of actions within one's present and past environment". Entman (2007), on the other hand, defines framing as "the process of omitting several fundamentals of perceived reality and accumulating a story that emphasises connections among them to endorse a certain understanding". Chong and Druckman (2007) describe framing as "the process by which people develop a particular conceptualisation of an issue or reorient their thinking about an issue". McCombs and Valenzuela (2007, p.47) define a media frame as a central organising idea for news content that supplies a context and suggests what the issue is through the use of selection, emphasis, exclusion and elaboration.

In short, media framing assumes that how an issue is characterised in news reports can influence how it is understood by the audiences (Scheufele and Tewksbury, 2007). For journalists, framing is a necessary tool to reduce the ambiguity of an issue, given the constraints of their respective media related to news holes and airtime (Scheufele and

Tewksbury, 2007). Chong and Druckman (2007, p.104) suggest that the major idea of framing theory is that an issue can be viewed from a variety of perspectives and can be construed as having implications for multiple values or considerations. In addition, De Vreese (2005) concedes that the consequences of framing can be conceived on the individual and the societal level. This means that at the individual level, consequences may alter attitudes about an issue based on exposure to certain frames. At the societal level, frames contribute to shaping social level processes such as political socialisation, decision-making and collective actions (De Vreese, 2005). Moreover, Wasserman et al. (2021) is of the view that media frames can play a key role in shaping the public's understanding and behaviours. In the context of COVID-19, this has led to conspiracy theories in the media, in particular social media, about the virus and the vaccine side effects.

Obtaining information from official sources such as scientists and government officials forms part of framing theory as it provides credence. Government officials and scientists can shed light on the efficacy and accessibility of the vaccines and provide the basic information people can use to make an informed decision about whether to vaccinate or not. Elected leaders and prominent members of the public's opinions about vaccines are also crucial, as they have a significant influence on citizens. For example, former President Donald Trump was very vocal about being anti-vaccine and he was consequently blamed for the slow vaccination rate in the United States of America. The print media frames news content using text in the form of language, headlines, pictorial interpretations, tone of the author, choice of quotes and other several factors that have an impact in getting the reader's attention. How that information is packaged and presented is also crucial.

Another related theory is priming, which Iyengar and Kinder (1987) (found in Scheufele and Tewksbury (2007: 11) define as "changes in the standards that people use to make political evaluations". With its roots more firmly in psychology than the previous two concepts, priming is the final bridge in agenda-setting theory as it claims that issue-salience can influence people's judgements and final decisions. Another psychological theory to be employed in this study is the backfire effect. The backfire effect, as investigated by Peter and Koch (2020, p.5), refers to the phenomenon wherein attempts to rectify misinformation may inadvertently lead individuals to recall the erroneous information as accurate. This unintended consequence can result in a reversal of the intended corrective outcome.

Finally, the research will investigate the relationship dynamics between broadsheets and tabloids, as explored by Wilce (2020). Wilce's study observed that tabloids and rival broadsheets tend to allocate more attention to misinformation during amplifying events. This

heightened focus is attributed to increased competition among news media outlets for news coverage (2020, p.3).

3.5. Conclusion

This section of the study highlighted two interconnected theoretical foundations that fortify the research conducted. Agenda-setting and media framing are two theories that help to analyse the extent to which South African newspapers curbed the spread of misinformation during the second phase of COVID-19 vaccination period. The two interconnected theories will be used to analyse media text in the articles collected from the three selected newspapers. The chapter that follows unpacks the methodology employed.

4. CHAPTER 4: METHODOLOGY

4.1. Introduction

This section of the study outlines the methodological approach utilised and provides an overview of the three selected South African newspapers. The research incorporates a qualitative content analysis of news coverage within the *Daily Maverick*, *Daily Sun* and the *Sowetan* newspapers during the second phase of the Covid-19 vaccination period. A non-probabilistic, purposive sampling method was employed, focusing on the selection of news articles related to the second phase of Covid-19 vaccination from the aforementioned newspapers. Furthermore, the study expounds upon the data analysis strategy, the study's limitations, and the ethical considerations.

The temporal scope of the news covered by the three selected newspapers spans from the 7th of May 2021 to the 7th of July 2021, encompassing a 60-day period inclusive of news stories pertaining to the 10 days preceding the commencement of the second phase of vaccination, the inaugural day of vaccination on the 17th of May 2021, and the ensuing weeks. This timeframe was selected with the aim of comprehensively assessing how the media framed the discourse before, during, and after the second phase of vaccination roll-out. The salience of the second phase of vaccination lies in its character as the inception of a large-scale vaccination initiative targeting vulnerable populations and essential workers, in contrast to the initial phase, designated as the "Sisonke" program, which exclusively targeted healthcare workers and was neither obligatory nor extended to the general populace.

The examination of linguistic utilisation and the selection of narrative voices constitute an intriguing facet warranting investigation. The three newspapers employ distinct writing styles, tailored to the specific demographics they serve. The incorporation of quotations sourced from official figures, including government officials and subject matter authorities, imparts a distinct tonal quality to the news reportage, in contrast to content originating from unofficial channels.

4.2. Summary of the three selected newspapers

The *Daily Maverick* newspaper is a daily publication that is primarily accessible online but also available weekly as a physical copy in selected stores. The newspaper was founded by Branko Brkic in 31 October 2009. The publication is a combination of news, investigations, analysis, and opinion pieces (Daily Maverick, 2012). The publication's priorities are in both in-depth investigative reporting (weekend edition) as well as daily political, entertainment, and sports news. By focusing on feature-length journalism, the *Daily Maverick* filled the void of quality journalism to be found online (Daily Maverick, 2012). *Daily Maverick's* success as a publication has been to provide exclusive, quality journalism on a consistent basis (Daily Maverick, 2012). Its dominance is online with over 10 million unique browsers, 11.8 million visits and 13 million

page-views per month. The newspaper also has a circulation of around 10 000 copies [per week].

The *Daily Sun* newspaper is a tabloid daily publication launched in 2002 by Media24, a division of Naspers group. The *Daily Sun*'s target audience are predominantly black residing in and around major urban centres. Moreover, the *Daily Sun* is available in all nine South African provinces. According to Wasserman and Galitz (n.d), the *Daily Sun* took the newspaper market by storm ever since its inception. Bosch and Wasserman (2023) suggests that the *Daily Sun* established a mass readership of poor, black working-class readers and gave a voice to a large part of the South African population that remained disadvantaged in the post-apartheid mediated public space. Moreover, the newspaper's success has led to the launch of a number of new tabloids in South Africa. Newspapers such as *Daily Voice*, *Son* and *Sunday Sun* just to mention a few, are some of the tabloids that have also entered the print media space after the *Daily Sun*. It did not have an official online news footprint until late 2022. According to Ads24, the *Daily Sun* has a readership of 1.21 million that is mostly from the working to lower middle class.

The *Sowetan* newspaper was established in 1981 by the Argus Printing and Publishing Company and was a successor to the *Post Transvaal*, a black-readership newspaper that was closed down by the South Africa government during apartheid (Cowling, 2014). A group of journalists strengthened by legendary editors such as Aggrey Klaaste and Percy Qoboza founded the English language *Sowetan* newspaper, and set it out to cover stories of the liberation struggle as these were not previously covered by other newspapers. During its prime, it covered political issues and news, and sought to engage communities in nation-building actions and initiatives post the 1994 democratic elections (Cowling, 2014). Today, the newspaper is owned by Arena Holdings and also boasts an online edition called *SowetanLIVE* which continues to cover news stories throughout all the provinces. The newspaper has around 1.5 million readers per month and is one of the largest online news publications in South Africa.

The three newspapers under examination boast extensive national and regional circulation, catering to diverse socio-economic strata. The *Daily Sun* caters to an urban and rural audience within LSM 5 to 7, characterised by individuals with high school education and monthly salaries ranging from R4,165 to R11,263. The *Sowetan*'s audience falls within the middle LSM, while the *Daily Maverick* targets high-net-worth individuals in the LSM 7-10 range. Although one might anticipate the *Daily Sun* to prioritise socio-economic factors associated with the vaccination campaign, it is noteworthy that the *Sowetan* took the lead in highlighting this narrative.

The selection of these three newspapers was deliberate due to their distinct audiences and the unique perspectives they provide, allowing for a comprehensive analysis of how misinformation was addressed across different segments of South African society. Assessing the content disseminated to different segments of society is essential for understanding the influence of media on public perception and behaviour, particularly during health crises. Media outlets target distinct audiences with unique socio-economic and cultural contexts, affecting information access and quality. Analysing this content highlights disparities and helps identify the impact of misinformation. This understanding enables the development of targeted interventions to counteract false narratives and enhances communication efforts by policymakers and health officials, ensuring accurate and culturally appropriate information reaches all societal segments.

4.3. Data collection method

The data collection method employed for this study is qualitative content analysis. The articles were collected from the three selected newspapers' websites. As the newspaper articles date back to the year 2021, the researcher had to be very specific in the search to ensure it excluded opinion pieces. It was important to search for the articles using keywords such as, Covid-19 vaccination; vaccines for the elderly; second phase vaccination, mass vaccination campaigns and many more similar phrases that covered articles around the second phase of vaccination to ensure all articles are located. The articles were only limited to news stories that excluded opinion pieces and columns.

Content analysis method can be used quantitatively or qualitatively for systematically analysing written, verbal or visual text (Wilson, 2011). Krippendorff (2004:18) refers to content analysis as "a research technique for making replicable and valid inferences from text (or other meaningful matter) to the contexts of their use." On the other hand, Lasswell et al. (1952: 34) define "content analysis as a technique which intentions of describing, with the finest objectivity, accuracy, and generality, what is said on a given subject in a given place at a given time."

4.4. Sampling

The sample used was purposive sampling by relying on media text from the three selected newspapers' coverage of phase 2 vaccination period. This sample will guide how the media set an agenda and framed the news during this period. Krippendorff (2004) refers to purposive sampling as relevance sampling which focuses on selecting all textual units that contribute to answering the research questions. White and Marsh (2006) are also of the view that purposive sampling allows for identifying complete, accurate answers to the research questions and

presenting an overall representation. Furthermore, selection of data may continue through the research. The articles sampled covered a sixty (60) day period or two months (7 May 2021 to 7 July 2021). There was a total of forty (40) articles from the three selected newspapers, where *Sowetan* had sixteen (16) articles, followed by the *Daily Maverick* with fourteen (14) articles and the *Daily Sun* with ten (10) articles.

The researcher conducted keyword searches in order to locate articles that covered stories around Covid-19 vaccination in each newspaper and critically analysed elements of misinformation that may be highlighted in the articles. The selected newspaper articles encompassed front-page news items, excluding opinion pieces and columns, with the aim of addressing a broad readership demographic regarding the topic of Covid-19 vaccination. The decision to exclude opinion pieces was made to prioritise the inclusion of works authored by professional journalists, who bear a greater responsibility for ensuring balanced reporting and coverage. Opinion pieces, typically authored by members of the public, are not bound by the same ethical standards as journalists and thus were omitted. The data would determine where the media set an agenda and how they framed the news on COVID-19 vaccination as well as how the spread of misinformation was handled during this period.

Moreover, the articles underwent analysis using a data analysis programme to evaluate prevalent tones. The initial assessment involved a word cloud concept analysis aimed at identifying the most prevalent words utilised in articles from each newspaper. A word cloud represents a visual collection of words displayed in varying sizes, where the larger and bolder the word, the more frequently it appears in the sample. This conceptual analysis is selected for the examination of textual data, involving the quantification and enumeration of its occurrences. According to DePaolo et al., (2014), word clouds serve as popular and engaging methods for visually presenting textual data. While DePaolo primarily employed word clouds to evaluate students' contextual knowledge, the same methodology can be adapted for qualitative research purposes to discern common content themes or, as in the case of this study, the tones of newspaper articles.

In order to obtain data on overall tones adopted by each newspaper, the researcher ran the articles and word cloud results into Leximancer, an artificial intelligence system that analyses content mainly for natural language processing. The system helped to determine the tones and presented common themes at the end of the analysis for each newspaper. It is noteworthy that the three newspapers cater to distinct audiences; therefore, significant disparities are anticipated in their content. The diverse readerships necessitate varying writing styles to effectively engage with each demographic; hence, they might not necessarily present similar tones. The Leximancer system is a linguistic analysis tool, aimed at comprehending the

semantics of words and phrases within a language and discerning their relational patterns. It operates by scrutinising the co-occurrence of words within sentences and elucidating patterns indicative of their contextual meanings. This analytical process unfolds in two sequential steps: initially, it delves into the semantic significance of individual words, followed by an exploration of their interconnections and associations within the linguistic framework (Smith, et al 2006).

4.5. Ethical considerations

This study adhered to the University of the Witwatersrand's ethical protocols which guides research studies. Cresswell (2013) is of the view that regardless of the approach to qualitative research, a research experiences various ethical issues that surface during the process of data collection, analysis and presentation of research reports. The study's ethical clearance was approved on the 30th of November 2023 with the following reference number: **JOMS 2023/2**.

4.6. Conclusion

The chapter presented the methodological approach employed in this study. A detailed discussion on the qualitative data collection method, purposive sampling used, data analysis method and ethical considerations were expounded. The next chapter provides data findings and interpretations.

5. CHAPTER 5: DATA PRESENTATION AND INTERPRETATION

5.1. Introduction

In an era characterised by unprecedented global health challenges, the dissemination of accurate information and public awareness through mainstream media play a pivotal role in shaping public perception and their responses to health crises. Against the backdrop of unique socio-economic and healthcare challenges facing the nation, this study explores how three South African newspapers informed its readers regarding Covid-19 vaccination, shedding light on the potential impact of media coverage on vaccine uptake and public health outcomes in this diverse context.

This chapter delineates the research findings pertaining to the assessment of how three newspapers—specifically, *The Sowetan*, the *Daily Maverick* and the *Daily Sun* (sequentially listed)—addressed and mitigated the dissemination of misinformation during the Covid-19 vaccination period. It acknowledges the critical importance of responsible journalism in combatting false information and bolstering endeavours aimed at public health support.

5.2. The Sowetan's coverage

During the designated period, *The Sowetan* published a total of sixteen (16) articles pertaining to the Covid-19 vaccination. This analysis provides an examination of the content disseminated by the newspaper throughout the second phase of the Covid-19 vaccination campaign in South Africa, elucidating its treatment of challenges, achievements and public perceptions. Given its daily publication schedule, *The Sowetan's* journalists, faced substantial pressure to generate content daily, despite the limitations imposed during the lockdown period in the country.

The inaugural article within the designated period was published on 13 May 2021, bearing the headline: “*Fake news still drives negative thoughts, says health department*”. This article serves as a significant indicator of the prevalent misinformation landscape during the specified timeframe. Both the headline and the introductory segment underscore the obstacles and reluctance encountered by the government in executing its Covid-19 vaccination initiative. Such framing implies substantial challenges ahead, establishing a tone of apprehension immediately preceding the launch of the second phase of the vaccination drive. A more in-depth analysis of this article can be found at 5.4.1. below.

Two articles were published in the 18 May 2021 edition. The first one adopted a constructive tone, elucidating the initiation of the second phase of Covid-19 vaccine distribution under a fitting headline: “*Excitement as mass vaccinations start*”. The second article – headlined “*Phase two vaccine rollout for elderly started 'reasonably well': Mkhize*” – also chronicled

similar impediments encountered during the Covid-19 vaccine rollout but added commentary from the then Minister of Health, Dr Zweli Mkhize, on the status of day one of the second phase of vaccination campaign. Both articles engaged in discussions surrounding impediments such as load-shedding and civil protests, with both highlighting administrative complexities, meticulous manual data compilation, data reconciliation and the formulation of articulate communication strategies.

Conversely, the third article, dated 3 June 2021, delved into the outcomes of research endeavours on vaccine hesitancy. It concentrated on deficiencies in governmental information dissemination and obstacles experienced within an informal settlement, encapsulating elements of public scepticism, constrained access to digital technology and propositions aimed at augmenting vaccine accessibility for similar communities. A full assessment of this article follows in 5.4.2. below under the headline: *"Here's why some people are sceptical about COVID-19 vaccines"*.

As the ongoing vaccination campaign unfolds, the *Sowetan* newspaper provides a balanced examination of the encountered challenges. In one of the preceding article under the headline *"KZN has vaccinated over 225,000 pensioners, says health MEC"*, the publication offers insights into the advancements observed in KwaZulu-Natal, specifically in the context of vaccinating senior citizens, underscoring the significant contributions of then Health MEC Nomagugu Simelane. This particular article furnishes a detailed narrative of the achieved milestones, providing a thorough account of the accomplishments and articulating future strategies for expanding vaccination sites.

An article headlined *"Gogo becomes the oldest person to receive COVID-19 jab in SA"*, says *health department* narrates a heart-warming human interest story, portraying a 119-year-old woman as the oldest recipient of the Covid-19 vaccine in South Africa. The account underscores the involvement of community healthcare workers and emphasises the broader theme of the elderly vaccination initiative.

Conversely, the next article delves into the multifaceted challenges encountered in vaccinating the elderly population. It underscores the role of apprehension, disinformation, and digital registration issues. Acting Health Minister Mmamoloko Kubayi-Ngubane is featured, highlighting the government's responsibility and advocating for evidence-based decision-making within the public sphere. This analytical piece addresses challenges, mentions misinformation and promotes informed decision-making. A more in-depth analysis on this article headlined: *"Fear, fake news, registration process affecting vaccination of elderly: Kubayi-Ngubane"* follows below at 5.4.3.

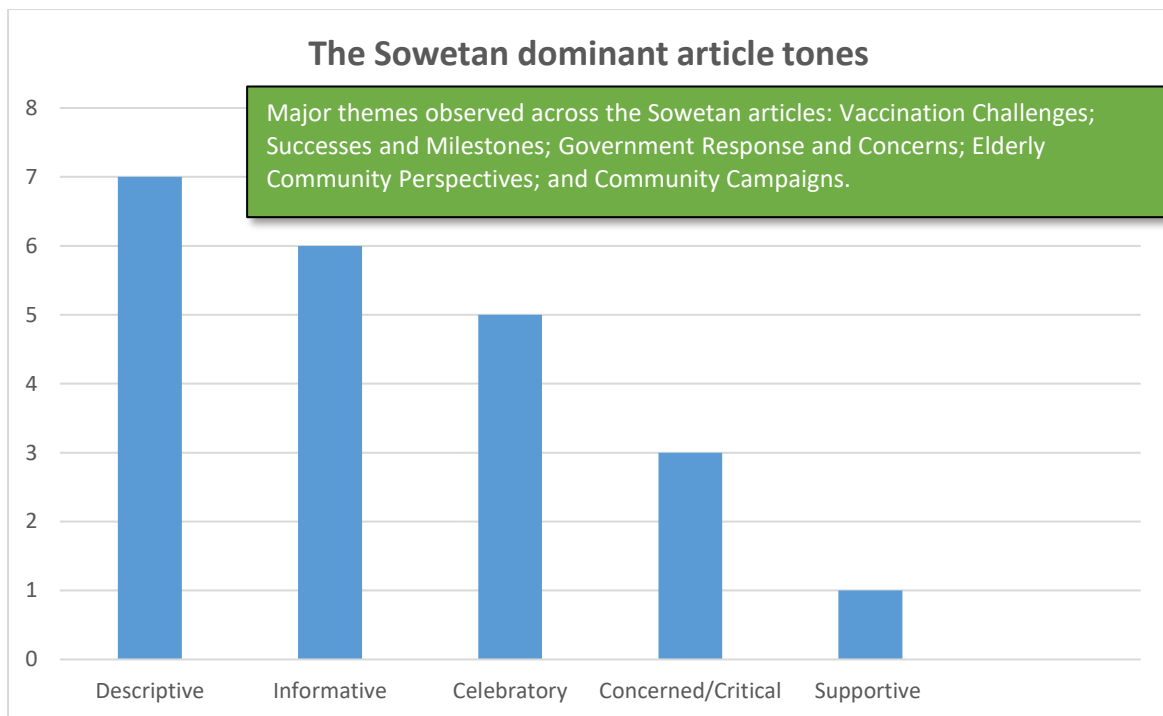
Shifting focus to correctional facilities, the newspaper hones in on how those incarcerated are responding to the national vaccination efforts under the headline: “*537 elderly prisoners have received COVID-19 jabs*”. The article highlights the successful vaccination of elderly inmates. It evaluates the Covid-19 situation within these facilities and emphasises the Department of Correctional Services' commitment to curbing viral transmission. The evaluative tone centres on accomplishments and ongoing efforts within the correctional system.

In a different narrative, another article presents a poignant story, emphasising the inoculation of a 103-year-old individual during a vaccination drive led by the then Gauteng premier, David Makhura under the headline: “*103-year-old granny gets jab during David Makhura's vaccination drive*”. The primary emphasis is on the importance of vaccinating elderly citizens, coupled with the crucial role played by community support. The celebratory tone resonates with the significance of vaccinating the elderly and the community's supportive role.

Overall, the articles published by the *Sowetan* demonstrated a balanced tone, avoiding an overly positive or negative stance on the vaccines. For purposes of this research term tone is used to describe the overall character or attitude of the article.

The publication employed and maintained a realistic portrayal of the challenges and milestones encountered in the country. The inaugural article painted a very grim picture of misinformation being out of control. The preceding articles conveyed the enthusiasm accompanying the initiation of the highly-anticipated phase 2 of the vaccination campaign. As the campaign unfolded, the newspaper diligently documented challenges, such as technical difficulties affecting the elderly and rural populations, adopting a concerned tone due to the potential ramifications for subsequent phases.

Graph 1 below illustrates the *Sowetan's* balanced coverage, with articles presenting an amalgamation of emotions, encompassing both frustration and happiness, thereby spotlighting challenges and successes within the vaccination process. Theme observations elucidate commonalities and distinctions across all 16 scrutinised articles. Vaccine hesitancy emerged as a notable challenge, influenced by misinformation, alongside logistical impediments in vaccine distribution. Additionally, individual experiences and emotions were incorporated into the articles, affording a human-centric perspective. Below is a summary of the tones identified in the articles:



Graph 1. The dominant article tones published in the Sowetan during the research period. The green block details some common themes identified in most of the articles which presents a very balanced way of reporting. A total of 16 articles were analysed.

The above graph of the *Sowetan* newspaper articles reveals a strong emphasis on both descriptive and informative themes. Through detailed narration and exposition, the descriptive style constructs a comprehensive portrayal of vaccination events and encounters, enriching the narrative with vivid particulars of real-world scenarios. Simultaneously, the informative approach prioritises the dissemination of clear, evidence-based information aimed at educating the public about vaccination procedures and effectiveness, thereby promoting transparency and comprehension.

Furthermore, celebratory content within the *Sowetan* articles accentuates positive accomplishments and milestones, fostering optimism and trust in the vaccination endeavour, and instilling aspirations and solidarity among its readership. Conversely, the concerned perspective draws attention to challenges and hazards, featuring critiques and calls for action to rectify issues within the vaccination process, while also shedding light on prevalent misinformation within the public sphere. This perspective not only advocates for enhancement and safety measures but also aims to combat misinformation to ensure the efficacy and safety of vaccination efforts. Additionally, supportive content within the *Sowetan* champions vaccination by showcasing endorsements, success narratives and communal initiatives, thereby stimulating public engagement and highlighting the significance of collective action in support of the vaccination campaign.

Collectively, the articles published in the *Sowetan* provide a nuanced view of South Africa's vaccination campaign, covering achievements, challenges and the societal impact of immunising the elderly population. Overall, the *Sowetan* effectively balances its coverage of vaccination efforts by addressing both positive achievements and critical challenges. By championing vaccination through supportive content and highlighting the importance of collective action, the newspaper plays a crucial role in informing and engaging the public in the fight against Covid-19 by also covering concerns surrounding the vaccines.

Three articles were identified that explicitly referenced misinformation or fake news in their headlines within the designated research timeframe. A comprehensive examination of each article follows.

5.2.1. Addressing misinformation in the article: "Fake news still drives negative thoughts, says health department"

The article titled: *"Fake news still drives negative thoughts, says health department,"* authored by Penwell Dlamini and published in the *Sowetan* on 13 May 2021, examines challenges faced by South Africa during the second phase of its Covid-19 vaccination programme. Anban Pillay, the then Director-General of the Department of Health, is quoted, elucidating concerns regarding vaccine hesitancy and the detrimental influence of misinformation on public attitudes toward vaccination.

The temporal context of this article is particularly significant as it underscores the substantial influence of misinformation in the period preceding the second phase of vaccination. This article provides a realistic depiction of the prevailing circumstances and serves as a notable illustration of media's capacity to report news with integrity and impartiality. As previously indicated, the headline and introductory segment accentuate the obstacles and reluctance confronted by the government in executing its Covid-19 vaccination strategy. The chosen framing implies the existence of significant challenges during the initial phase of the national vaccination campaign, fostering a tone of apprehension as the subsequent phase approaches.

Key challenges highlighted in the article include citizen hesitance and delays in vaccine delivery, both identified as key obstacles in the second phase of the vaccination initiative. In the article, Pillay attributes much of the vaccine hesitancy to misinformation via social media and points out that there are government initiatives aimed at counteracting the wide-spread misinformation. His emphasis that ultimately, people are responsible for guarding themselves against false information and that a higher vaccination rate can lead to collective protection.

Pillay also acknowledges impediments in vaccine supply due to global manufacturing limitations and articulates the associated risks and challenges linked to potential disruptions

at these production sites, which in turn, impact vaccine distribution timelines. The article emphasises the need to ensure universal access to the registration system, prompting the deployment of mobile units to rural areas. It also alludes to the possibility of repurposing grant-collection venues to vaccination centres. Pillay advocates for sustained adherence to safety measures post-vaccination and cautions against complacency. He urges the public to keep practicing safety measures such as mask-wearing and social distancing. The reference to Chile serves as a cautionary example of the repercussions of abandoning safety protocols after vaccination.

While the article underscores the impact of fake news on vaccine hesitancy and delineates challenges related to vaccine supply and accessibility, it is notably devoid of specific instances of misinformation. The absence of a detailed examination or refutation of individual false narratives creates a generalised portrayal of fake news without explicit elucidation. Despite asserting proactive government measures to counter misinformation, the article lacks specific details on these initiatives. It provides a governmental update on vaccine delivery challenges and does not shed light on a targeted response to misinformation.

5.2.2. Addressing misinformation in the article: "Here's why some people are sceptical about COVID-19 vaccines"

The article titled: *"Here's why some people are sceptical about COVID-19 vaccines"* was published on 3 June 2021. It delineates vaccine hesitancy within the Protea South informal settlement, Johannesburg. Conducted through a community action research project led by Professor Kate Alexander from the University of Johannesburg in collaboration with the C19 People's Coalition's Community Organising Working Group (COWG), the research illuminates scepticism primarily among individuals aged 60 and older. Bongani Xezwi, a researcher involved in the project, underscores the pervasive scepticism and recounts an instance of a notable shift in perception by a traditional leader, suggesting the potential for attitudinal changes.

The narrative incorporates personal experiences, notably that of Emily Mohapi, a 99-year-old recipient, who dispels misconceptions about vaccine-related mortality. Concurrently, concerns regarding the electronic registration system are raised. Xezwi highlights challenges, including the non-receipt of confirmation SMS after registration, prompting recommendations for alternative strategies such as transportation to vaccination sites and the implementation of mobile vaccination units. This addresses issues of accessibility, particularly for socioeconomically disadvantaged demographics.

Simphiwe Zwane, representing the COWG, vehemently critiques the existing vaccination process, attributing it to governmental prioritisation of profits over public welfare as no efforts were undertaken to educate the public about the virus, the different waves and the vaccines. Accessibility challenges, especially for the working class and impoverished demographics, are underscored, emphasising the technological barriers faced by older individuals alongside financial constraints related to data accessibility and insufficient state pensions.

Overall, the article delineates vaccine scepticism within the Protea South community, offering empirical insights and proposing pragmatic measures to mitigate challenges such as misinformation, technological barriers and accessibility issues. It advocates for an inclusive and accessible vaccination approach.

Similar to other global outbreaks, the Covid-19 vaccine rollout was encumbered by a multitude of myths. While the article refrains from an exhaustive exploration of concurrent conspiracy theories, it endeavours to confront a prevalent rumour during that period, specifically the unsubstantiated claim that vaccines would lead to fatalities.

The established procedure necessitated every eligible person to complete an online booking before visiting a designated vaccination site. Subsequently, a concise text message containing a booking reference number would be dispatched to the recipient. Regrettably, the article neglects to scrutinise the implications of low literacy levels among the elderly demographic and the dearth of smartphones, imperative for appointment scheduling. Additionally, the article omits reference to other categories of misinformation that pervaded the overarching vaccination period; scepticism, albeit a significant aspect, was merely one among various instances of spurious information circulating during that time.

5.2.3. Addressing misinformation in the article: "Fear, fake news, registration process affecting vaccination of elderly: Kubayi-Ngubane"

The article titled: *"Fear, fake news, registration process affecting vaccination of elderly: Kubayi-Ngubane"* by Amanda Khoza, published on 17 June 2021, delves into the reasons behind the hesitancy among the elderly in South Africa to get vaccinated against Covid-19. The Acting Minister of Health, Mmamoloko Kubayi-Ngubane, reveals findings from a University of Johannesburg research report and discusses various challenges contributing to low registration rates in the second phase of the vaccination rollout targeting citizens over the age of sixty (60).

The article addresses the significant role of fear induced by misinformation as a major factor contributing to vaccine hesitancy among the elderly. Minister Kubayi-Ngubane acknowledges the need to counter misinformation and ensure that accurate and factual information is disseminated to the public.

Accessibility issues related to the government's online registration portal called the Electronic Vaccination Data System (EVDS) are identified as another challenge. Many senior citizens reportedly use their children or in some cases grandchildren's devices for registration, highlighting difficulties faced by older individuals in navigating the online registration process.

The article acknowledges challenges and hiccups in the vaccination system, including delays in SMS notifications, concerns about the removal of nurses from clinics affecting service quality, and discrepancies in return dates for the second dose of the Pfizer vaccine. Minister Kubayi-Ngubane expresses the government's commitment to addressing these issues.

The article raises concerns about the low registration numbers among people aged 60 years and older. Minister Kubayi-Ngubane emphasises the need for a coordinated approach and highlights successful strategies implemented in Limpopo to manage walk-ins and online registrations. She appeals to the younger generation to assist the elderly, especially in ensuring they return for their second vaccine doses on the correct date. She provides context for the changing global regulations on the waiting period between the first and second jabs of the Pfizer vaccine.

Instead of tackling the misinformation, the article emphasises that government decisions are based on scientific projections and models. Minister Kubayi-Ngubane urges South Africans to understand the scientific analysis behind government actions and calls for adherence to non-pharmaceutical interventions.

The article provides insights into the government's concerns and efforts to enhance the vaccination rollout while emphasising the importance of public cooperation and understanding. Unfortunately, the article weakly attempts to counter misinformation by mentioning that government only works with scientific advice but fails to interpret what that means to the layman.

5.3. The *Daily Maverick's* coverage

In a series of articles during the period under review, the *Daily Maverick* conducted a comprehensive examination of South Africa's response to the Covid-19 pandemic, particularly focusing on the second phase of the national vaccination campaign. A total of fourteen articles were published during this period.

A key development highlighted in the analysis is the country's adjustment of vaccination intervals for the Pfizer-BioNTech vaccine, extending the period between doses from the initially recommended three weeks to six weeks. This decision was influenced by emerging evidence supporting the efficacy of a prolonged dosing interval and was driven by constraints in vaccine supplies, aiming to maximise partial protection for a larger population during delays in Johnson and Johnson vaccine distribution.

The first article headlined: *"How provinces are gearing up for mass COVID vaccination kickoff"* by Elri Voigt for *Spotlight* (an independent print and online publication monitoring South Africa's response to TB and HIV and the overall state of SA's health systems), published on 14 May 2021, provides an informative overview of preparations for the second phase of the Covid-19 vaccination rollout in South Africa. The article delves into each province's approach, challenges, and progress, emphasising the significance of targeting vulnerable populations and adopting an incremental strategy for an effective rollout.

Another article by Elri Voigt titled: *"COVID-19 Vaccination: What provinces have planned for older people,"* published on 17 May 2021, provides detailed insights into how each province is planning and executing the vaccination rollout for individuals aged 60 and older. The tone underscores the importance of vaccinating the elderly population and emphasises efforts to facilitate registrations, especially for those facing technological challenges.

Christi Nortier's article on the official commencement of Phase Two of South Africa's Covid-19 vaccination programme, published on 17 May 2021, explores the different provinces' strategies, challenges and priorities. It includes information on private sector involvement and ongoing safety audits, contributing to a nuanced understanding of the vaccination landscape in the country.

In another article by Christi Nortier titled: *"Archbishop Desmond Tutu and others get their jabs on Day One of South Africa's COVID-19 vaccine roll-out for the over-60s,"* published on 17 May 2021, the reader gains a comprehensive overview of the initiation of the vaccine rollout, including successes, challenges, regional variations and innovative adaptations.

Furthermore, the articles highlight the participation of prominent figures, such as Nobel Peace Prize laureate Archbishop Desmond Tutu, receiving their vaccine doses, underscoring the significance of vaccination and encouraging broader vaccine uptake. Additionally, the coverage shone the spotlight on public-private partnerships with Discovery Health, First National Bank and Clicks' aimed at establishing more vaccination sites nationwide and utilising existing facilities once accredited and supplied by the Department of Health.

Subsequent updates in the article series detailed Aspen's commitment to replacing two million Johnson and Johnson vaccine doses within a fortnight, signalling a phased release, beginning with 300,000 doses earmarked for teachers. As time went Gauteng province adopted a flexible approach, permitting walk-ins at all public vaccination sites to streamline the inoculation process. These developments collectively depict a nation grappling with the intricacies of vaccination strategy, supply chain dynamics, and public cooperation amid a dynamic and challenging pandemic landscape.

The 14 articles collectively provide a comprehensive overview of the Covid-19 vaccination landscape in South Africa, employing diverse tones, frames, and impressions to convey information and shape reader perceptions. The articles adopt an informative tone, furnishing detailed insights into various facets of the Covid-19 vaccination process. Preparedness framing is discernible in articles elucidating provinces' preparations for mass vaccination and outlining plans for older individuals. Protective framing is employed when underscoring the prioritisation of vulnerable populations, such as those in old age homes, during the initial phases of vaccine roll-out.

A celebratory tone is evident in articles commemorating significant vaccination moments, featuring prominent figures such as Sophia Williams-De Bruyn, Trevor Manuel, Mfundu Vundla, and Judge Hans Fabricius of the Pretoria High Court receiving their vaccines. The informative and descriptive frames capture the increasing demand for vaccinations. Each article provides a breakdown of each province's progress in the race to vaccinate the majority of citizens.

A cautious tone is observed in articles discussing the allowance of walk-ins in the Western Cape, managing expectations by highlighting the absence of a guarantee to receive a vaccine. The articles also adopt an empathetic frame by offering insights into vaccination efforts in rural areas, demonstrating an understanding of the challenges faced in these regions. Notably, the articles remained resolute in upholding South Africa's ambitious vaccine mission, emphasising determination amid perceived challenges, including technical and technological issues with the EVDS system and slow pace of global vaccine manufacturing supply.

Concern framing arises in articles addressing the potential proximity of a third wave of Covid-19 infections alongside the ongoing vaccine rollout. While ordinary citizens' voices are considered during the vaccination period, the publication also consults experts when necessary. For instance, changes in the intervals between the two Pfizer doses prompted the enlistment of health and science journalists, Aisha Abdool Karim and Joan van Dyk, to elucidate the rationale for readers. Their article summarises the scientific evidence supporting the extended dosing interval and its potential advantages, especially in the context of limited vaccine supplies.

The articles collectively present a comprehensive overview of the Covid-19 vaccination landscape in South Africa, employing diverse tones, frames, and impressions to convey information and shape reader perceptions. The language, tone, and impressions conveyed in these articles contribute to a nuanced and multifaceted understanding of South Africa's Covid-19 vaccination narrative but fails to address any misinformation or fake news.

5.3.1 Mitigating misinformation: A pro-vaccine stance reinforced through subtle discourse

The analysed articles published in the *Daily Maverick* provide a thorough breakdown on South Africa's Covid-19 vaccination efforts with a major lens on government and minimal attention to some of the misinformation that was rife at the time. While the *Sowetan* did a much better job of raising awareness about the prominent rumours at the time, the *Daily Maverick* simply “overlooked” it in most of its coverage. Despite referencing scientific studies, the articles fall short in critically evaluating the methodologies, sample sizes, and potential biases inherent in the cited research or the deep-diving into the facts behind the science.

An article titled: "*Ready for Liftoff? SA's Vaccine Mission (Im)Possible*," co-authored by Mark Heywood, Estelle Ellis, Hoseya Jubase, Tumelo Khotha, Christi Nortier, Lungi Langa, and Elri Voigt, and published on 15 May 2021, presented a diverse range of perspectives and experiences related to vaccination in South Africa. The article integrates perspectives from individuals displaying enthusiasm for vaccine uptake, driven by personal losses attributable to Covid-19. Conversely, it also encompasses individuals expressing hesitancy, a sentiment which is rooted in apprehensions regarding vaccine safety and efficacy. Regrettably, the article neglects to furnish readers with information conducive to dispelling prevalent misinformation or debunking prevailing myths and conspiracy theories. Unfortunately, it was not the only article which mentioned apprehension without any counter-arguments.

An article authored by Ida Jooste on 3 June 2021, titled: "*Salim Abdool Karim: Journalists are crucial cogs in the telling of the complex and ever-evolving COVID-19 vaccine story*," endeavours to underscore the pivotal role played by mainstream media in disseminating accurate information to the public, particularly in the context of addressing misinformation. The focal point of the article revolves around a training initiative, named "Let's Talk Vaccines," organised to enhance health journalism skills. During this session, Professor Karim implored journalists to adeptly navigate misinformation and assuage public apprehensions. The programme served as a comprehensive e-learning resource, equipping journalists with the necessary knowledge pertaining to vaccines. Furthermore, the article encourages journalists to glean insights from the global response to Covid-19 and proactively prepare for future infectious agents.

Prof. Karim, a distinguished South African clinical infectious diseases epidemiologist, who notably chaired the country's Ministerial Advisory Committee on Covid-19 established by President Cyril Ramaphosa, gained prominence through extensive media engagements during the pandemic. He was primarily featured in television interviews aimed at simplifying scientific concepts for the general audience. Prof. Karim emphasised the importance of persuading those hesitant to embrace vaccination, particularly targeting anti-vaccine advocates, to achieve a vaccination rate of 80% in the population, a critical threshold for attaining herd immunity. However, contrary to expectations, subsequent articles refrained from explicitly acknowledging or addressing misinformation or associated concepts, returning instead to their customary methods of reporting.

Whilst the publication refrained from explicitly addressing misinformation during the period under review, it is noteworthy that the *Daily Maverick* extensively relied on health and science communication experts, specifically drawing on the expertise of individuals from Bhekisisa Centre for Health Journalism (BCHJ) and Spotlight, to comprehensively analyse and write for them during the vaccination period. However, it can be argued that this is under-utilisation of capable resources on their part as these two centres could have reached out to relevant experts to address any misinformation.

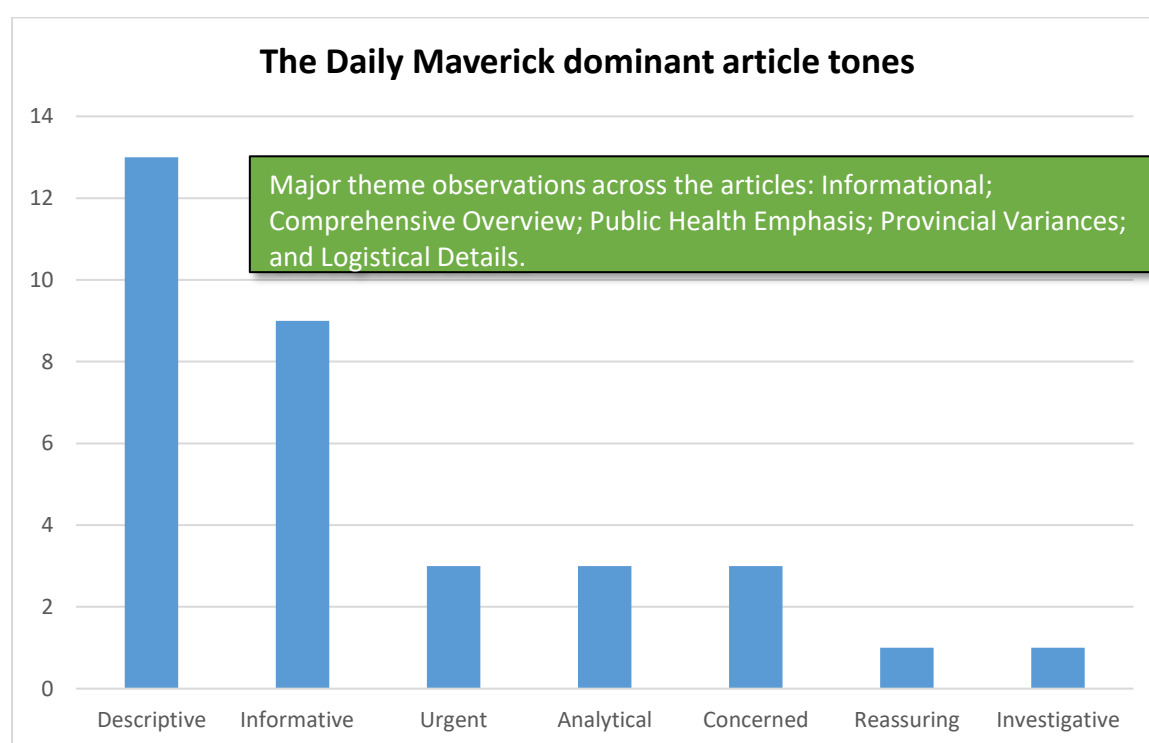
Nonetheless, efforts were made to allay apprehensions by subtly incorporating reassurances from individuals undergoing vaccination. Instances of pro-vaccine affirmations, such as the assertion that "the vaccines were scientifically tested," could be interpreted as implicit attempts to address misinformation. Notably, they cited influential figures advocating for vaccination, including Reverend Frank Chikane, who asserted, "There's no reason for people to fear vaccines," and Archbishop Desmond Tutu, who emphasised that "...getting vaccinated against Covid-19 is definitely the right thing to do..." Additionally, there were quotations from political figures and high-ranking officials urging widespread public registration and vaccination.

Conversely, the *Daily Maverick* exhibited a commendable commitment to providing its readership with comprehensive, detailed and informative content pertaining to the vaccine rollout. Each article systematically furnishes detailed updates on provincial responses, offering a nuanced exploration of encountered challenges, achieved milestones and logistical registration details. This holistic approach extends to encompassing community engagement, governmental leadership, narratives highlighting individual resilience, and an exploration of the strategic significance of vaccination within diverse contextual frameworks.

In summary, despite providing valuable perspectives on South Africa's handling of the Covid-19 vaccine campaign, the *Daily Maverick* could have enhanced its journalistic rigour and

informativeness through the incorporation of diverse expert opinions and a more rigorous examination of misinformation. A more inclusive editorial approach could have involved addressing dissenting voices, offering expert rebuttals to counter negative public narratives, and selectively debunking prevalent myths or conspiracy theories to foster a more balanced and nuanced reporting stance.

The table below presents an overview of the tones employed in the fourteen articles disseminated by the *Daily Maverick*. Certain articles exhibited a multifaceted yet interconnected deployment of tones, such as descriptive and informative concomitantly. In contrast, others maintained a singular framing approach, exemplified by an article assuring readers regarding the augmented efficacy of the Pfizer vaccine subsequent to the government's decision to extend the intervals between doses from 21 to 42 days. In summation, the overarching tenor of the *Daily Maverick's* coverage leaned decidedly towards a positive and pro-vaccine stance.



Graph 2. The *Daily Maverick* was very comprehensive in its coverage which is depicted in the graph that indicates a high descriptive frame appearing 13 times. Interestingly, their investigative frame is lowest at only 1 which is contrary to what the newspaper is prominent for. The green block details some common themes identified in the tone of most of the articles. A total of 14 articles were analysed.

The above graph demonstrates that the articles from the *Daily Maverick* prominently featured informative and descriptive tones, as indicated by their extensive coverage of provincial breakdowns and statistical data presentation, among other contributing factors. Consistent

with the *Sowetan* discussion, the informative approach to communication entails the dissemination of clear, evidence-based information aimed at educating the public about vaccination procedures and effectiveness, thereby fostering transparency and comprehension. Furthermore, they incorporated detailed narration and exposition in their coverage, employing a descriptive style to construct a comprehensive portrayal of vaccination events and encounters. This included the integration of statistics to provide a nationwide breakdown, facilitating an assessment of each province's performance towards achieving nationwide herd immunity. Unlike the *Sowetan*, the *Daily Maverick* articles also had analytical tones. This tone involves a systematic examination and evaluation of information or data. It focuses on breaking down complex concepts or situations, providing insights, interpretations and evaluations normally displayed through logical reasoning, evidence and critical thinking to analyse various aspects of a topic. The urgency tone was also detected conveying a sense of immediacy and importance, urging the audience to get vaccinated. It was used throughout the articles and was visible in the usage of urgent language, such as "imperative," "critical," or "crucial," to emphasise the seriousness of the situation.

Other prominent tones identified in the articles were reassuring, concerned and investigative. The reassuring and concerned tones were not surprising as the newspaper adopted a pro-vaccine stance. The concerned tone endeavours to elicit emotional responses and empathy from the audience, underscoring the significance of achieving herd immunity. Conversely, the reassuring tone endeavours to impart solace, assurance or encouragement to the audience, particularly amidst periods of ambiguity or turmoil. It endeavours to assuage apprehensions or unease and cultivate a sentiment of assurance or confidence, both in governmental actions and the efficacy of vaccines.

In conclusion, it would have been uncharacteristic to anticipate the absence of investigative tones in the *Daily Maverick* articles, given its journalistic focus. An investigative tone entails thorough research and analysis of topics, which the publication employed to illuminate intricate matters such as the extension of the interval between the two Pfizer vaccines. This tone is underscored by their collaboration with BCHJ and other health journalists to unveil novel perspectives and elucidate complexities as they emerge.

5.4. The *Daily Sun*

Ten articles were identified in *The Daily Sun* within the research timeframe. The opening article published on the 13th of May titled: "VACCINE JABS FOR ELDERLY!" had a notably positive tone and was informational, concentrating on the commencement of the second phase of the Covid-19 vaccination initiative directed towards individuals aged 60 and above. The language employed is factual, offering crucial details on the targeted demographic, registration

procedures, and the active involvement of community healthcare workers. The overarching frame of the article revolves around the vaccination endeavours tailored for the elderly population in Gauteng, accentuating inclusive measures such as aiding those less adept with technology and facilitating vaccinations for individuals unable to venture outside their homes. The narrative constructs a positive frame around the vaccination rollout, underscoring the supportive initiatives extended to the elderly demographic. Upon scrutiny, no evident misinformation is discerned, as the article primarily imparts accurate and factual information regarding the vaccination programme in Gauteng.

The subsequent article titled: "*Gauteng criticised over the number of vaccination sites*," the tone assumes a critical and informative stance. It delves into the scrutiny directed at the Gauteng health department concerning the quantity of vaccination sites. The language employed is factual, incorporating statements from the health spokesperson of the Democratic Alliance (DA) and representatives of the provincial health department. The overarching frame of the article revolves around criticism levelled against the Gauteng health department for failing to meet the pledged number of vaccination centres. The article also contains information about the subsequent activation of additional sites over time. The narrative constructs a perspective where the situation is portrayed as falling short of the initially promised vaccination centres. Upon careful examination, no apparent misinformation is discerned. The article primarily communicates critiques and official statements regarding the number of vaccination sites in Gauteng.

In the article titled: "*KHOZA'S TAKE ON COVID-19 VACCINATION!*" the tone is distinctly persuasive and encouraging as it features Irvin Khoza, the National Soccer League chairman, advocating for Covid-19 vaccination. The language used is positive, emphasising the collective responsibility and benefits associated with the vaccination process. The frame of the article revolves around Khoza's explicit endorsement of Covid-19 vaccination, highlighting vaccine efficacy and underscoring the need for unified effort. Within this narrative, vaccination is portrayed not merely as an individual choice but as a shared responsibility contributing to the overall health and security of the global populace. Upon scrutiny, no evident misinformation is discerned in the article.

The same positive tone is identified in the article headlined: "*PICS: ZCC BISHOPS GET COVID JAB!*". The tone is celebratory and the narrative focuses on the COVID-19 vaccinations administered to the leaders of the Zion Christian Church (ZCC). Expressing positivity, the language of the article conveys gratitude for the church's supportive role in combating the pandemic. The framing of the article centres around the vaccination of ZCC bishops and their endorsement of governmental initiatives. It underscores the leaders'

contribution to promoting vaccination while acknowledging the closure of churches as a preventive measure against the spread of COVID-19. No apparent misinformation is evident, as the article provides factual information about the ZCC bishops' vaccination and their supportive stance toward the government's efforts.

The article titled: "*WC TO ALLOW WALK-INS FOR COVID JAB*" maintains an informative tone and exhibits a degree of sympathy, particularly acknowledging the challenges faced by senior citizens during the vaccination process. The focus of the article is on the Western Cape's decision to permit walk-ins for Covid-19 vaccinations and is aimed at addressing concerns and challenges associated with the appointment-based system that was being used at the time. Moving to the article titled: "*COVID-19 vaccine rollout: 'Government is moving as fast as it can'*," the tone continues to be informative, offering insights into the ongoing vaccine rollout. The framing centres around the pace of vaccine distribution and addresses concerns raised by the DA spokesperson on health. Similarly, no misinformation is identified in this article, as it concentrates on statements from government officials such as Dr. Nicholas Crisp, the acting director-general of the national department of health, and encompasses perspectives from various political representatives.

As the vaccination programme gains momentum, the *Daily Sun* goes on to document and share personal accounts of the elderly. The article headlined: "*GOGO (99) GETS COVID-19 JAB!*" maintains a positive tone, celebrating the successful vaccination of a 99-year-old woman and her daughter. The framing revolves around the uplifting narrative of a senior citizen receiving the Covid-19 vaccine, with a neighbour aiding with the registration process. In a similar positive tone, the subsequent article headlined: "*Gogo (101) gets vaccine after surviving COVID!*" expresses gratitude for life and encourages elderly individuals to embrace vaccination. The article, like the first, maintains a focus on positive narratives, the importance of vaccination for the elderly and resilience without conveying any misinformation.

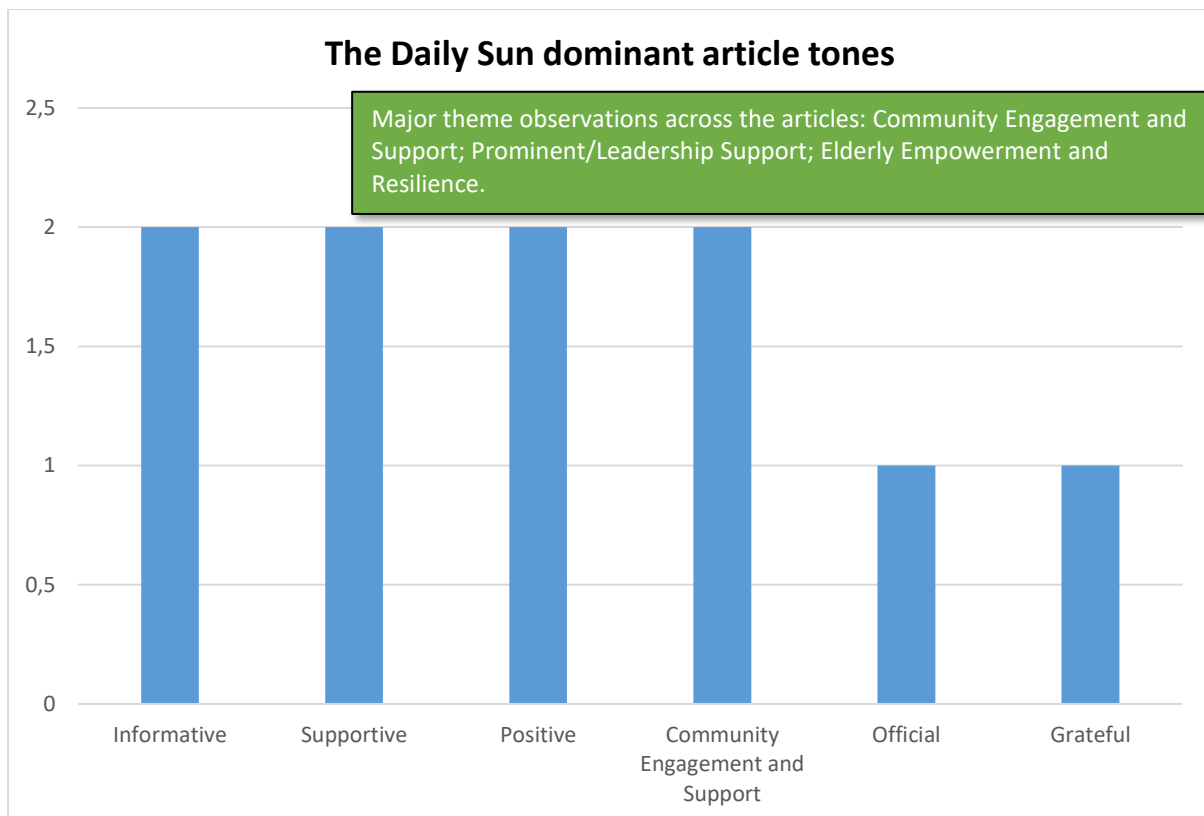
The article titled: "*PICS: CELE GETS HIS JAB!*" maintains a somewhat positive and informative tone, spotlighting Police Minister Bheki Cele's involvement in spearheading the vaccination programme. The framing is focused on the commencement of the South African Police Service (SAPS) vaccination initiative, highlighting the importance of vaccinating law enforcement personnel for the overall well-being of the workforce. The article avoids any evident misinformation, concentrating on the positive aspects of the vaccination drive within the police force and emphasising the crucial role it plays in maintaining a healthy workforce.

Similarly, the article titled: "*More COVID-19 vaccine sites!*" adopts an informative and neutral tone, concentrating on the expansion of vaccination sites in Gauteng. The framing of the

content centres around the noteworthy increase in vaccination sites, with an emphasis on enhanced accessibility and the accommodation of walk-ins.

None of the ten articles implicitly or explicitly address misinformation, unfounded beliefs or adverse sentiments regarding the vaccine. The primary focus of these articles revolves around the dissemination of positive information in relation to Covid-19 vaccination initiatives. Topics covered include the expansion of vaccination sites, noteworthy individuals participating in the vaccination process, updates on vaccination statistics, and the engagement of various sectors in the vaccination campaign. The overall tone of the articles is positive and informative, emphasising the consistent rise in vaccine acceptance, encouraging populace registration, and underlining that individuals will not be refused vaccination at the designated sites. (See graph three for the overall dominant tones identified).

Additionally, the articles encourage instances of positive community involvement, such as assisting the elderly with the electronic vaccination registration process, portraying such events as affirmative and community-supported occurrences. As the vaccination campaign unfolds, the articles maintain a positive and appreciative tone. They underscore the significance of community-backing and motivate elderly individuals to vaccinate by spotlighting prominent people getting vaccinated, and highlight the active involvement of various sectors in the vaccination drive. Despite encountered technical challenges with the registration system, the articles refrain from severe criticism or assigning blame. Instead, in an unprecedented empathetic move, they rally the public to assume a proactive role in the support of increasing vaccine uptake by assisting the elderly with registration. The focus remains on the collaborative community endeavour to aid elderly individuals in receiving vaccinations and the favourable influence of vaccination on their perception of safety. They continue with positive framing of the campaign but do not share any national or provincial statistics to encourage their readers.



Graph 3. The overall tone of articles in the Daily Sun illustrates an unexpected finding for a tabloid. The Daily Sun did not cover any misinformation related to vaccination. Contrary to expectations, the newspaper consistently framed the vaccination process in a positive light, which is noteworthy given its classification as a tabloid publication.

As illustrated in the graph presented above, the articles published by the *Daily Sun* exhibited a notable emphasis on providing informative and supportive content pertaining to the vaccination campaign. Specifically, the newspaper adopted an informative approach characterised by the dissemination of clear, evidence-based information intended to educate the public on vaccination procedures and effectiveness, thereby facilitating comprehension among readers. While the level of descriptive detail was comparatively limited, the *Daily Sun*'s supportive stance was evident in its presentation of endorsements, success narratives and communal initiatives, which served to stimulate public engagement and underscore the importance of collective health initiatives.

In juxtaposition to the *Daily Maverick*, the articles disseminated by the *Daily Sun* were notably characterised by conciseness and directness, aligning with their customary journalistic style catering to the preferences of their accustomed audience. Predominantly adopting a positive framing approach, these articles were chiefly centred on encouraging their readership to actively engage in the ongoing vaccination process. The articles did touch upon challenges associated with the EVDS, particularly emphasising technical difficulties but paid more attention to low literacy levels within the elderly populace, encouraging the youth to assist the elderly within their communities with registration. This is where the community engagement

and support tones were more prominent as it involves calls for active community participation to help and encourage each other. This tone aims to foster a sense of unity and cooperation within the community, by promoting collective action and/or highlighting community achievements.

The "official and grateful" tones conveyed formality and appreciation. Presumably, these tones are typically used to express acknowledgment or gratitude towards individuals, communities, organisation or even institutions for their contributions or support. It also involves expressing gratitude for assistance provided as seen by the articles on the Gogos who were very excited to be vaccinated after being assisted to register on the system.

To fortify its endorsement of vaccination efforts, the *Daily Sun* highlighted the vaccination of influential figures within the black community, exemplified by the vaccination of Bishops Dr Barnabas Lekganyane, and Dr Joseph Lekganyane, the leaders of the Zion Christian Church (ZCC). As one of the largest African indigenous churches with an extensive presence in Southern Africa boasting approximately 12 million members (African Rainbow Capital, 2020) the ZCC commands a significant following, particularly among the lower Living Standards Measures (LSMs), the primary demographic of the *Daily Sun*. The inclusion of such stories likely had a favourable impact on individuals harbouring reservations regarding vaccine efficacy.

5.4.1. Neglecting to address misinformation

While the examined articles provide valuable information on various aspects of the Covid-19 vaccination campaign in South Africa, there was a notable gap in the coverage by neither implicitly nor explicitly addressing or debunking prevalent misinformation.

Firstly, while the articles maintain a positive and informative tone, they predominantly focus on highlighting the successes and positive aspects of the Covid-19 vaccination campaign. This approach overlooks the importance of addressing potential challenges, concerns and misconceptions associated with vaccination, which if addressed, may have contributed to the readers' more comprehensive understanding. Secondly, the absence of explicit engagement with misinformation, unfounded beliefs or adverse sentiments regarding the vaccine within the articles raises questions about the depth of the coverage and publications' ability to address critical issues in public health discourse. Thirdly, while the articles emphasise positive community involvement and supportive initiatives, the lack of statistical information and broader contextual analysis limits the readers' ability to fully comprehend the scope and impact of the vaccination campaign. Additionally, the absence of critical evaluation or scrutiny regarding the vaccine rollout, such as examining potential disparities in vaccine distribution or

access, may undermine the articles' credibility and objectivity. Moreover, the articles' consistent positive framing of the vaccination campaign without acknowledging potential shortcomings or areas for improvement may inadvertently contribute to a one-sided narrative that overlooked the complexities and challenges inherent in public health interventions. Therefore, a more comprehensive and balanced approach to reporting on the Covid-19 vaccination campaign is warranted. This would entail critical analysis, engagement with diverse perspectives, and a transparent dissemination of information to foster informed public discourse and decision-making.

Furthermore, the omission of statistical data within the articles – data which is readily available in the public domain – raises significant concerns regarding the journalistic practices of the media outlet. Integration of such data could have fortified the positive narratives presented and underscored the substantial number of individuals undergoing vaccination during the specified period. The articles, while informative and positive in their tone, missed an opportunity to proactively engage with and counteract these prevalent misconceptions. Additionally, addressing and dispelling myths could have served to enhance public trust in the vaccination process and contribute to a more informed and confident community response.

Media outlets play a crucial role not only in disseminating positive developments but also in actively engaging with and rectifying prevalent misinformation, thereby ensuring a more comprehensive and accurate understanding of the vaccination landscape. The mainstream media is expected to deliver balanced views; the omission of any negative discourse may create suspicion within their readership. In addition, the articles in question may be criticised for failing to fulfil this vital role during a critical period in the public health discourse.

According to Van der Linden (2021), experimental evidence indicates a noteworthy decline of approximately six percentage points in the vaccination intention of individuals exposed to vaccine-related misinformation, particularly among those initially expressing a definite willingness to accept vaccination. Furthermore, Loomba et al. (2021), as cited by Van der Linden (2021), argue that this decline in vaccination intention poses a threat to the achievement of herd immunity. Drawing on Johnson et al. (2020), also referenced by Van der Linden (2021), an analysis of social network data reveals that, without interventions, unverified anti-vaccination content, notably on platforms like Facebook, is poised to significantly influence discussions in the coming decade.

In summary, the *Daily Sun* analysis reveals a prevailing theme of optimism, cooperation and community support. The framing of articles collectively reflects a commitment to disseminating information that contributes positively to public perceptions and encourages active participation in the vaccination campaign while ignoring misinformation.

In conclusion, while The *Daily Sun*'s coverage of Covid-19 vaccination initiatives maintained a positive tone and highlighted community involvement, there is room for future coverage to adopt a more balanced approach, address misinformation, include diverse perspectives and incorporate data-driven reporting to enhance transparency and public understanding of vaccination efforts.

5.5. Discussion on the *Daily Maverick* and *Daily Sun*'s "lack" of explicit mention of misinformation

The research findings indicate that, within the period of investigation spanning two months, from 7 May 2021 to 7 July 2021, neither the *Daily Sun* nor the *Daily Maverick* explicitly confronted misinformation or related concepts in their coverage. Notably, the *Daily Maverick* exhibited a comparatively superior performance in this regard when compared to the *Daily Sun*. But is it good enough?

The South African mainstream media operates under a multifaceted framework of accountability, extending beyond its responsibilities to shareholders and advertisers. Regulatory oversight includes adherence to the South African Press Code, and in the realm of print media, compliance with the rules and regulations stipulated by the Press Council of South Africa. While various regulatory bodies exist, this research will focus on the examination of the Press Code.

The comprehensive scope of the Press Code encompasses a myriad of concerns, primarily geared towards guiding journalists in avoiding undue harm. Central to this objective is the promotion of accurate, truthful, fair and balanced reporting in the interest of the public. Additionally, the Press Code emphasises affording subjects of critical reporting an opportunity to respond to allegations, thereby fostering fairness in media coverage. To operationalise these principles, the South African mainstream media adopted the Code of Ethics and Conduct for South African Print and Online Media, commonly referred to as the Press Code. The Press Council employs this code as a tool for holding the press accountable and providing guidance to journalists in their day-to-day activities of gathering and disseminating news and opinion.

In Chapter 1 of the South African Press Code, it explicitly states that the media must adhere to the principle of presenting news in context and in a balanced manner. This obligation includes a commitment to avoiding intentional or negligent departures from factual accuracy, whether through distortion, exaggeration, misrepresentation, material omissions, or summarisation.

The *Daily Maverick* and the *Daily Sun* are susceptible to criticism for engaging in “material omissions” within their coverage during the period under review. During the aforementioned period, there was a notable surge in the dissemination of misinformation. It is considered irresponsible on the part of these newspapers for not addressing, or at least attempting to address, specific issues that could have played a role in fostering the required herd immunity for the country's reopening. The traditional school of journalism adhered to the principle of refraining from publishing information pertaining to misinformation; however, this stance predates the advent of the internet and the ascendance of social media.

Christensen et al., (2022) argue that addressing misinformation in public discourse necessitates a departure from conventional practices within mainstream media, particularly in the context of the contemporary social media landscape. In their research, Christensen et al., (2022) analysed online news media content advocating for balanced coverage within mainstream media, emphasising that pro-vaccine arguments prioritise community safety, whereas anti-vaccine arguments emphasise individual freedom. As part of professional evolution, mainstream media needs to review its practices and principles, with a focus on finding alternative ways of addressing misinformation in the digital age.

As previously mentioned, the health implications of misinformation can have severe consequences. A notable instance is the old unsupported assertion of a link between vaccination and autism, which resulted in numerous parents opting not to vaccinate their children. This had profound effects on both individuals and societies, contributing to a notable rise in vaccine-preventable diseases, leading to preventable hospitalisations, fatalities and the allocation of substantial resources for subsequent research and public-information campaigns aimed at addressing the misinformation (Lewandowsky, et al. 2012).

To adeptly address the generation and dissemination of misinformation, as well as disinformation during the context of the Covid-19 pandemic or analogous global public health crises, it is imperative for mainstream media to actively participate by deploying its best or most suitable resources towards this endeavour. But it is not always that simple. According to Breeze (2021), endeavours by experts and discourse analysts to tackle the issue of the public's lack of comprehension of scientific information have been diverse. An initial point of departure is the concept of scientific consensus, a pivotal notion, albeit one that is not well grasped. Research suggest that the public is amenable to the idea of a division of cognitive labour. They acknowledge the notion that individuals, such as scientists, possess specialised knowledge regarding health or environmental matters and that a consensus among these experts holds more significant influence than a mere agreement among laypersons. This

notion needed to be exploited by the mainstream media during the Covid-19 pandemic to present balanced views to the public.

There are at least two approaches that the mainstream media could have employed to address this issue, drawing upon the agenda-setting theory. McCombs et al. (2007, p. 47) assert that the operation of the agenda-setting theory within the news media is based on two fundamental pillars: the first level of agenda-setting and the second level of agenda-setting. The first level involves conveying object salience. The second level focuses on the impact of the news agenda on the object by emphasising salience on attributes, also known as attribute agenda-setting. McCombs' research, originally conducted in the context of election campaigns and other public issues, can be extrapolated to assess the coverage by mainstream media during the second phase of the Covid-19 vaccination campaign in South Africa. It is noteworthy that the *Sowetan* made efforts to address misinformation during this period. However, it was surprising to observe the absence of similar explicit initiatives by the *Daily Sun* and the *Daily Maverick*.

The discovery regarding the similar behavioural patterns exhibited by the *Daily Sun*, a tabloid, and the *Daily Maverick*, a broadsheet, is not new. It fits into Wilczek's (2020) research on herd behaviour literature indicating that this is typical behavioural patterns between tabloids and broadsheets. In the study, Wilczek found contradictions to the perspective of prominent scholars in communication science who traditionally posited that news emanates from elite news media and then disseminates to other, often considered more "ordinary," media outlets. As highlighted earlier in this research paper, the global impact of the Covid-19 pandemic had significant ramifications on social, political, economic and psychological dimensions, necessitating a re-assessment of strategies, systems, and policies by individuals and corporations alike due to the implementation of lockdowns and trade restrictions. This exigency prompted the exploration of innovative strategies to ensure sustainability in the face of unprecedented challenges for the mainstream media as well. While Wilczek's (2020) study primarily centred on the dynamics between broadsheets and tabloids regarding the allocation of attention to political and economic misinformation, the attributes identified in the research were similarly applied in this study of health misinformation. This adaptation was deemed necessary due to the severe political and economic repercussions associated with the identified misinformation. Wilczek (2020, p.3) delineated tabloids as newspapers oriented toward mass- or mid-market audiences, while broadsheets were identified as newspapers with an up-market orientation. The *Daily Sun* falls within the tabloid category, while the *Daily Maverick* aligns closely with the broadsheet description, catering to higher LSMs.

Wilczek's study indicated a reciprocal imitation between the two types of media outlets, with broadsheets particularly mirroring the focus of tabloids to assess the news value of objects, events or topics. The investigation concentrated on significant political and economic occurrences, such as national elections and economic downturns (which the pandemic clearly was). Wilczek asserted that tabloids make the misinformation more publicly available therefore, putting more pressure on broadsheets to allocate more attention to the misinformation as well. The research asserts that broadsheets imitate tabloids in order to defend their economic and/or political positions. Notably, the *Daily Sun* refrained from publishing misinformation or fake news-related content, neither dispelling nor endorsing it. Accordingly, this pattern might also account for the absence of such content in the *Daily Maverick*. Another interesting observation in the articles was how both newspapers scored high on the 'informative' category even though the *Daily Sun* did not share any provincial breakdowns or statistical information.

While this research paper aimed to assess the response of three newspapers to misinformation, certain scholars such as Peter and Koch (2016) posit reservations about the active debunking of myths by mainstream media. In their study, the two scholars argued that attempting to rectify misinformation can have the opposite effect, leading the public to misremember the information as true (Peter and Koch, 2016, p.5). They conducted study on the *Washington Post*, which regularly published articles on a given topic and its top myths in an attempt to debunk them. The newspaper would use headlines such as "*Five Myths About Climate Change*" and present the myth in a highlighted statement and a statement on its accuracy (true or false) followed by a longer message that debunks it with actual scientific data. Their study revealed that this method is not always effective and might have the opposite effect as disclaimers do not always lead to rectification but may lead to a more serious solidification of the myth. The scholars further cautioned against this practice as it leads to the backfire effect because people often base their decisions on their erroneous memory (Peter and Koch 2016, p.4). This perspective, reflected in the approaches of the *Daily Sun* and the *Daily Maverick*, suggests that perhaps they were straying from such endeavours in an effort to avoid inadvertently amplifying these narratives and contributing to their proliferation.

Nevertheless, adopting a stance of neglect could also be considered as irresponsible journalism, as it allows conspiracy theories to gain momentum without counteraction. However, Lewandowsky et al. (2012) asserted that individuals typically fail to recognise the inaccuracy of information until they are presented with a correction or retraction. In this context, the government was already advocating a pro-vaccination narrative and mainstream media could have contributed not only by disseminating similar content, but also by actively debunking misinformation through collaborative efforts with health entities, utilising

educational or informational angles. This approach would likely have produced more favourable outcomes and enhanced public trust in the publications compared to the observed silent stance.

6. CHAPTER 6: STUDY OVERVIEW AND RECOMMENDATIONS

6.1. Introduction

Vaccines, akin to their counterpart, immunisations, have consistently evoked controversy, with instances of parental reluctance to vaccinate their offspring postnatally documented by many scholars across the globe (Sporton et al., 2001, and Berry et al. 2017 to name a few).

The availability of free technological platforms such as YouTube and Twitter have amplified the necessity for mainstream media to distinguish itself by delivering accurate news, thus underscoring its crucial role as a trusted information source during public health crises. Ensuring the integrity of news production amidst the proliferation of misinformation is paramount, emphasising the need for responsible journalism to counter false narratives and promote public health literacy.

6.2. Findings and recommendations

It is noteworthy that each newspaper targeted distinct demographic segments of the audience, necessitating an assessment of their effectiveness in addressing misinformation surrounding vaccines. This assessment aimed to ensure that the information disseminated aligns with the comprehension, viewpoints and apprehensions of the target audience, consequently shaping the efficacy of communication strategies and the broader impact of the newspaper's coverage on public attitudes and behaviours regarding vaccination.

While the *Daily Maverick* exhibited a commendable commitment to investigative journalism, the *Sowetan* intermittently adopted a critical stance towards vaccine administration and made efforts to address prevalent misinformation. Conversely, the *Daily Sun*, known for its sensationalised tabloid-style reporting, adopted a positive tone in its coverage of vaccination efforts, leveraging celebrity endorsements to promote vaccine uptake.

In the first part of the research question the researcher needed to assess the three newspapers' coverage of the second phase of vaccination in South Africa, garnering nuanced insights. However, addressing the second part of the first question, which focused on combating misinformation and inaccuracies, proved less straightforward, as each newspaper approached this challenge differently. For the second research question, it is evident that only the *Sowetan* made explicit attempts to address misinformation, while the *Daily Maverick* did so implicitly. Conversely, the *Daily Sun* did not attempt to rectify any rumours or fake news, potentially allowing misinformation to proliferate unchecked among its readership.

As media consumption patterns evolve and misinformation proliferates, mainstream media's commitment to responsible journalism becomes increasingly crucial. It is imperative for media

organisations to recognise their societal role in countering misinformation, aligning their practices with ethical frameworks such as the Social Responsibility Theory. This implies following robust and transparent practices in contributing to the public's understanding and trust during challenging times such as the Covid-19 pandemic and actively correcting false information. Achieving this may involve collaborating with experts and fact-checking organisations (such as Africa Check) to ensure the accuracy and credibility of the information prior to its dissemination by media outlets.

At a basic level, the mainstream media is entrusted with the moral obligation to deliver impartial coverage, and the failure to counteract misinformation by specific newspapers could be viewed as a violation of this responsibility. In the South African context, the failure to provide balanced views is in violation of the Press Code. Globally, the impartial coverage ethical duty also aligns with the Social Responsibility Theory, originating from the 1947 American Commission on Freedom of the Press, commonly referred to as the Hutchins Commission (Middleton, 2009). The commission formulated five guidelines for a socially responsible media, as outlined in the report titled: "*Free and Responsible Press*." The first guideline advocates that the press should: "Provide a truthful, comprehensive, and intelligent account of the day's events within a meaningful context" (Free and Responsible Press, 1947 as cited in Middleton 2009, p. 20).

The *Daily Sun* and the *Daily Maverick*, unfortunately, fell short in adhering to the first guideline. This is disheartening as the media is expected to be a reliable source, delivering a fair, accurate and comprehensive account of prevailing events. Notably, during the reviewed period, the public heavily relied on their smartphones and mainstream media, given the absence of events and the prevalence of remote work for most individuals, except those in essential services. The public, being consistently online and engaged, sought the latest updates on the pandemic and national affairs. The absence of counterarguments in mainstream media to the anti-vaccine narrative could potentially prompt individuals to seek information on the internet and social media networks and falling prey to even more misinformation, as traditional avenues like libraries were not readily accessible. The rapid and substantial expansion of the internet and social media platforms has resulted in heightened scrutiny applied to mainstream media outlets. Any failure on the mainstream media's part to provide a comprehensive representation of both perspectives in a story could be perceived as a disservice to the journalistic profession.

It is important to acknowledge that news organisations operate under significant time and resource constraints, driven by the exigencies of daily production deadlines. This regularity necessitates a constant and reliable flow of information, as noted by Schudson (2003). The

divergent coverage among the selected newspapers – the *Daily Maverick*, *Sowetan*, and the *Daily Sun* – is apparent. While the *Daily Maverick* benefits from more time to gather information for its print version, the *Sowetan* excels in breaking news first and leading conversations through its online platform. Nonetheless, both publications maintain a robust online presence, which subjects them to considerable pressure as stories unfold.

During the early stages leading up to the official commencement of the second phase of the vaccination period and even a few times during the campaign, the *Daily Maverick* outsourced its coverage to BCHJ and Spotlight. BCHJ specialises in health and social justice issues across Africa, focusing on science journalism. Spotlight, similarly, emerged from a commitment to monitor South Africa's health communication response to TB and HIV. In contrast, the *Sowetan* utilised its in-house journalists to report on the vaccination campaign from the onset of the second phase. But the *Daily Maverick* focused their coverage on statistics and government briefings more than on what was happening on the ground only quoting ordinary citizens a few times. During the initial stages of the vaccination campaign, the *Sowetan* portrayed a notably optimistic stance. The identified challenges, namely load shedding and registration issues, were contextualised as pre-existing concerns within the country. Notably, both of these newspapers did not address the pervasive issue of misinformation in the early days of the vaccination campaign. Given the substantial impact of misinformation in vaccination campaigns, its absence from the discourse represents a notable gap in the coverage from all three newspapers. The *Sowetan* adeptly responded to the evolving public discourse, particularly in light of the threat posed by misinformation, to the national plan of achieving herd immunity.

Both the *Daily Sun* and *Daily Maverick* prominently featured popular figures, including politicians and celebrities, undergoing vaccination. They diversified their coverage by profiling not only politicians but also influential figures aligning with existing studies on the sociology of news, which views news making as a reality-constructing activity influenced by those in power (Schudson, 2019). The *Daily Maverick*, a typical broadsheet, imitated the *Daily Sun*, balancing its coverage by also incorporating the voices of ordinary citizens and their vaccination experiences in the latter part of the campaign timeline. This approach, of incorporating ordinary voices, has been attributed to the *Daily Sun*'s rapid growth.

The inadequacies, and in some instances, the outright failure to address or counter misinformation by two of the selected newspapers contradicts the principles of the social responsibility theory. In accordance with the social responsibility theory, press independence is expected to be harmonised with a sense of obligation to society (McQuail, 1994, p. 116).

Moreover, Siebert et al. (1956) underscored that in instances where the press is incapable of fulfilling this obligation, some form of oversight should be instituted to ensure adherence.

Additionally, Berry et al. (1995, p. 122) assert that if the media fails in its social responsibility, the public possesses the agency to compel the government to enact regulatory measures on the media. The social responsibility theory posits that media entities should serve as educators, disseminating vital knowledge to the public, including information about their voting rights and awareness of the risks associated with global outbreaks and vaccination campaigns, among other critical issues. The different South African regulatory entities need to reinforce and oversee these principles.

In tandem with regulatory measures, there exists a compelling necessity for coordinated initiatives within the scientific community to counteract misinformation. Proactive efforts may include enhancing science literacy, both in traditional educational settings and through online platforms. Firstly, incorporating news literacy and science literacy into the high school curriculum could lay the groundwork for an informed public, equipping individuals with the skills to discern, consume and disseminate high-quality information related to Covid-19. Secondly, fostering a united front among scientists and healthcare professionals who share common beliefs and perspectives may cultivate cohesion, drawing others into their online echo chambers for collective expression. Additionally, national government should allocate augmented financial resources towards comprehensive informative and educational campaigns aimed at mitigating the prevalence of misinformation. This could be achieved through new policy development accompanied by high fines or possible imprisonment to discourage potential perpetrators from curating and spreading misinformation.

6.3. Possible tools to help fight misinformation

In fighting misinformation during the Covid-19 pandemic and during the mass vaccination programme, the first step is to understand that misinformation is a multidisciplinary subject where cultural principles, individual reasoning, societal developments, developing technology, and evolving media all come into play (Cook et al., 2015). Moreover, reducing the influence of misinformation requires a multidisciplinary approach (Cook et al., 2015, p.2). It cannot be left to the media; scientists, government officials and every part of society has a crucial role to play. Parallel to this step is a comprehensive, honest review of the pandemic communication tools utilised since the inception of the pandemic followed by an update on what worked and what needs to be improved. The pandemic communication tools need to appreciate the value of social media platforms and its influence.

Vraga et al. (2020) are of the view that in order to fight misinformation, there is a need to build news literacy and science literacy that provide a foundation to improve information consumption processes thus giving the public tools to identify, consume and share high quality information regarding Covid-19. This method can be achieved by incorporating public science communication as a chapter within Life Orientation subject in either grade 10 or 12 (matric) in order to equip learners with a strong decision-making base.

Peter and Koch (2016) have previously undertaken research examining strategies for addressing misinformation, emphasising the limited efficacy of mainstream media acting alone in this endeavour. Their findings underscore the necessity for broader societal involvement to effectively combat misinformation. Collaboration among mainstream media outlets, professional science communicators and public health writers could facilitate the translation of complex scientific concepts and processes into accessible content for the public domain, thereby contributing to the mitigation of misinformation within the realm of public health.

Mainstream media should prioritise establishing robust connections with scientists or scientific organisations, proactively engaging them beyond crisis situations. Integrating regular science features into their content, whether on a weekly or monthly basis, can render the profession more approachable, relatable and comprehensible to the public. Scientists could elucidate everyday myths and terminology in a manner that resonates with the general populace, such as examining the composition of common household products or processed foods. By incorporating science into daily discourse, it gradually becomes woven into the fabric of everyday life, diminishing its perceived intimidation. Such initiatives not only foster greater trust between mainstream media and their audiences, but also humanises scientists, demystifying their role and enhancing public understanding of scientific processes. Consequently, audiences are more inclined to regard scientists as credible sources of information, thereby bolstering confidence in media outlets to debunk and counter misinformation, rather than relying solely on social media algorithms. Similarly, the integration of health practitioners such as nurses, general practitioners, or pharmacists into media platforms beyond the scope of traditional advice columns on sex and relationships can provide valuable insights into the causes of various ailments and strategies for their management. This will contribute to a more informed and empowered public.

Furthermore, the South African government could incorporate science communication into the Key Performance Areas (KPA's) of their public research institutions, such as the South African Health Products Regulatory Authority (SAHPRA), South African Medical Research Council (SAMRC), and the Human Sciences Research Council (HSRC). Adequate funding should be allocated to enable these entities to translate their research findings into layman's terms and

conduct educational campaigns within communities and on social media platforms to debunk prevalent myths as they arise. However, as noted by Breeze (2021, p.10-11), while some individuals place trust in authoritative institutions like scientific or academic research organisations, others perceive messages originating from such sources as elements of establishment conspiracy. This perception can diminish the effectiveness of mainstream media efforts aimed at dispelling misinformation. Nevertheless, failing to address evident misinformation may be construed as a failure of journalistic duty, notwithstanding the potential hurdles posed by ingrained scepticism toward institutional sources. Such scepticism can lead the public seeking reassurance in alternative representations that purport to possess authoritative insights, thereby increasing susceptibility to conspiracy theories. Concurrently, a significant portion of the population predominantly relies on first-hand experiences, "common sense," and hearsay from those close to them in order to formulate their perceptions of the pandemic and vaccination. Notably, individuals with personal experiences often feel empowered to contribute their viewpoints to the discourse. Consequently, the integration of second-level agenda-setting by mainstream media holds promise for mitigating misinformation as it brings issue salience to the fore.

6.4. Limitations and future research

The researcher conducted an analysis of content disseminated by the newspapers without direct engagement with the journalists, newsrooms or the editorial teams. The newsrooms serve as pivotal settings where editorial decisions regarding content selection and presentation are made. Therefore, it would have been advantageous to undertake interviews with the editors and journalists of the respective newspapers to gain insights into their approaches to addressing misinformation. In addition, this study focused solely on three newspapers within a restricted timeframe. To comprehensively understand the role of media outlets in combating the misinformation infodemic, it is imperative to expand the temporal scope and include diverse media formats such as broadcasting over an extended duration. This broader approach would offer a more holistic understanding of the media's contributions to mitigating misinformation.

It has been over two years since the initiation of the vaccination campaign in South Africa, and the persistence of misinformation has not abated. On the contrary, it has proliferated due to the absence of mass explicit efforts to confront it. Subsequent research endeavours should delve into the impact of the pandemic on the South African mainstream media industry, particularly within the domains of health and science journalism. This inquest should ascertain whether the media has acknowledged the pivotal role of science in the public sphere, discern the implemented measures to communicate future pandemics, and evaluate the preparedness

of newsrooms for impending health crises. All three newspapers examined in this study now have an online presence with the *Daily Sun* being the last to establish it about a year ago. It will be even more interesting to know how this affects their readership, content and reach. Are they able to write more or less stories with some in print and others only online? Are they able to cover more topics or beats? Does this mean they require more or less journalists?

Future research is also needed to interrogate the psychological motivations for processing misinformation in the public sphere and provide a comprehensive theoretical framework for understanding susceptibility to misinformation, which will ultimately lead to resources to counter it. Experts believe that the consumption of public health misinformation is influenced by a host of factors such as knowledge deficits and inattention. Sometimes confusion can play a role in misinformation about non-politicised issues. However, public-health issues like Covid-19 can swiftly become politicised, potentially increasing panic thus leading to a higher susceptibility to misinformation. It is crucial to gain a more nuanced understanding of the dynamics inherent in health-related interactions within internet and social media networks, particularly in terms of how official and expert opinions are perceived within these platforms. This perspective would complement existing research areas, including sociological studies exploring vaccine denial and communication studies that delve into strategies for explaining health issues and combatting misinformation. By doing so, it can provide mainstream media with insights into the best way to present and disseminate health-related messages in the general public.

An avenue for further investigation involves the establishment of official social media accounts administered by scientists and experts, providing an interactive platform where ordinary citizens can pose enquiries and receive real-time responses. These accounts could be administered by scientific organisations, such as the SAHPRA, SAMRC and the HSRC, collaborating to offer the most pertinent and reliable guidance online. Exploration of potential collaborations among these entities is essential for comprehensive and effective implementation of anti-misinformation campaigns on national and global issues.

Concurrently, the custodians and proprietors of social media networks should enhance regulatory endeavours through the integration of advanced fact-checking tools and resources into their platforms. Recent strides in artificial intelligence have contributed to streamlining this process and will continue to be enhanced in order to embed the ability to detect and block the spread of inaccurate information. This proactive initiative could be utilised to facilitate the widespread dissemination of precise information, consequently attenuating the proliferation of misinformation not only within their networks but also across the broader expanse of the internet.

CONCLUSION

While discussions on public health policy and communication often overlook the messages circulating at the grassroots level among lay publics, it is becoming evident that these narratives hold significant influence in shaping the public discourse and perception of critical issues, especially when it relates to something as crucial as mass vaccination during a pandemic. Recent studies on social media messaging during certain health crises revealed a concerning trend characterised by expressions of distrust in official public health information and the delegitimisation of authoritative health spokespeople. This phenomenon was observed in the *Daily Sun*'s utilisation of prominent figures to advocate for their pro-vaccine position.

Lazer et al. (2017) posits that most of the human decision-making stems from shared-group or societal narratives and not necessarily from individual rationality, which aligns with second level agenda-setting theory. To address these challenges, some scholars propose the need to educate the public on how scientific research operates and to rectify misconceptions about the nature of scientific consensus with the potential to foster positive changes in public attitudes. Nevertheless, complexities emerge as official responses to recent health issues have proven counterproductive, contributing to public distrust in information campaigns and a reduction in overall risk perception. This dynamic challenges the credibility of an authoritative expert consensus in the eyes of many individuals, however, it can be mitigated through sustained and consistent attention from mainstream media utilising attribute salience. Additionally, scientists should proactively engage with the public more regularly, not solely in response to pandemics, endemics, or similar crises. As previously noted, scientific content often carries a reputation of being presented in a manner that may be ambiguous, which is challenging for laypersons to comprehend. Efforts should be made to alter this perception, facilitating a more universally accessible understanding of scientific matters. This will require public relations and science communicators to collaborate with the science community.

The agenda and frames set by the articles varies across topics, however, the absence of a dedicated effort to address prevalent misinformation is a missed opportunity. In the absence of dependable and precise information sources, the prospect of mitigating climate change, facilitating informed democratic decision-making, controlling a global pandemic, and in this case, executing effective vaccination campaigns becomes unattainable (West et al., 2021).

In the backdrop of unprecedented global health challenges, the Covid-19 pandemic underscored the pervasive influence of social media and the internet in disseminating

misinformation, a phenomenon widely critiqued by scholars (Pennycook, et. al. (2020); Ferrara, et al. (2020); Brindha, et al. (2020); and Skafle, et al, (2022). As the smart phones market continues to grow, the unregulated nature of social media platforms poses a significant challenge, perpetuating the spread of false or misleading information (Chiang, et al. 2019). Consequently, mainstream media outlets are tasked with the crucial responsibility of ensuring accurate news reporting, particularly during public health crises, to enable informed decision-making among the public.

In conclusion, addressing and mitigating misinformation necessitates comprehensive strategies encompassing media literacy, fact-checking mechanisms, critical thinking skills and responsible communication practices. These approaches are essential for combating the spread of misinformation and mitigating its detrimental effects on public discourse and societal well-being.

LIST OF ALL NEWSPAPER ARTICLES

SOWETAN

1. Fake news still drives negative thoughts, says health department

'Hesitance frustrates Covid-19 vaccination efforts' 13 May 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-05-13-hesitance-frustrates-covid-19-vaccination-efforts/>

2. Medics bemoan long queues, jabs running out

Mixed emotions over health workers' vaccination 14 May 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-05-14-mixed-emotions-over-health-workers-vaccination/>

3. Free State ready to vaccinate vulnerable citizens 17 May 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-05-17-free-state-ready-to-vaccinate-vulnerable-citizens/>

4. Excitement as mass vaccinations start

Elderly positive about taking their first jabs against Covid-19 18 May 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-05-18-excitement-as-mass-vaccinations-start/>

5. Phase two vaccine rollout for elderly started 'reasonably well': Mkhize

Covid-19 cases rise by another 1,757 18 May 2021 <https://www.sowetanlive.co.za/news/south-africa/2021-05-18-phase-two-vaccine-rollout-for-elderly-started-reasonably-well-mkhize/>

6. Vaccine rollout runs into teething problems from load-shedding to protests

18 May 2021 <https://www.sowetanlive.co.za/news/south-africa/2021-05-18-vaccine-rollout-runs-into-teething-problems-from-load-shedding-to-protests/>

7. Violent protests disrupt vaccine rollout for the elderly in the Free State

18 May 2021 <https://www.sowetanlive.co.za/news/south-africa/2021-05-18-violent-protests-disrupt-vaccine-rollout-for-the-elderly-in-the-free-state/>

8. Here's why some people are sceptical about Covid-19 vaccines 03 June 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-06-03-heres-why-some-people-are-sceptical-about-covid-19-vaccines/>

9. Here's why some people are sceptical about Covid-19 vaccines 03 June 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-06-03-heres-why-some-people-are-sceptical-about-covid-19-vaccines/>

10. KZN has vaccinated over 225,000 pensioners, says health MEC 06 June 2021

<https://www.sowetanlive.co.za/news/south-africa/2021-06-06-kzn-has-vaccinated-over-225000-pensioners-says-health-mec/>

11. Gogo becomes the oldest person to receive Covid-19 jab in SA, says health department 08 June 2021 <https://www.sowetanlive.co.za/news/south-africa/2021-06-08-gogo-becomes-the-oldest-person-to-receive-covid-19-jab-in-sa-says-health-department/>

12. FNB to help elderly register for Covid-19 vaccinations online *09 June 2021*
<https://www.sowetanlive.co.za/news/south-africa/2021-06-09-fnb-to-help-elderly-register-for-covid-19-vaccinations-online/>
13. Fear, fake news, registration process affecting vaccination of elderly: Kubayi-Ngubane *17 June 2021*
<https://www.sowetanlive.co.za/news/south-africa/2021-06-17-fear-fake-news-registration-process-affecting-vaccination-of-elderly-kubayi-ngubane/>
14. Elderly lament slow vaccination pace *18 June 2021*
<https://www.sowetanlive.co.za/news/south-africa/2021-06-18-elderly-lament-slow-vaccination-pace/>
15. 537 elderly prisoners have received Covid-19 jabs *28 June 2021*
<https://www.sowetanlive.co.za/news/south-africa/2021-06-28-537-elderly-prisoners-have-received-covid-19-jabs/>
16. 103-year-old granny gets jab during David Makhura's vaccination drive *07 July 2021*
<https://www.sowetanlive.co.za/news/south-africa/2021-07-07-103-year-old-granny-gets-jab-during-david-makhuras-vaccination-drive/>

DAILY MAVERICK

1. How provinces are gearing up for mass COVID vaccination kickoff *14 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-14-how-provinces-are-gearing-up-for-launch-of-mass-covid-vaccination/>
2. Ready for liftoff? SA's Vaccine Mission (Im)Possible *15 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-15-ready-for-liftoff-sas-vaccine-mission-impossible/>
3. Covid-19 Vaccination: What provinces have planned for older people *17 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-17-covid-19-vaccination-what-provinces-have-planned-for-older-people/>
4. *Phase Two of COVID vaccine roll-out starts off by prioritising old age homes* *17 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-17-phase-two-of-covid-vaccine-roll-out-starts-off-by-prioritising-old-age-homes/>
5. Archbishop Desmond Tutu and others get their jabs on Day One of South Africa's Covid-19 vaccine roll-out for the over-60s *17 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-17-archbishop-desmond-tutu-and-others-get-their-jabs-on-day-one-of-south-africas-covid-19-vaccine-roll-out-for-the-over-60s/>
6. Day 3: Nationwide Covid-19 vaccine roll-out sees more sites and longer queues *19 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-19-day-3-nationwide-covid-19-vaccine-roll-out-sees-more-sites-and-longer-queues/>
7. Western Cape allows limited walk-ins – but you won't be guaranteed a COVID jab *27 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-27-western-cape-allows-limited-walk-ins-but-you-wont-be-guaranteed-a-covid-jab/>
8. Eastern Cape health officials plead with residents to cooperate with contact tracing and testing teams *31 May 2021*
<https://www.dailymaverick.co.za/article/2021-05-31-eastern-cape-health-officials-plead-with-residents-to-cooperate-with-contact-tracing-and-testing-teams/>

9. Salim Abdool Karim: Journalists are crucial cogs in the telling of the complex and ever-evolving Covid-19 vaccine story 03 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-03-salim-abdool-karim-journalists-are-crucial-cogs-in-the-telling-of-the-complex-and-ever-evolving-covid-19-vaccine-story/>
10. Third wave of Covid-19 infections nips at the heels of the vaccine roll-out in four provinces 07 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-07-third-wave-of-covid-19-infections-nips-at-the-heels-of-the-vaccine-roll-out-in-four-provinces/>
11. Week Four: Western Cape to open ICC as mega site; FNB urges customers to get the jab 10 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-10-week-four-western-cape-to-open-icc-as-mega-site-fnb-urges-customers-to-get-the-jab/>
12. Week five: A timeline for J&J jabs and Gauteng allows walk-ins at all public sites 15 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-15-week-five-a-timeline-for-jnj-jabs-and-gauteng-allows-walk-ins-at-all-public-sites/>
13. A frontline view of vaccination efforts in the rural Eastern Cape 15 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-15-a-frontline-view-of-vaccination-efforts-in-the-rural-eastern-cape-2/>
14. Covid-19 vaccination roll-out: Why you are getting your Pfizer jabs six weeks apart
20 Jun 2021 <https://www.dailymaverick.co.za/article/2021-06-20-covid-19-vaccination-roll-out-why-you-are-getting-your-pfizer-jabs-six-weeks-apart/>

DAILY SUN

1. VACCINE JABS FOR ELDERS! 13 May 2021 <https://www.sn124.com/dailysun/coronainmzansi/vaccine-jabs-for-elders-20210513>
2. Gauteng criticised over number of vaccination sites 16 May 2021 <https://www.sn124.com/dailysun/news/gauteng-criticised-over-number-of-vaccination-sites-20210516>
3. KHOZA'S TAKE ON COVID-19 VACCINATION! 18 May 2021 <https://www.sn124.com/dailysun/sport/khozas-take-on-covid-19-vaccination-20210518>
4. PICS: ZCC BISHOPS GET COVID JAB! 21 May 2021 <https://www.sn124.com/dailysun/news/pics-zcc-bishops-get-covid-jab-20210521>
5. WC TO ALLOW WALK-INS FOR COVID JAB! 27 May 2021 <https://www.sn124.com/dailysun/news/wc-to-allow-walk-ins-for-covid-jab-20210527>
6. Covid-19 vaccine rollout: 'Government is moving as fast as it can' 28 May 2021 <https://www.sn124.com/dailysun/news/covid-19-vaccine-rollout-government-is-moving-as-fast-as-it-can-20210528>
7. More Covid-19 vaccine sites! 09 Jun 2021 <https://www.sn124.com/dailysun/coronainmzansi/more-covid-19-vaccine-sites-20210609>
8. Gogo (101) gets vaccine after surviving COVID! 11 Jun 2021 <https://www.sn124.com/dailysun/news/gogo-101-gets-vaccine-after-surviving-covid-20210611>

9. *PICS: CELE GETS HIS JAB!* 05 Jul 2021 <https://www.sn124.com/dailysun/news/pics-cele-gets-his-jab-20210705>

10. *GOGO (99) GETS COVID-19 JAB!* 06 Jul 2021 <https://www.sn124.com/dailysun/news/gogo-99-gets-covid-19-jab-20210706>

REFERENCES

- Aberese-Ako, M., Ebelin, W., Doegah, P. T., Kuatowo, M., Kpodo, L., Kpordorlor, A. G., Kaba Alhassan, R., Baba, A. A., Djokoto, S., and Ansah, E. K. (2023). Promoting COVID-19 vaccine acceptance through community engagement: An ethnographic study in Ghana. *Advances in Public Health*, 2023, 1-12. <https://doi.org/10.1155/2023/3626862>
- Abraham, T. (2011). Lessons from the pandemic: the need for new tools for risk and outbreak communication. *Emerging Health Threats Journal*, 4(1), 7160.
- Ahinkorah, B. O., Ameyaw, E. K., Hagan Jr, J. E., Seidu, A., and Schack, T. (2020). Rise above Misinformation or Fake News in Africa: Another strategy to control COVID-19 spread. *Front. Commun*, 5(45). <https://doi.org/10.3389/fcomm.2020.00045>
- Anspach, N. M., and Carlson, T. N. (2020). What to believe? Social media commentary and belief in misinformation. *Political behaviour*, 42(3), 697-718
- Berry, N. J., Henry, A., Danchin, M., Trevena, L. J., Willaby, H. W., and Leask, J. (2017). When parents won't vaccinate their children: a qualitative investigation of Australian primary care providers' experiences. *BMC pediatrics*, 17(1), 1-10.
- Bosch, T., and Wasserman, H. (2023). South African tabloid coverage of COVID19: The Daily Sun. *Media, Culture and Society*, 00(0), 1-12
- Boulianne, S., Tenove, C., and Buffie, J. (2022). Complicating the Resilience model: A four-country study about misinformation. *Media and Communication*, 10(3), 169-182. <https://doi.org/10.17645/mac.v10i3.53456>
- Boykoff, J. (2006). Framing dissent: Mass-media coverage of the global justice movement. *New Political Science*, 28(2), 201-208
- Breeze, R. (2021). Claiming Credibility in Online Comments: Popular Debate Surrounding the COVID-19 Vaccine. *Publications*, 9(3), 34. <https://doi.org/10.3390/publications9030034>
- Brindha, D., Jayaseelan, R., and Kadeswaran, S. (2020). Social media reigned by information or misinformation about COVID-19: a phenomenological study.

- Chiang, I. P., Wu, Y. J., and Yang, J.-Y. (2019). Exploring smartphone users' social information behavior. *Contemporary Management Research*, 15(1), 53-67.
<https://doi.org/10.7903/cmr.18461>
- Chong, D., and Druckman, J. N. (2007). Framing theory. *Annu. Rev. Polit. Sci.*, 10, 103-126.
- Christensen, B., Laydon, D., Chelkowski, T., Jemielniak, D., Vollmer, M., Bhatt, S., and Krawczyk, K. (2022). Quantifying changes in vaccine coverage in mainstream media as a result of the COVID-19 outbreak: Text mining study. *JMIR Infodemiology*, 2(2), e35121-e35121. <https://doi.org/10.2196/35121>
- Commission on Freedom of the Press. (1947). *A Free and Responsible Press: A General Report on Mass Communication: Newspapers, Radio, Motion Pictures, Magazines, and Books*. (Vol. 10). University of Chicago Press.
- Cook, J., Ecker, U., and Lewandowsky, S. (2015). Misinformation and how to correct it. In Scott, R., and Kosslyn, S. (Eds). *Emerging Trends in the Social and Behavioural Sciences*. John Wiley and Sons, Inc
- Cooper, S., van Rooyen, H., and Wiysonge, C. S. (2021). COVID-19 vaccine hesitancy in South Africa: how can we maximize uptake of COVID-19 vaccines? *Expert Review of Vaccines*, 20(8), 921-933 <https://doi.org/10.1080/14760584.2021.1949291>
- Cowling, L., and Hamilton, C. (2011). Producing media debate: Journalistic practice and public discussion. *Ecquid Novi: African Journalism Studies*, 32(3), 45-60
- Cowling, L. (2014). Building a Nation: The Sowetan and the Creation of a Black Public. *Journal of Southern African Studies*, 40(2), 325-341
- Creswell, J.W. (2003). *Writing strategies and ethical considerations*. New York: Sage Publishers
- Creswell, J.W., 2013. Steps in conducting a scholarly mixed methods study.
- Daily Maverick. (2012). A case study in digital publishing and display advertising October 2009-September 2012. *Daily Maverick*.
- Dearing, J. W., and Rogers, E. M. (1996). *Agenda-setting* (Vol. 6). Sage.
- Dee, K. J. (2023). *Content Analysis of Media Coverage of COVID-19 During the Trump and Biden Administrations: Applying Second-Level Agenda-Setting* (Order No. 30314664). Available from ProQuest Dissertations and Theses Global. (2827823433).

- <https://www.proquest.com/dissertations-theses/content-analysis-media-coverage-COVID-19-during/docview/2827823433/se-2>
- DePaolo, C. A., and Wilkinson, K. (2014). Get your head into the clouds: Using word clouds for analyzing qualitative assessment data.
- Dery, D. (2000). Agenda Setting and Problem Definition. *Policy Studies*, 21(1), 37-47
- de Vreese, C. H. (2005). News framing: Theory and typology. *Information design journal and document design*, 13(1).
- Dzinamarira, T., Nachipo, B., Phiri, B., and Musuka, G. (2021) COVID-19 Vaccine Roll-Out in South Africa and Zimbabwe: Urgent Need to Address Community Preparedness, Fears and Hesitancy. *Vaccines*, 9(250).
- Enders, A. M., Uscinski, J. E., Klostad, C., and Stoler, J. (2020). The different forms of COVID-19 misinformation and their consequences. *Harvard Kennedy School (HKS) Misinformation Review*, 1(8).
- Entman, R. M. (1993). Framing: Towards clarification of a fractured paradigm. *Journal of Communication*, 43, 51-58.
- Ferrara, E., Cresci, S., and Luceri, L. (2020). Misinformation, manipulation, and abuse on social media in the era of COVID-19. *Journal of Computational Social Science*, 3, 271-277.
- Friedman, S. (2021). In, but not of, Africa: a divided South Africa faces COVID-19 , The Round Table, *The Commonwealth Journal of International Affairs*, 110(1), 16-30 <https://doi.org/10.1080/00358533.2021.1875678>
- Fourie, P. J. (2003). The future of public service broadcasting in South Africa: the need to return to basic principles. *Communicatio*, 29(1-2), 148-181
- Guess, A., and Lyons, B. (2020). Misinformation, disinformation, and online propaganda. In Persily, N. and Tucker, J. A. (Eds.). *Social media and democracy: The state of the field, prospects for reform* (pp. 10-33). Cambridge University Press.
- Hadland, A. (2007). The South African print media, 1994-2004: An application and critique of comparative media systems theory.
- Humprecht, E., Esser, F., Van Aelst, P., Staender, A., and Morosoli, S. (2021). The sharing of disinformation in cross-national comparison: Analysing patterns of resilience. *Information*,

- Humprecht, E., Esser, F., and Van Aelst, P. (2020). Resilience to online disinformation: A framework for cross-national comparative research. *The International Journal of Press/Politics*, 25(3), 493-516
- Jack, C. (2017). Lexicon of lies: Terms for problematic information.
- Johnson, N. F., Velásquez, N., Restrepo, N. J., Leahy, R., Gabriel, N., El Oud, S., ... and Lupu, Y. (2020). The online competition between pro-and anti-vaccination views. *Nature*, 582(7811), 230-233.
- Joubert, M., Guenther, L., and Rademan, L. (2022). Expert voices in South African mass media during COVID-19 pandemic. *S Afr J Sci.*, 118(16)
<https://doi.org/10.17159/sajs.2022/12480>
- Iliffe, S., and Manthorpe, J. (2023). From Starmer's scuffle to the siege of Ottawa: The resistible rise of the anti-vaxxers. *Soundings* (London, England), 84(84), 225-237. <https://doi.org/10.3898/SOUN.84-85.14.2023>
- Kessler, S. H., and Bachmann, E. (2022). Debunking health myths on the internet: the persuasive effect of (visual) online communication. *Journal of Public Health*, 30(8), 1823-1835.
- Kolbe, H. R. (2005). The South African print media: from apartheid to transformation.
- Krippendorff, K. (2004). *Content Analysis: An Introduction to its Methodology*. California: Sage Publications.
- Lewandowsky, S., Ecker, U. K., Seifert, C. M., Schwarz, N., and Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological science in the public interest*, 13(3), 106-131.
- Loomba, S., de Figueiredo, A., Piatek, S. J., de Graaf, K., and Larson, H. J. (2021). Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA. *Nature human behaviour*, 5(3), 337-348.
- Love, J. S., Blumenberg, A., and Horowitz, Z. (2020). The parallel pandemic: Medical misinformation and COVID-19 : Primum non nocere. *Journal of General Internal Medicine: JGIM*, 35(8), 2435-2436. <https://doi.org/10.1007/s11606-020-05897-w>

- Lwin, M. O., Lee, S. Y., Panchapakesan, C., and Tandoc, E. (2023). Mainstream news media's role in public health communication during crises: Assessment of coverage and correction of COVID-19 misinformation. *Health Communication*, 38(1), 160-168.
- McCombs, M. (2002, June). The agenda-setting role of the mass media in the shaping of public opinion. In *Mass Media Economics 2002 Conference, London School of Economics*: <http://sticerd.lse.ac.uk/dps/extra/McCombs.pdf>.
- McCombs, M. E., Shaw, D. L., and Weaver, D. H. (2014). New Directions in Agenda-Setting Theory and Research. *Mass Communication and Society*, 17(6), 781-802 <https://doi.org/10.1080/15205436.2014.94871>
- McCombs, M., and Valenzuela, S. (2007). The agenda-setting theory. *Cuadernos de información*, (20), 44-50.
- McQuail, D. (1994). *Mass media theory*: 4th edition. University of Michigan: SAGE.
- Media Monitoring Project. (2000). Public service before commercial deluge. *Media Mask*, 5(1).
- Messner, M., and Garrison, B. (2011). Study shows some blogs affect traditional news media agendas. *Newspaper Research Journal*, 32(3), 112-126
- Metcalfe, J., Riedlinger, M., Bauer, M.W., Chakraborty, A., Gascoigne, T., Guenther, M.J., Kaseje, M., Herrera-Lima, S., Revuelta, G., Riise, J. and Schiele, B. (2020). The COVID-19 mirror: reflecting science-society relationships across 11 countries. *Journal for Science Communication*, 19(7), 1-23
- Mian, A., and Khan, S. (2020). Coronavirus: The spread of misinformation. *BMC Medicine*, 18(89)
- Middleton, M., 2009, *Social responsibility in the media*. Oxford University: PCMLP.
- Modipa T. I., Davel, M. H., and de Wet, F. (2013). Implications of Sepedi/English code switching for ASR systems. *Conference paper*.
- Moosa, M. (2020). News in the COVID-19 crisis: Where do South Africans get their news, and is it trustworthy? Findings from the 2019 South African Reconciliation Barometer. *The Institute for Justice and Reconciliation Policy Brief*, No. 27
- Moosa, M. (2021). A test of trust: Insights on South Africans' views of the COVID-19 vaccine from public opinion data. *The Institute for Justice and Reconciliation Policy Brief*, No. 32.

- Mudenda, S. (2021). COVID-19 Vaccine Acceptability and Hesitancy in Africa: Implications for addressing vaccine hesitancy. *Journal of Biomed Res Environ Sci*, 2(10).
- Ntloedibe, M., and Ngqinani, P. (2020). Understanding the Living Standards Measure Segmentation in South Africa. *United States Department of Agriculture*, (2020). Available at: URL: <https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName>.
- Orgeret, K. S. (2004). Unifying and Dividing Processes in National Media: The Janus Face of South Africa. *Critical Arts Journal*, 18(1), 147-162
- Patel, M. P., Kute, V. B., Agarwal, S. K., and behalf of COVID, O. (2020). "Infodemic" COVID 19: more pandemic than the virus. *Indian journal of nephrology*, 30(3), 188.
- Pearman, O. (2021). COVID-19 media coverage decreasing despite deepening crisis. Elsevier Ltd. *Planetary Health*, 5. <https://www.thelancet.com/planetary.health>
- Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., and Rand, D. G. (2020). Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy-nudge intervention. *Psychological science*, 31(7), 770-780.
- Peter, C., and Koch, T. (2016). When debunking scientific myths fails (and when it does not) The backfire effect in the context of journalistic coverage and immediate judgments as prevention strategy. *Science Communication*, 38(1), 3-25.
- PIL's List of COVID-19 Misinformation Resources. COVID-19 : The First 100 Days of U.S. News Coverage (2020). Project Information Literacy.
- Purnat, T. D., Nguyen, T., and Briand, S. (2023). *Managing Infodemics in the 21st Century: Addressing New Public Health Challenges in the Information Ecosystem* (p. 144). Springer Nature.
- Reilly, P. (2021). Countering misinformation and disinformation during contentious episodes in a divided society: Tweeting the 2014 and 2015 ardoyne parade disputes. *First Monday*, 26(7), 1. <https://doi.org/10.5210/fm.v26i7.10303>
- Ren, J., Dong, H., Popovic, A., Sabnis, G., and Nickerson, J. (2022). Digital platforms in the news industry: how social media platforms impact traditional media news viewership. *European Journal of Information Systems*, 1-18.
- Ren, J., Dong H., Popovic, A., Sabnis, G. and Nickerson, J. (2022): Digital platforms in the news industry: how social media platforms impact traditional media news viewership, *European Journal of Information Systems*, DOI: 10.1080/0960085X.2022.2103046

- Roldan de Jong, T (2021). 'Perceptions of COVID-19 vaccines in South Africa. *Rapid Review*, Brighton: Social Science in Humanitarian Action (SSHAP). <https://doi.org/10.19088/SSHAO.2021.021>
- Rudwick, S., Sijadu, Z., and Turner, I. (2021). Politics of Language in COVID-19 : Multilingual Perspectives from South Africa. *Politikon*, 48(2), 242-259 <https://doi.org/10.1080/02589346.2021.1917206>
- Sahoo, S., Padhy, S. K., Ipsita, J., Mehra, A., & Grover, S. (2020). Demystifying the myths about COVID-19 infection and its societal importance. *Asian journal of psychiatry*, 54, 102244.
- Scheufele, D. A., and Krause, N. M. (2019). Science audiences, misinformation, and fake news. *Proceedings of the National Academy of Sciences*, 116(16), 7662-7669.
- Scheufele, D. A., and Tewksbury, D. (2007). Framing, Agenda Setting, and Priming: The Evolution of Three Media Effects Models. *Journal of Communication*, 57, 9-20
- Schudson, M. (2003) *The Sociology of News*. W.W Norton and Company, Inc., New York.
- Schudson, M. (2019). Approaches to the sociology of news. *Media and society*, 6, 139-166.
- Shin, J., and Thorson, K. (2017). Partisan selective sharing: The biased diffusion of fact-checking messages on social media. *Journal of Communication*, 67(2), 233–255.
- Siebert, F.S., Peterson, T; Schramm, W. (1956). *Four theories of the press*. Urbana: University of the Illinois Press.
- Skafle, I., Nordahl-Hansen, A., Quintana, D. S., Wynn, R., and Gabarron, E. (2022). Misinformation about COVID-19 vaccines on social media: rapid review. *Journal of medical Internet research*, 24(8), e37367.
- Smith, A. E., & Humphreys, M. S. (2006). Evaluation of unsupervised semantic mapping of natural language with Leximancer concept mapping. *Behavior research methods*, 38, 262-279.
- Sparks, C (2000). Introduction: The panic over Tabloid news. In Sparks, C and Tulloch, J (eds). *Tabloid Tales – Global Debates Over Media Standards*. Lanham, MD: Roman and Littlefield, 1-40.
- Sporton, R. K., and Francis, S. A. (2001). Choosing not to immunize: are parents making informed decisions? *Family Practice*, 18(2), 181-188.
- Trading Economics, (2023 April). *Coronavirus COVID-19 Cases by Country: Africa*.

- Retrieved April 27, 2023, from <https://tradingeconomics.com/country-list/coronavirus-cases?continent=africa>
- Ullah, I., Khan, K. S., Tahir, M. J., Ahmed, A., & Harapan, H. (2021). Myths and conspiracy theories on vaccines and COVID-19: Potential effect on global vaccine refusals. *Vacunas*, 22(2), 93-97.
- UNESCO. (2018). *Journalism, Fake News and Disinformation*. Paris: UNESCO
- Valenzuela, S., Halpern, D., and Araneda, F. (2021). A downward spiral? A panel study of misinformation and media trust in Chile. *The International Journal of Press/Politics*, 27(2), 353-373
- Van Der Linden, S. (2022). Misinformation: susceptibility, spread, and interventions to immunize the public. *Nature Medicine*, 28(3), 460-467.
- Vraga, E. K., Tully, M., and Bode, L. (2020). Empowering Users to respond to misinformation about COVID-19 . *Media and Communication* (Lisboa), 8(2), 475-479. <https://doi.org/10.17645/mac.v8i2.3200>
- Wasserman, H., Chuma, W., Bosch, T., Ezuegbunam, C. E., and Flynn, R. (2021). South African newspaper coverage of COVID-19 : A content analysis. *Journal of African Media Studies*, 13(3), 333-350.
- Wasserman, H., and Galitz, W. (n.d.). *Media landscape questions: South Africa*. University of Cape Town
- West, J. D., and Bergstrom, C. T. (2020). Misinformation in and about science. *PNAS*, 118(15)
- Westlund, O. (2013). Mobile news: A review and model of journalism in an age of mobile media. *Digital Journalism*, 1(1), 6-26. <https://doi.org/10.1080/21670811.2012.740273>
- Weiss, J. A. (1989). The Power of Problem Definition: The Case of Government Paperwork. *Policy Sciences*, 22, 97-121
- White, M. D., and Marsh. E. E. (2006). Content Analysis: A Flexible Methodology. In Baker L. M. (eds). *Research Methods. Library Trends*, 55(1), 22-45
- WHO. (2005). Outbreak communication guidelines. Accessed 7 July 2023. <https://www.who.int/publications/i/item/WHO-CDS-2005.28>

- WHO. (2020). Working together to tackle the “infodemic”. Accessed 14 September 2023. <https://www.euro.who.int/en/health-topics/Health-systems/digital-health/news/news/2020/6/working-together-to-tackle-the-infodemic>
- Wilczek, B. (2020). Misinformation and herd behavior in media markets: A cross-national investigation of how tabloids’ attention to misinformation drives broadsheets’ attention to misinformation in political and business journalism. *Plos one*, 15(11), e0241389.
- Wilson, V. (2011). Research Methods: Content Analysis. *Evidence Based Library and Information Practice*, 6(4).
- Wu, L., Morstatter, F., Carley, K., and Liu, H. (2019). Misinformation in social media: Definition, manipulation, and detection. *SIGKDD Explorations*, 21(2), 80-90. <https://doi.org/10.1145/3373464.3373475>