

UNIVERSITY OF KWAZULU-NATAL ™

INYUVESI YAKWAZULU-NATALI

Investigating a youth-focused communication strategy to address vaccine hesitancy: A case study of COVID-19.

Nontokozo Zandile Bridget Gwala 222085828

Supervisor: Prof. Eliza Govender

Dissertation presented in fulfilment of the
Degree of Master of Science, In the Centre
for Communication, Media and Society,
School of Applied Human Sciences,
College of Humanities,
University of KwaZulu Natal, Howard College,
Durban, South Africa

Ethical Approval Number HSSREC/00007527/2024

July 2025

DECLARATION

I, **Nontokozo Zandile Bridget Gwala**, declare that the research reported in this dissertation, except where otherwise indicated, is my original work. This dissertation has not been submitted for any degree or examination at any other university. This dissertation does not contain other person's data, pictures or other information unless specifically acknowledged as sources from other persons. This dissertation does not contain other person's writing unless specifically acknowledged as being from other researchers. Where other sources have been quoted;

i. Their words have been re-written but retain the meaning and are referenced;
ii. Where their exact words have been used, they have been placed in quotation marks and referenced.

Candidate: Nontokozo Zandile Bridget Gwala

Signature: [redacted]

Supervisor: Prof Eliza

Govender Signature: _[redacted]____

Dedication

This work is dedicated to my mother, Gugu Cynthia Mbanjwa. Uthando lwakho nemikhulekho yakho ingithwalile kulendlela. I am truly grateful. This achievement is for both of us.

Acknowledgements

To God be all the Glory! Words are not enough to express my appreciation. Thank you, God, for giving me the grace, tenacity, and strength to finish this journey. Liyabasebenzela Abalikholwayo.

To my mother, thank you for your love, support and encouragement. Thank you for believing in me even when I struggled to believe in myself. Your prayers and comforting words have guided me in moments of doubt and reminded me of my ability to overcome. I am truly blessed to be your daughter.

To my supervisors, Professor Eliza Govender and Dr Mkhonzeni Gumede, thank you for your patience and guidance. Your expertise and insightful feedback have helped me shape this research. Prof. Govender, thank you for reminding me of the importance of faith during this journey. I am truly thankful for your wisdom, compassion and encouragement. To Yandisa Ntshongwana, thank you for your help in the final stages of this dissertation. I truly appreciate it.

Lastly, to my friends and family, thank you for your patience, encouragement and kind words. I am extremely grateful to you all for being beside me every step of the way.

Abstract

Vaccine hesitancy in South Africa has hindered the effective vaccination of citizens against infectious diseases. This caused delays in the COVID-19 vaccine rollout campaign and disrupted the South African government's efforts to achieve herd immunity. Young people, aged 18-35, have lower vaccination rates in comparison to older age groups. Existing vaccination promotion efforts have used top-down communication strategies, disregarding the unique communication channels and health concerns of young people. This marginalisation has led to decreased vaccine uptake, making young people a risk to vulnerable populations. This study explores youth-focused communication strategies to address vaccine hesitancy among young people in South Africa, using COVID-19 as a case study. The study highlights the complex interrelation between vaccine hesitancy, trust, and access to information, emphasising the need for engaging, relevant, and clear public health communication strategies. Universities and other institutions are essential in promoting vaccine literacy and enabling meaningful student engagement and health promotion. Understanding these strategies can help appeal to young people and encourage behaviour change in future health emergencies.

Key words: Vaccine hesitancy, COVID-19, young people, university, health communication strategies

Acronyms and Abbreviations

COVID-19	**Coronavirus Disease 2019**
FGD	**Focus Group Discussion**
HIV	**Human Immunodeficiency Virus**
HPV	**Human Papillomavirus**
KII	**Key Informant Interview**
TB	**Tuberculosis**
UKZN	**University of KwaZulu-Natal**
UNICEF	**United Nations International Children's Emergency Fund**
WHO	**World Health Organization**

List of Tables

Table 4.6.1: Inclusion and Exclusion Criteria for Focus Group Discussions 57
Table 4.6.2: Inclusion and Exclusion Criteria for Key Informant Interviews..... 60
Table 5.1.1: Themes and Sub-themes generated from the Data 71

Appendices

Appendix I: Informed Consent Form 138
Appendix II: Research Instruments 142
Appendix III: Coding Table 144
Appendix IV: Gatekeeper Letter 145
Appendix V: Ethics Approval Letter 146
Appendix VI: Turnitin Report..... 150

Table of Contents

Chapter 1: Introduction **1**
Background ***1***
Covid-19 Outbreak **1**
COVID-19 Health Communication in South Africa **3**
Vaccine hesitancy in South Africa and with young people **5**
Problem statement ***7***
Research Aim ***9***
Research Objectives ***9***
Research Questions ***9***
Theoretical Framework ***10***
Research Methodology ***11***
Structure of Dissertation ***12***
Chapter 2: Literature Review **14**
Introduction ***14***
Understanding Vaccine Hesitancy ***14***
COVID-19 Vaccine Hesitancy **17**
Vaccine hesitancy among young people in South Africa **19**
Communication for Public Health Emergencies ***22***
Risk communication in public health emergencies **23**
COVID-19 Vaccine Communication: Gaps and Lessons **26**
The Perceptions of Young People on COVID-19 Vaccine Communication .. **29**
University Students and COVID-19 vaccine communication **31**
Strategies for effective vaccine communication ***33***
Evaluation of the Literature ***35***
Conclusion ***36***
Chapter 3: Theoretical Framework **37**
Introduction ***37***
Risk Communication ***37***
Defining Risk Communication **37**
Evolution and Importance in Public Health Crises **38**
Trust Determination Theory ***39***
Overview and Origins of the Trust Determination Theory **39**
Key Components of the Trust Determination Theory **41**
Relevance of the Trust Determination Theory in Vaccine Communication . **43**

Limitations of the Trust Determination Theory **44**
Risk Perception Theory ***44***
Overview and Origins of the Risk Perception Theory **44**
Key Components of the Risk Perception Theory **45**
Relevance of the Risk Perception Theory in Vaccine Communication **47**
Limitations of the Risk Perception Theory **49**
Application of the Trust Determination Theory and the Risk Perception Theory in this study ***49***
Rationale for using Both Theories **50**
Addressing the Research Problem Using Both Theories **52**
Conclusion ***55***
Chapter 4: Research Methodology **56**
Introduction ***56***
The Interpretivist Paradigm ***56***
Qualitative Research Design ***58***
Positioning the research: Description of the research site ***61***
Sampling ***63***
Selection Criteria ***66***
Table 4.6.1: Table illustrating the inclusion and exclusion criteria for the focus group discussions. **66**
Table 4.6.2: Table illustrating the inclusion and exclusion criteria for the key informant interviews **68**
Participant Recruitment ***70***
Data Collection ***72***
Focus Group Discussions **72**
Semi-Structured Interviews **73**
Data Analysis ***75***
Limitations of the study ***76***
Ethical Considerations ***78***
Chapter 5: Data Presentation and Findings **80**
Introduction ***80***
Table 5.1.1: Themes and sub-themes generated from the data **81**
Uncertainties and perceived risks regarding COVID-19 Vaccines ***82***
Fear of vaccine side effects **83**
Perspectives about vaccine effect on immunity **84**
Low self-risk perception **85**

Concern for older or vulnerable populations 86
Information access, trust and vaccine communication gaps..... 87
Influence of different information sources 87
Passive vs proactive information seeking..... 92
Trust in channels of information 93
Youth communication needs in public health emergencies..... 98
Clarity and consistency in communication 99
Contextually relevant and engaging messaging..... 101
Strategies for future public health communication..... 103
Trusted messengers and youth-focused messaging 103
Institutional role and student engagement..... 106
Building vaccine literacy and confidence..... 109
Critical Insights 111
Conclusion..... 112
Chapter 6: Analysis, Discussion and Conclusion..... 113
Introduction 113
Interpretation of findings..... 113
Summary of Research Study..... 116
Summary of Research Findings..... 116
Research question 1: What are the perceptions of UKZN students regarding vaccines, using the COVID-19 pandemic as an example?..... 116
Research question 2: What are the communication needs of South African youth during public health emergencies, based on their experiences with COVID-19?..... 118
Research question 3: What communication strategies can effectively address the communication needs of South African youth during future public health emergencies?..... 120
Theoretical Relevance of Research Findings 122
Evidence of the Trust Determination Theory in the Data..... 122
Evidence of the Risk Perception Theory in the Data..... 122
Conclusion..... 123
References 125

Chapter 1: Introduction

Background

Covid-19 Outbreak

The outbreak of the Coronavirus Disease 2019 (COVID-19) pandemic in South Africa highlighted the threat that has been posed by vaccine hesitancy in public health's efforts to curb and eliminate infectious diseases (Bangalee & Bangalee, 2021; Ushe and Prah, 2024). The COVID-19 pandemic has been one of the greatest difficulties experienced by South Africa and has severely impacted the lives of individuals nationwide (Croucher and Diers-Lawson, 2023). It has been an epiphany for the South African healthcare systems and has altered their approaches and procedures regarding disease prevention and management (Cooper et al., 2021).

On March 5, 2020, the first confirmed case of COVID-19 in South Africa was reported (Mkhize, 2020; Broadbent et al., 2020). After its discovery, the South African government acted swiftly to try and have some control over the virus and its spread (Burger et al., 2022). On the 15th of March 2020, the South African President, Cyril Ramaphosa, took action to allow the government to establish an integrated and correlative disaster administration system that concentrated on containing and averting the outbreak by announcing a national state of disaster (Ndlovu, 2019; Kollamparambil et al., 2021; Cooper et al., 2021). The government began to enforce the initial restrictions on the country, such as putting a halt on tourism and travel as well as the closure of restaurants and bars to eliminate the congregation of large groups of people (Broadbent et al., 2020). The first death due to the disease was marked on the 27th of March 2020 and thereafter was a rapid escalation of the pandemic throughout the country (Katoto et al., 2022).

The country entered a lockdown from the 27th of March 2020, prohibiting any movement for non-essential purposes (Katoto et al., 2022). The South African lockdown lasted for over two years and was officially lifted in April 2022 (South African Government, 2023). It had several tiers that changed based on how quickly the virus spread at any given time when compared to the health

system's preparedness (La
Rosa, 2021; South African Government, 2023).

South Africa began its nationwide vaccination programme against the virus on the 17th of February 2021, and it was to be implemented in three different phases (Katoto et al., 2022). The first stage was aimed towards healthcare personnel who were most at risk, the second phase was aimed towards essential workers, individuals working in huddled environments, individuals over the age of 60 and those over 18 years of age with comorbidities (Katoto et al., 2022). The final phase would then focus on all individuals who were above 18 years of age (Katoto et al., 2022; Wiysonge et al., 2022). The South African Health Products Regulatory Authority (SAHPRA) authorised the CoronaVac (Sinovac), Pfizer /BioNTech, Johnson & Johnson and the AstraZeneca vaccines to be distributed in South Africa (South African Government, 2023). The intention was to achieve herd immunity, which would ensure that more people are vaccinated in the community, making it more difficult for pathogens to circulate (South African Government, 2023). Herd immunity is a state in which a sufficient portion of a population is immune to an infectious illness, hence reducing the probability of transmission (Randolph & Barreiro, 2020). People who are not vaccinated, such as those who have medical contraindications, are protected by this herd immunity. Herd immunity was a critical public health goal during the COVID-19 pandemic because it would reduce hospitalisation, mortality rates and viral transmission (Dubé et al., 2021; Kadkhoda, 2021). Herd immunity would have been achieved by the successful vaccination of at least 67% of the population by the end of the year 2021.

However, issues such as vaccine hesitancy within different communities in the country served as a barrier to the successful immunisation of most of the population (Cooper et al., 2021). The issue of vaccine hesitancy and the threat it poses to public health in South Africa has been visited by researchers multiple times since the beginning of the pandemic. When the recommended vaccinations became accessible, a growing percentage of South Africans were seen to be postponing or refusing to get them for themselves or their

kids (Casale et al., 2025; Wiyeh et al., 2019). Due to the severity of the pandemic, numerous studies have been conducted to investigate the elements that affect COVID-19 vaccine hesitancy among individuals within different contexts in efforts to manage and respond to it accordingly (Lee and Wu, 2023; Casale et al., 2025; Katoto et al., 2022; Moodley and Oppong, 2023; Muthoni et al., 2023). When the COVID-19 pandemic dominated South Africa for two years, the Department of Health and the government implemented numerous measures and strategies in efforts to educate people about the virus to contain its spread (Șitoiu and Panisoara, 2024). The progress of the COVID-19 vaccine was assisted by the introduction of non-pharmaceutical measures such as social distancing, face masks and hand cleanliness. (Kollamparambil et al., 2021). Non-biomedical strategies, such as face mask use, physical separation, hand hygiene, and prohibitions on large gatherings, as well as efficient risk communication and community involvement, were essential in controlling the COVID-19 outbreak in addition to vaccination (World Health Organization, 2021). Prior to the broad availability of vaccinations, these non-biomedical treatments were particularly important, and they continue to be crucial in assisting vaccination programmes (Van den Broucke, 2020). Risk communication, which sought to educate and enable people to make choices that reduced their exposure to the virus, was essential to these initiatives (Reynolds & Quinn, 2008). Therefore, understanding how young people view vaccine communication is crucial to understanding how to successfully incorporate both biological and non-biomedical techniques.

COVID-19 Health Communication in South Africa

The COVID-19 pandemic has altered the way that the government of South Africa interacts and communicates with citizens (Leburu et al., 2022). Prioritising transparent communication from trustworthy sources regarding the pandemic and its effects on the country and its population is essential during a public health emergency (Birungi, Parker and Whiteside, 2022). It guarantees that individuals can navigate scepticism and intercede for favourable health outcomes by making educated decisions (Gumede, Durden and Govender,

2022). Being one of the countries in Africa most disastrously impacted by the infiltration of COVID-19, South Africa's government faced significant obstacles in informing the public about its crisis response (Wasserman and Madrid-Morales, 2022).

President Cyril Ramaphosa began holding regular televised speeches to the public following the verification of the first case of COVID-19 in the nation (Wasserman and Madrid-Morales, 2022). The primary objective of these addresses was to announce various lockdown levels according to infection rates (Wasserman and Madrid-Morales, 2022; Hunt, 2021). Social media and news outlets provided daily information on infections, recoveries, and, eventually, immunisations (Hunt, 2021). In these statements, the government affirmed its adherence to scientific evidence and emphasised community and solidarity discourse to compel South Africans to cooperate in combating the pandemic (Staunton et al., 2020). However, since there were no opportunities for questions or conversations with journalists during these broadcast meetings, it was also criticised for being biased (Staunton et al., 2020; Wasserman and Madrid-Morales, 2022).

The South African national health department, with the help of the Communication Work Stream of the Technical Committee of the Inter-Ministerial Committee on Vaccinations, developed the vaccine messaging guidelines for COVID-19 to be applied nationwide (Coman et al., 2024; SA Corona Virus Online Portal, 2022). They were designed to help communicators create messaging about the vaccine distribution and focus on the important issues that the consumers of the information might have (Coman et al., 2024; SA Corona Virus Online Portal, 2022). The key communication issues related to COVID-19 vaccines that were addressed in the COVID-19 vaccination messaging guidelines included getting the public involved in spreading the message, managing expectations, communication on vaccine safety, vaccine hesitancy, communicating risk, preparing media and engaging communities (SA Corona Virus Online Portal, 2022).

Following the escalation of the pandemic, developing a flexible, localised Risk Communication and Community Engagement approach and regularly assessing its efficacy became the key objectives of the South African response to COVID-19 (Leburu et al., 2022). The intention behind the strategy is to guarantee vaccine acceptance, promote uptake, and allay concerns about the vaccine by providing timely, accurate, and transparent information (COVID-19 South African Online Portal, 2023; Leburu et al., 2022). This approach offers precise recommendations for disseminating evidence-based, scientifically sound communications to the general population (COVID-19 South African Online Portal, 2023; Pinho and Mawila, 2024). Global research was considered in the approach, and country context-appropriate communication actions were articulated (COVID-19 South African Online Portal, 2023; Leburu et al., 2022, Pinho and Mawila, 2024).

Vaccine hesitancy in South Africa and with young people

Vaccine hesitancy has been a persistent obstruction to the effective immunisation of South African citizens against infectious diseases. Vaccination programmes within the country have made exceptional progress over the past few years and vaccine hesitancy has continued to threaten these achievements (Cooper et al.,2018). Numerous South African citizens have delayed or refused recommended vaccines for themselves or their children, thus making their communities vulnerable to infectious diseases (Cooper et al., 2018). By the time the COVID-19 pandemic devastated the world, the phenomenon of vaccine hesitancy was already receiving remarkable global attention.

One of the biggest obstacles to South Africans receiving a successful COVID-19 vaccination is vaccine hesitancy (Bangalee & Bangalee, 2021; Muyambo et al., 2023). It poses a serious challenge to the national fight against the COVID-19 pandemic, which entails the government's attempts to stop the virus from spreading throughout communities (Mhlungu, 2021). Vaccine Hesitancy has delayed the progress of the South African COVID-19 vaccine rollout campaign and has disrupted the government and health department’s

efforts to achieve herd immunity (Katoto et al., 2022). A major COVID-19 vaccination campaign started in South Africa with the goal of vaccinating forty million adults by 2021 (Katoto et al., 2022). The goal was to control the pandemic while reducing its negative effects on the economy and public health. However, almost three years later, in March 2024, only 35% (or twenty-one million people) of South Africans had received all recommended COVID-19 vaccinations (WHO, 2024).

In South Africa, the onset of the COVID-19 vaccine rollout encouraged research on vaccine hesitancy and the need to find solutions to counter it (Cooper et al., 2021; Willis et al., 2021). Numerous studies have presented that young people between 18 and 34 demonstrate a significant proportion of vaccine hesitancy (Cooper et al., 2021; Volkmer et al., 2021; Yang et al., 2020). One of the consistently observed contributors to COVID-19 vaccine hesitancy in South African young people is the lack of valid youth-focused vaccine communication to promote vaccine safety and vaccine trust among young people. Most research on vaccine hesitancy has failed to highlight effective strategies for communication that can address vaccine hesitancy among young people (Cooper et al., 2021; Volkmer et al., 2021; Yang et al., 2020; Lee, 2018). Studies analysing COVID-19 vaccine hesitancy have highlighted the relationship between the lack of youth-focused vaccine communication strategies and young people’s hesitancy to accept the COVID-19 vaccine in various regions of the country (Cooper et al., 2022; Kollamparambil et al., 2021; Roozenbeek et al., 2020; Yang et al., 2020). Due to vaccine hesitancy's impact on the attempts to control COVID-19 infections in South Africa, understanding the role of a youth-focused communication strategy to address this hesitancy is crucial.

Communication for behaviour change to reduce COVID-19 infections in South Africa has mostly been directed to the vulnerable groups to slow the spread of the virus and control the growing morbidity rate among them (Wiysonge et al., 2022). However, all this communication has overlooked young people and their needs during the COVID- 19 health crisis (Wiysonge et al., 2022). The

idea that young people were overlooked during the COVID-19 pandemic was further emphasised by the roll-out of the COVID- 19 vaccine programme, which was set to be implemented in phases and did not prioritise young people (Machingaidze and Wiysonge, 2021). The first two phases of the programme prioritised front-line workers and vulnerable individuals, leaving the younger age groups to be attended to last (Katoto et al., 2022; Wiysonge et al., 2022). The way in which the roll-out programme of the COVID-19 vaccine was implemented may have contributed to many young people's uncertainty towards COVID-19 vaccination (Machingaidze and Wiysonge, 2021). The belief that vaccination was not as important for young people may have been reinforced by the initial phases of the vaccine roll- out, which gave priority to older people and people with comorbidities (Machingaidze and Wiysonge, 2021). The lack of messages tailored for young people further deepened the feelings of exclusion (Runciman et al., 2021).

Problem statement

Vaccines are essential for preventing health crises like COVID-19. However, young people, especially university students, still display high levels of vaccine hesitancy (Cooper et al., 2022). According to South African data, the rates of vaccination were lower among individuals who were aged between 18 and 35 years than among older age groups (Bangalee and Bangalee, 2021; Sewpaul et al., 2023). Vaccination promotion efforts have been implemented; however, they mainly adhered to a top- down method that disregarded the participation of young people and their unique channels of communication (Cooper et al., 2022). The marginalisation and disregard for young people's health communication needs and health concerns contributed to their decreased vaccine uptake levels, making them a high risk to vulnerable populations as they can be carriers of the virus (Muthoni et al., 2023; Yang et al., 2020).

This study explores youth-focused communication strategies to address vaccine hesitancy among South African young people. Using COVID-19 as a case study, this study explores young people's perceptions of COVID-19

vaccination to understand their communication needs during public health emergencies. Vaccine hesitancy among young people were crucial in the attempts to control the advancement of the COVID-19 infections; therefore, understanding what communication strategies would effectively appeal to young people for behaviour change in future health emergencies is essential (Machingaidze and Wiysonge, 2021).

A knowledge gap exists in the current literature regarding how South African university students respond to public health communication during health emergencies, such as the COVID-19 pandemic. Although researchers have explored vaccine hesitancy and health communication around COVID-19, they have not explored the ways in which young people at the University of Kwazulu-Natal (UKZN) and similar institutions perceive and interpret health communication strategies (Sewpaul et al., 2023; Kennedy, 2020). Existing research has often generalised populations of young people or focused on biomedical findings (Wiysonge et al., 2022). Thus, overlooking the institutional and social circumstances in which vaccine communication transpires (Wiysonge et al., 2022; Dzinamarira et al., 2021). This gap is closed by this study investigating how UKZN students perceive, access and trust vaccine-related communication during a public health emergency. This understanding is required for designing successful communication strategies that resonate with the realities of young people in South Africa.

Previous research on COVID-19 vaccination communication in South Africa also has a significant methodological gap. In such a way that most studies investigating COVID- 19 vaccination to young South Africans use quantitative methods such as surveys etc, which fail to adequately capture the complex perceptions, motivations and beliefs that affect young people's decisions to get vaccinated (Bangalee & Bangalee, 2021; Cooper et al., 2021). A qualitative, interpretivist methodology is employed in this study to provide a context-specific understanding of the communication processes that impact university students' vaccine uptake. Thus, this study adds to the variety of approaches used to evaluate vaccine hesitancy and vaccine communication

research in South Africa (Miles, 2017)

.

Little empirical research has explored how important health messages reached students, as well as how young audiences reacted to and used such messages (Botha & Engelbrecht, 2022; Mavuso et al., 2022). Specifically, little is known about the role of informal communication channels such as social media, family, and peers, as well as institutional communications. The experiences of young people have been underrepresented in empirical research. Most empirical studies focused on adult decision-makers or general population attitudes (Bangalee & Bangalee, 2021; Cooper et al., 2021; Wiysonge et al., 2022). This study fills this

gap by gathering primary data from UKZN students to assess the efficiency and limitations of current communication strategies. Thus, adding new empirical insight to the body of knowledge on youth-focused health communication in South Africa.

Research Aim

This research study aims to investigate a youth-focused communication strategy to address vaccine hesitancy using COVID-19 as a case study.

Research Objectives

1. To investigate the perceptions of UKZN students regarding the COVID-19 vaccine.
2. To understand the communication needs of South African youth during public health emergencies.
3. To advance the understanding of the communication needs of South African youth to inform effective communication during public health emergencies.

Research Questions

1. What are the perceptions of UKZN students regarding the COVID-19 vaccine?
2. What are the communication needs for South African youth during public health emergencies?

How can understanding the communication needs of South African youth inform more effective communication during public health emergencies?

Theoretical Framework

This research study employed the Trust Determination Theory and the Risk Perception Theory to frame the investigation of a youth-focused communication strategy to address vaccine hesitancy. The core tenets of the Trust Determination Theory and the Risk Perception Theory have been used to investigate and understand how risk communication can effectively influence positive behaviour during health emergencies like COVID-19 (Covello et al., 2021). The Trust Determination Theory and the Risk Perception Theory fall under the Risk Communication Framework, which has extensively investigated risk communication's viability as a useful strategy for reducing the catastrophic consequences that health emergencies and disaster dangers pose to human life (Abunyewah, Gajendran and Maund, 2018).

Addressing vaccination hesitancy, particularly among young people, requires an understanding of how risk perceptions and trust in information sources impact decision-making (Bangalee & Bangalee, 2021; Kollamparambil et al., 2021; Cooper et al., 2022; Cipolletta et al., 2022; Lohoniva et al., 2022; Katoto et al., 2022). Thus, the Trust Determination Theory and the Risk Perception Theory can help to build effective communication strategies to increase vaccination uptake (Ferrer & Klein, 2015; Covello et al., 2021). These theories have also helped the researcher to create targeted messaging to appeal to young people according to their perceptions of the validity of vaccines and the risks associated with vaccination and illness (Ferrer & Klein, 2015; Covello et al., 2021; Kollamparambil et al., 2021; Lohoniva et al., 2022; Ferris, 2017).

Research Methodology

The research study is located in the interpretivist research paradigm to understand the perceptions of young people about vaccines and vaccine communication. The interpretive paradigm allows the researcher to learn more by exploring experiences and perceptions of a specific social environment, according to the study (Alharahsheh and Pius, 2020). This study addresses vaccination hesitancy during public health emergencies by developing a youth-focused communication strategy using an exploratory case study inside a qualitative research approach (Creswell and Poth, 2016; Creswell and Creswell, 2017; Mthembu, 2024). The target population is UKZN students aged between 18 and 35. Purposive sampling was employed in the selection of the students needed for the study data (Palinkas et al., 20215). A total of fifteen participants were chosen, including twelve students for focus group discussions (FGD) and 3 key informants with first-hand knowledge of university students' challenges. The researcher held two focus group discussions, each consisting of six participants per group. The researcher recruited participants from the common areas of UKZN Howard College, including libraries, cafeterias, and student services buildings. Key informants were recruited from key information areas, such as UKZN Campus Health Clinic and the Students Union Building. The inclusion criteria for this study include male and female students aged 18 to 35 who have accepted the COVID-19 vaccine voluntarily, refused the vaccine or accepted the vaccine but were hesitant.

In this study, focus group discussions and key informant interviews (KII) have been used as data gathering techniques. Focus groups, in which a moderator leads discussions with six to twelve participants, are a useful method of gathering viewpoints from a large number of people at once (Barrett and Twycross, 2018; Fusch and Ness, 2015). The study utilised semi-structured interviews to collect detailed and rich data from the key informants. In qualitative research, these interviews are a common technique that let participants to openly share their personalities and points of view while gathering crucial data (Muzari, Shava and Shonhiwa, 2022).

The study employed a reflexive thematic analysis to analyse the data gathered from focus group discussions and key informant interviews (Mwelase, 2019). The six phases of the reflexive thematic analysis were applied, starting with the researcher actively interacting with the data and transcribing the transcripts (Braun and Clarke, 2019; Campbell, 2021). The data was then coded and labelled to identify similarities and discrepancies, and themes were developed according to how they related to the research interest (Maguire and Delahunt, 2017). The concepts were examined in the fourth stage, and the themes were refined in the fifth phase (Braun and Clarke, 2019). The final phase involved determining the best extracts to represent the data analysis, and all information was presented, clarified, and examined in light of the study's research questions and conceptual foundations (Braun and Clarke, 2019; Peterson, 2019).

Structure of Dissertation

Chapter one: introduces and presents the research study by providing a brief and concise description of the study's purpose, the background of the study, the aim of the study, the objectives of the study and the structure of the study.

Chapter two: reviews and examines the literature that relates to COVID-19 vaccine communication among young people in South Africa. It establishes important concepts that were used throughout the study and highlights and discuss the issues of vaccine hesitancy and communication for public health emergencies among young people in South Africa.

Chapter three: outlines the theoretical framework that directs the investigation of this study. This chapter examines the history, characteristics and operations of the Trust Determination and Risk Perception theories. In this study, the Trust Determination and Risk Perception theories are employed as an approach which is suitable for examining the interconnected elements that impact health behaviour.

Chapter four: outlines the methodology utilised in this study. This includes the research paradigm, data collection methods, research approach, design, recruitment strategy, limitations, and ethical considerations.

Chapter five: Data Presentation The data collected using the study's research instruments has been presented. The data collected from the focus group discussions and key informant interviews is presented according to the themes that emerged.

Chapter six: **Data analysis and discussion of the findings**. This chapter analyses the collected data through thematic data analysis. It also discusses research findings in relation to the research questions and provides a conclusion for the chapter.

Chapter 2: Literature Review

Introduction

This review analyses articles on COVID-19 vaccine communication in South Africa and how it has been implemented, received and perceived by communities and individuals in the country. The review clarifies the matter of vaccination reluctance and the importance of implementing effective communication strategies to combat it. This study aims to explore a youth-focused communication strategy to address vaccine hesitancy; therefore, this chapter analyses the sources that relate to COVID- 19 vaccine communication among young people South Africa with the specific focus to university students.

Understanding Vaccine Hesitancy

One of the most significant contributions to medicine in history is the evaluation of vaccination (Kennedy, 2020). It is credited with saving an estimated two to six million lives each year and has resulted in the near eradication or control of numerous deadly diseases (Kennedy, 2020; WHO, 2024). Vaccination assists in achieving wider public health objectives such as herd immunity, which is crucial in mitigating the outbreak of viral diseases (Bullen, Heriot and Jamrozik, 2023). Vaccination also protects people by promoting an immune response to viral diseases (Centers for Disease Control and Prevention, 2024). As of 2024, vaccination has stopped between 3.5 and 5 million deaths per annum due to measles, tetanus, diphtheria, and pertussis (Shah and Nguyen, 2025; WHO, 2024). Vaccination offers defence against infectious illnesses as well as against any potentially harmful side effects or consequences (CDC, 2016). This is true for diseases such as Seasonal Influenza (flu), Hepatitis B and Human papillomavirus (HPV) (CDC, 2016). Despite these advantages, vaccine hesitancy persists as a challenge for global vaccination efforts (WHO, 2024).

Vaccine hesitancy is the delay in acceptance or refusal of vaccination

despite the availability of vaccination services (WHO, 2024). Vaccine Hesitancy has different causes and expressions in different places and situations (Larson et al., 2014; CDC, 2016). The WHO Strategic Advisory Group of Experts working group provided a broad description, characterising vaccination hesitancy as a postponement in acceptance or refusal notwithstanding vaccine availability or as a continuum between accepting and refusing vaccinations (WHO, 2024; Bussink-Voorend et al., 2022). This broad definition highlights variability by stating that vaccine hesitancy can fluctuate between vaccine types and situations (Bussink-Voorend et al., 2022; WHO, 2024). The Expanded Programme on Immunisation was launched in 1974 and significantly increased vaccine coverage for diseases like pertussis, polio, diphtheria , tetanus, and measles (Cooper et al., 2018). However, waves of public mistrust, religious and political resistance and misinformation have periodically threatened the success of these initiatives (Cooper et al., 2018). One of the most notable instances is the Nigerian boycott of the polio vaccine in 2003-2004, which led to polio outbreaks on three continents and quintupled the country's polio percentages between the years of 2002 and 2006 (Ghinai et al., 2013).

These challenges have also affected South Africa. Full vaccination coverage has been a challenge to obtain due to chronic vaccine hesitancy (Bangalee and Bangalee, 2021). Vaccine hesitancy remains a challenge for South Africa despite successfully introducing vaccines for HPV, Rotavirus and Pneumococcus (Gbadebo Collins Adeyanju et al., 2024). The complex political history of South Africa, which was characterised by colonialism, apartheid and the inequalities in access to healthcare, has contributed significantly to the mistrust in public health systems, especially among marginalised communities (Larson et al., 2014). The views of the public on vaccination have been influenced by these systemic injustices, particularly among young people who are navigating a post-apartheid society that is still unequal (Sekalala et al., 2021).

An expanding body of literature has identified several elements that affect

vaccine hesitancy in the South African context (Sewpaul et al., 2023; Bangalee and Bangalee, 2021; Wiysonge et al., 2022; Cooper et al., 2021; Cooper et al., 2022; Moodley and Oppong, 2023; Katoto et al., 2022; Muthoni et al., 2023). They include sociocultural views, fear of adverse consequences, mistrust of government and pharmaceutical institutions as well as contradictory information from authorities (Sewpaul et al., 2023; Bangalee and Bangalee, 2021). Similarly, past experiences of structural injustice and medical exploitation have contributed to societal mistrust (Sewpaul et al., 2023; Kennedy, 2020). This was made clear as the COVID-19 pandemic progressed, when misleading material quickly proliferated on social media, raising worries regarding the risks and aftereffects of vaccination, particularly among young people (Kennedy, 2020; Petersen et al., 2022).

Furthermore, psychological aspects like risk perception have been crucial in vaccine hesitancy. There is a great likelihood for individuals to place more priority on perceived vaccination risks than on the danger of the infection because they frequently presume that they are not as susceptible to the effects of COVID-19 (Sewpaul et al., 2023). This agrees with previous research that shows that lower vaccination uptake is correlated with decreased perceived vulnerability to illness, especially among young people in good health (Betsch et al., 2018). Vaccine perceptions have also been influenced by cultural narratives surrounding spirituality, traditional medicine and body autonomy, more especially in rural and peri-urban areas (Zobel et al., 2025). Trust in information sources is also another important factor in vaccine hesitancy. The abundance of information, which was frequently contradictory or unclear, created confusion and exhaustion (Gibson, 2023; Peterson et al., 2022; Sewpaul et al., 2023). This is often referred to as an infodemic and it emphasises how the availability of information without clarity and reliability might hinder public health initiatives (WHO, 2020; Larson et al., 2014).

Thus, research on vaccine hesitancy in South Africa, especially among

young people, describes it as a complex problem influenced by historical context, social inequalities, individual risk perception and trust in communication (Cooper et al., 2021). This research contributes to the discussion by investigating how young people at the University of KwaZulu-Natal perceived vaccine-related communication during the COVID-19 pandemic and how these perceptions influenced their health behaviours.

COVID-19 Vaccine Hesitancy

COVID-19 is a new phenomenon in the world. Therefore, it needs to be thoroughly investigated as researchers are responsible for providing answers regarding the virus to various authorities worldwide. Vaccine hesitancy is a hindrance to implementing the national COVID-19 vaccine strategies to achieve herd immunity. It leaves populations of people in South Africa vulnerable to contracting the virus, making it a challenge for the government to contain its spread (Cooper et al., 2022). The extended infections spreading amongst the unvaccinated pose the risk of the virus mutating further and subjecting the vaccinated to a new strain (Kollamparambil et al., 2021; Sewpaul et al., 2023).

Responses to the global inception of the COVID-19 vaccination ranged from enthusiastic uptake, suspicion or refusal (Sallam, 2021). COVID-19 vaccine hesitancy became more noticeable because of the rapid vaccine development and the existing mistrust of healthcare systems (de Figueiredo and Larson, 2021). Studies by Wilson and Wiysonge (2020) and Loomba et al. (2021) reported that conflicting information, particularly through social media, have increased public confusion that resulted to hesitancy. During the pandemic, online platforms were crucial for information gathering, leading to an infodemic of misleading information, fake news, and conspiracy theories about COVID-19 vaccination due to unregulated content (Bangalee and Bangalee, 2021; Wilson and Wiysonge, 2020; Berube, 2024). This alighns with Katoto et al. (2022) who found that more South Africans chose to engage with the false information about vaccination that was shared on social media which informed a deceitful perspective of risk. However,

some individuals preferred healthcare workers as a source of reliable information when they felt conflicted with confusing messaging (Katoto et al., 2022). According to other literature, vaccine uptake has been motivated by fear of infection and faith in science (Lazarus et al., 2021).

Different socioeconomic groups and geographical areas have different motivations for COVID-19 vaccine hesitancy. Lazarus et al. (2021) observed that nations that have greater public trust in the government, such as China and the United Kingdom, had relatively high vaccine uptake rates. South Africa, on the other hand, observed reduced vaccination willingness (Bangalee and Bangalee, 2021). This reduced willingness to vaccinate was particularly observed among marginalised communities and younger populations who expressed their concerns about perceived lack of necessity, safety and adverse effects (Sewpaul et al., 2023). Mistrust in public institutions has been exacerbated in South Africa by past injustices and persistent health inequalities (Cooper et al., 2018). The duration of the COVID-19 pandemic amplified this mistrust by contradictory messaging and shifting health guidelines (Peterson et al., 2022).

Furthermore, there are conflicting findings regarding the elements that were most influential in shaping COVID-19 vaccine hesitancy vaccine (Karlsson et al., 2021; de Figueiredo et al., 2020, Sewpaul et al., 2023). Karlsson et al. (2021) differentiate between concerns connected to the disease, such as the severity of COVID-19, as well as the fears above the negative effects of the vaccine. The significance of personal risk perception and beliefs in conspiracy theories was highlighted by de Figueiredo et al. (2020), who also discovered that those who were more afraid of the vaccine than the virus were less likely to become vaccinated when it became available. South African studies agree with these assumptions as they reveal that vaccine hesitancy is not solely due to information gaps or access, but also reflects a psychological component (Sewpaul et al., 2023).

Some academics maintain that misinformation is the primary reason behind

vaccine hesitancy (Loomba et al., 2021; Lee et al., 2022). However, others believed that crediting false information in vaccine hesitancy was oversimplifying the issue (Koytak, 2025). According to Goldenberg (2021), vaccine hesitancy is often linked to past associations with the state, medicine, authority and more general societal fears. This is evident in South Africa, where young people have voiced dissatisfaction with the political leadership and healthcare system, which erodes trust in institutions and lowers vaccination rates (Bangalee and Bangalee, 2021; Peterson et al., 2022).

In summary, literary studies around COVID-19 vaccine hesitancy emphasises that it is a complicated and situation-specific issue. On a global scale, it reflects conflicts between communication, science and trust (Kennedy, 2020). Locally, especially among young people in South Africa, it interacts with socio-political dynamics, generational perceptions and information ecosystems (Runciman et al., 2021; Petersen et al., 2022; Kennedy, 2020). Together, these studies suggest that vaccine hesitancy is shaped by overlapping social, psychological, and contextual factors, indicating that no single determinant can fully explain young people's responses to vaccination. This study seeks to further explore these elements by focusing on university students' perceptions and responses to COVID-19 vaccine messaging during the pandemic.

Vaccine hesitancy among young people in South Africa

Vaccine hesitancy in South Africa has been a long-standing issue, but the COVID-19 pandemic has brought it to the forefront of public health discussions, particularly among young people aged 18-35 (Engelbrecht, Heunis and Kigozi, 2022; Netshapapame, 2023). This age group is often digitally connected and presumed to be well-informed (Laaber et al., 2024). Despite this, research has demonstrated that there is a more complex reality within this group, characterised by disinformation, institutional distrust and differing views of personal risk (Sewpaul et al. 2023; Petersen et al., 2022). The South African government's efforts to encourage vaccination among

young people were met with diverse degrees of scepticism (Bangalee and Bangalee, 2021). This scepticism stemmed from socio-political dynamics, a lack of contextual relevance in communication and broken trust in institutional sources (Bangalee and Bangalee, 2021; Machingaidze and Wiysonge, 2021). It ultimately led to the dissemination of false information about COVID-19 vaccination and raised young people's mistrust of it (Andigema and Cyrielle, 2024).

Risk perception among young people

Most South African research studies reveal that young people were not convinced by the necessity of vaccinating against COVID-19 (Engelbrecht, Heunis and Kigozi, 2022; Muthoni et al., 2023; Moola, 2022). One of the major contributing factors to this was their low perceived vulnerability, which is an element of the Risk Perception Theory (Rezaei et al., 2022). The theory emphasises that an individual's perceptions of health risks influence their health behaviours (Trifiletti et al., 2021). Researchers indicate that people who perceive low risk may be more inclined to be hesitant about vaccinations (Kollamparambil et al., 2021; Yang et al., 2020). Young people believed that elderly persons or those with comorbidities were more vulnerable to the severity of COVID- 19, therefore they underestimated their own vulnerability (Sewpaul et al., 2023). Thus, their vaccine decisions were largely influenced by social and emotional interpretations of risk, highlighting how perceived invulnerability shapes vaccine hesitancy (Fadda et al., 2022).

Misinformation and conspiracy theories

False information, especially on social media sites like WhatsApp, TikTok and Facebook, has exacerbated young people's vaccine hesitancy in South Africa (Machingaidze and Wiysonge, 2021). Young people access information through these platforms and they also serve as distribution channels for false information and conspiracy theories on important health issues (Gibson, 2023). Loomba et al. (2021) emphasised that such information can significantly lower vaccine intent even after a single

encounter. This supports the Trust Determination Theory which argues that individuals can either reject or be inactive when they believe information to be untrustworthy or contradictory (Heyns and Rothmann, 2015). Another researcher found that misinformation had the greatest influence on vaccine perceptions of young people in comparison to other demographic groups (Sewpaul et al., 2023). This highlights the weight of digital media and health literacy in countering the effects of online false information.

Trust and vaccine uptake

Vaccine hesitancy in young people has also been connected to their mistrust in government and public health systems (Cooper, 2023). In the South African context, historical injustices, poor service delivery and political scandals have all contributed to the mistrust (Runciman et al., 2021; Petersen et al., 2022). According to the Trust Determination Theory, a message's source is as important as its content (Covello, 2021; Metzger, 2021). Therefore, if the source of a message is thought to be unreliable, the message will be rejected (Covello, 2021; Metzger, 2021). Many young people believe that institutional sources are detached, unrelated or deceptive (Metzger, 2021). This means that public health messaging can be undermined by young people, increasing their reliance on sources such as family and peers (Metzger, 2021).

Sociocultural factors and structural barriers

Other researchers have found that in South Africa, vaccine hesitancy among young people has also been impacted by cultural and religious views (Netshapapame, 2023; Petersen et al., 2022). Individuals have expressed that the COVID-19 vaccine wouldconflict with their traditional health practices or religious health beliefs (Bangalee and Bangalee, 2021; Petersen et al., 2022). Vaccination was suspected of being a Western intervention or connected to past medical exploitation in certain groups (Machingaidze and Wiysonge, 2021). This highlights larger issues of medical colonialism and control. In addition to social and psychological aspects, young people also

encountered practical barriers to accessing the vaccine. Researchers found that for students and unemployed young people, challenges such as living far from vaccination sites, lacking transportation or having restricted internet access to schedule appointments on the Electronic Vaccination Data System (EVDS) were significant (Sewpaul et al., 20223; Machingaidze and Wiysonge, 2021). Although these challenges are often disregarded in vaccine hesitancy discussions, they are crucial in understanding vaccination refusal and delays (Sewpaul et al., 2023).

Vaccine hesitancy among university students

Recent studies that have included South African university student demographics offer a helpful background into understanding university student perceptions of vaccination. Goldstein et al. (2022) discovered that university students' high dependence on their peer-shared social media content makes them more reception to misinformation about COVID-19. Similarly, Kassier et al., (2022) observed that the uncertainty and reluctance regarding vaccination among students was amplified by inadequate institutional communication. This is due to the vague, inconsistent or delayed messaging that students received from their institutions (Kassier et al., 2022). While previous research highlights the role of misinformation, this literature suggests that structural trust and lived experiences also play powerful role in shaping youth attitudes than the lack of accurate information alone. Therefore, it is imperative to understand how university students navigate health communication during public health emergencies and how their perspectives are influenced.

Communication for Public Health Emergencies

Effective communication is essential for building trust, directing public behaviour and saving lives in public health emergencies (Reddy and Gupta, 2020; WHO, 2018). All aspects of life are impacted during a health emergency, making effective communication a necessity to address and alleviate public concerns regarding the emergency as well as to increase

trust in health services offered (Ramachandran and Min, 2024). By offering current, relevant information or guidance during a health emergency, effective communication has the power to influence mortality rates and encourage preventative behaviour (Coombs et al., 2024; Covello, 2021). The COVID-19 pandemic stressed the need for consistent, evidence-based communication (Williams et al., 2023; Khan et al., 2022; WHO, 2020; Covello, 2021). During the COVID-19 pandemic, unclear messaging, poor communication frameworks and the exclusion of young voices hindered vaccine acceptance (WHO, 2020).

Risk communication in public health emergencies

Risk communication comprises the timely sharing of information about health concerns to encourage decision-making that is well-informed (WHO, 2017). Khan et al. (2022) described risk communication as the reciprocal procedure of sharing knowledge about and beyond risk among people, communities, and institutions. Furthermore, it contains practical advice on anticipating, protecting against, addressing, and recovering from emergencies and knowledge of risks expressed as messages or thoughts that convey worries and reactions (Khan et al., 2022). In the era of abundant information, having too much or too little knowledge can be disastrous, especially during health emergencies (Xu et al., 2025). The COVID-19 pandemic not only stressed the seriousness of risk communication but also exposed unexpected outcomes that resulted from miscommunications and information gaps (Caceres, 2022; Khan et al., 2022).

Public communication is one of the most important components of a successful emergency response during a national health crisis or emergency (Wray et al., 2006). Risk communication is the process of successfully informing people about possible risks and hazards, especially in emergency situations, to increase knowledge, encourage comprehension, and motivate safety measures (Xu and DiClemente, 2025; Sichach, 2024). Covello and Sandman (2001) highlighted how hazard and outrage interact to influence public reaction. During previous health crises such as Human

Immunodeficiency Virus (HIV) and Ebola, effective communication required transparency, community involvement and leadership (Frimpong and Paintsil, 2023; Allgaier and Svalastog, 2015). Quinn et al. (2017) demonstrate that while generic messaging did not work in West Africa, enlisting the help of nurse networks and local leaders enhanced vaccine adoption and restored community confidence. HIV campaigns in South Africa further highlighted the ineffectiveness of messages that disregard cultural context or stigma (Edwards and Bowen, 2019). These incidents illustrate that risk communications entail more than just sharing information. It also involves acknowledging community perspectives, enlisting the help of reliable intermediaries and tailoring messages to cultural circumstances (Seale et al., 2022).

Beginning as an interdisciplinary field that drew on communication studies, psychology, sociology and economics, the concept of risk communication began to take shape in the middle of the 1980s (Gurabardhi et al., 2004). The US National Research Council's seminal work in 1989 established a paradigm for comprehending how risk is viewed, expressed and managed in various circumstances (Balog-Way et al., 2020). The report maintains that risk is socially constructed and defined by personal experiences, cultural norms, and social networks (Morrow, 2009). It suggests that risk communication should include public perceptions and values, and advocate for two-way communication (Enhealth Council, 2012). Recognising the social construction of risk has significant implications for effective risk management (Balog- Way et al., 2020; (Enhealth Council, 2012). The framework has been applied in fields like environmental management, public health, and disaster preparedness to improve risk communication and management strategies (Morrow, 2009).

Psychologists like Slovic (1987) have influential in drawing attention to how cognitive and affective reactions influence public risk perceptions. Sociologists such as Beck (1992) highlighted how modernity and technological growth have increased societal exposure to artificial risks, thus

necessitating more sophisticated communication tactics. Similarly, Douglas and Wildavsky (1982) also presented a cultural theory of risk, arguing that social values and group connections influence perceptions. A comprehensive awareness of risk communication necessitates interacting with this larger network of multidisciplinary work (Ruhrmann and Guenther, 2014).

People's perceptions of risk determine how they behave during a crisis (Adiputra et al., 2025). Perceived safety concerns and mistrust of medical professionals and the pharmaceutical industry regarding COVID-19 immunizations are elements that contribute to vaccine hesitancy (Sewpaul et al., 2023). Low perceived risk has a high potential of deterring people from adhering to public health initiatives, thus making risk messaging and infodemic management are essential for disaster and preparedness planning to address illness perceptions (Lohiniva et al., 2022). However, hysteria and panic may also result if the perceived risk is excessive (Serafini et al., 2020). Emotional appeals have been widely used in communication efforts to affect public behaviour and contain the COVID-19 epidemic (Lubinga & Karabo Sitto-Kaunda, 2023). Research indicates that audience reactions to emotional appeal techniques frequently impact health information adoption (Lubinga & Karabo Sitto-Kaunda, 2023).

It is especially crucial to communicate risks during public health emergencies (Tench, Meng and Moreno, 202; Natarajan, 2020). It is essential when communication attempts are complicated by uncertainty, fast developments and high emotional stress (Covello, 2021). The COVID-19 pandemic demonstrates the benefits and s of risk communication structures globally (Cunningham-Erves et al., 2024). Although governments and health institutions attempted to give timely and science-based updates, inconsistencies, mixed messages and changing scientific understanding caused widespread uncertainty and hesitancy (Malecki et al., 2021; WHO, 2022). It is crucial for effective risk communication during similar health emergencies to address the message’s content, delivery and reception

process (Gibson, 2021). This is especially important for young people who are dependent on peers and social media for important information (Metzger, 2021). Although public health messaging sought to inform and convince, it failed to connect with young people (Machingaidze and Wiysonge, 2021).

COVID-19 Vaccine Communication: Gaps and Lessons

Evidence-based communication strategies are crucial in addressing vaccine hesitancy and promoting certainty in the vaccine through numerous means (Yang, 2023; Chou & Budenz, 2020). Communication, information, and education are essential to effectively control and prepare for disease outbreaks (Boateng & Gumede, 2023). When the COVID-19 vaccine was rolled out globally, there was an urgent need to create and implement efficient communications plans to promote vaccine uptake (Yang, 2023). Data from several research studies shows that these strategies frequently overlooked the communication requirements of specific demographic groups, especially young people in marginalised communities, which increased vaccine hesitancy (Gibson, 2021; Machingaidze & Wiysonge, 2021). Prior research on COVID-19 vaccination communication mostly concentrated on public awareness and health promotion initiatives, with little attention paid to how various demographic groups interpret, access, and utilise the information (Loomba et al., 2021).

Researchers have asserted that efficient communication from the government is crucial for informing the public and explaining decisions (Wood et al., 2021). However, because digital sources and technology are so widely available, citizens are growing more independent (Wood et al., 2021; John et al., 2022). The public's access to official information had a big impact on the South African government's response to COVID- 19 (John et al., 2022). However, the need for the government to aim its messaging more dynamically is recognised (John et al., 2022). The research's findings highlighted the value of the government acknowledging that various demographic groups are impacted in different ways and ensuring that their crisis communication is grounded in a comprehensive knowledge of its

citizens and their issues rather than just a requirement to respond to the crisis (John et al., 2022). This point is imperative in this study as it suggests that populations such as the young people in South Africa did not have their needs met regarding effective COVID-19 vaccine communication. Runciman et al. (2021) supported this by suggesting that traditional platforms, which younger audiences are less likely to use, are frequently used in South African vaccine communications. Burger et al. (2022) also discovered that poor vaccination uptake and increasing hesitation were caused by restricted participation and a lack of relevance for young people.

Although the South African government was instrumental in addressing COVID-19 issues and promoting the vaccination, its approach to health communication has come under fire for failing to adequately meet the requirements of a number of age groups, notably youths between the ages of 18 and 35 (Meekers, 2020). Studies demonstrate that younger generations have a greater likelihood of using social media and peer- based networks; hence, government communication fails to resonate with them (Runciman et al., 2021; Burger et al., 2022). This absence of relevance, interactive involvement and youth-appropriate communication strategies contributes to a lack of interest in the vaccine (Runciman et al., 2021; Burger et al., 2022).

The blanket approach adopted by the government, evident in President Cyril Ramaphosa's national addresses, had its shortcomings when it came to appealing to young people to vaccinate against COVID-19. Proactive and effective communication is one of the most critical and powerful measures in public health response to epidemics, as the COVID-19 outbreak demonstrated (Adebisi et al. III, 2021). The South African government's communication strategy began in March 2020 and focused on delivering messages specifically tailored to each stage of the epidemic (Lubinga & Karabo Sitto-Kaunda, 2023). President Cyril Ramaphosa was responsible for most COVID-19 communications, which became a high-level public relations exercise (Goldstein et al., 2021). At first, Ramaphosa received high marks

for his enthusiastic and prompt response to COVID-19 worldwide as well a nationwide (Birungi et al., 2022). Special attention was paid to his decisive political leadership, which relied on medical advice and resulted in the harsh lockdown measures implemented (Gumede et al., 2022). Although the president's position was commendable, it could not be interpreted as a sufficient replacement for an evidence- based national health campaign, especially one that would target all citizens in their respective age groups and social contexts (Goldstein et al., 2021).

There was a significant lack of targeted communication campaigns during the COVID- 19 pandemic (Kollamparambil et al., 2021). Studies assert that health communication influences individual responses to health risks (Kollamparambil et al., 2021). A few researchers found that most health campaigns created to inform and help eradicate the transmission of the virus focused on a limited ratio of the population, primarily those who were at risk of complications from the virus. Katoto et al. (2022) identified that vaccine promotion campaigns needed to address social, community, political, interpersonal and personal factors for behaviour change to occur. This allows the effortless identification of facilitators or barriers to behaviour change within communities (Katoto et al., 2022). Young people, especially those between the ages of 18 and 35, were viewed as passive recipients of public health messaging rather than active stakeholders in the creation and distribution of the messages (Lubinga and Sitto-Kaunda, 2023). This was a significant gap in COVID-19 vaccine communication (African Union, 2021; South African Government, 2021). Research suggests that government campaigns employed traditional mass media channels and top-down communication strategies, which did not align with young people’s information preferences and media consumption patterns (Gibson, 2021; WHO, 2022).

Furthermore, research suggests that trust in the messenger is frequently more significant than the content of the message, especially during a crisis (Loomba et al., 2021). However, government-led campaigns failed to use

reliable messengers like relatable peers or community leaders, leaving a communication gap that was filled by social media which circulated misleading information and conspiracy theories (Loomba et.al., 2021). Moola (2022) suggested that this gap draws attention to a crucial problem with the South African communication strategy. It was argued that the Department of Health lacked effective engagement tactics and frequently failed to deliver content that was clear, consistent and appropriate for the setting despite being entrusted with spreading COVID-19 information (Moola, 2022). The institutional communication style relied on technical and scientific explanations without modifying the language and structure for a variety of audiences (Wasserman and Madrid- Morales, 2022). This issue was aggravated by the exclusion of young people from national communication campaigns (Kollamparambil et al, 2021). The elderly and those with comorbidities were the focus of COVID-19 communication campaigns since they were believed to be the most susceptible (Katoto et al, 2022). Despite being a highly mobile and socially active group that can spread or stop transmission, young people were not given priority as a crucial demographic group in vaccine awareness programmes (Bangalee and Bangalee, 2021; Sewpaul et al., 2023).

When a health emergency arises, the public frequently looks to the government for advice on early sickness detection, containment, mitigation, and eradication, if possible (Birungi et al., 2022; Gumede et al., 2022). Engelbrecht et al. (2022) proposed that it was essential for the government and public health sectors to include broader trust-building measures in their vaccination promotion and communication strategies. This greatly enhanced the government's capacity to administer COVID-19 vaccination campaigns in a safe and efficient manner (Engelbrecht et al., 2022).

The Perceptions of Young People on COVID-19 Vaccine Communication

Within the duration of the COVID-19 pandemic, young people were among the most socially engaged groups, especially those between the ages of 18 and 35 (Ramsey, Obeidallah and Abraham, 2023). However, they also

represented a demographic whose opinions on vaccination communication have received little attention in both study and practice (Kollamparambil et al, 2021). Research indicates that public health communication tactics were not sufficiently adapted to appeal to young people, even though they we essential to COVID-19 containment (Gibson, 2021). National campaigns and government messaging targeted vulnerable groups and older people (Moola et al., 2021; Bangalee & Bangalee, 2021).

This communication gap resulted in a disconnect between the content and channels of COVID-19 messaging as well as the needs and preferences of young people (Dubé et al., 2022). Research executed in South Africa and other contexts presented that young people often perceived vaccine communication as unrelatable, inconsistent or lacking credibility (Sewpaul et al., 2023; Machingaidze & Wiysonge, 2021). Young respondents often cited the use of scientific language, government press conferences that seemed "top-down" or dictatorial, and inconsistent messaging across platforms as sources of their frustration (Gibson, 2021). The widely viewed address by President Ramaphosa were considered important during the COVID-19 pandemic but did not always use language, tone or formats that resonate or engage young people (South African Government, 2021; Moola et al., 2021).

The feeling of exclusion is related to how the communication was delivered and who delivered it. Studies have shown that peer networks and relatable community figures are highly trusted by young people (Henry et al., 2024). However, the national COVID- 19 vaccination campaigns did not feature these actors. Many young people were left vulnerable to false information, conspiracy theories, and myths about vaccination that were widely disseminated online due to a lack of youth-oriented messaging and the sparse usage of trusted messengers (Wiysonge et al., 2022).

Many government-driven campaigns were created and implemented without consulting young people (Li, Wood and Kostkova, 2021). This led to messaging that did not accurately represent the anxieties, lived experiences

or concerns that young people had regarding COVID-19 vaccinations (Li, Wood and Kostkova, 2021; African Union, 2021). While several programmes tried to reach young people through digital platforms, they frequently fell short in incorporating participatory models or co-design principles that would have effectively included youth in the message production process (Kollamparambil et al, 2021; UNICEF, 2022). This led to the exclusion of young people as possible contributors to the creation of vaccine message strategies, in addition to their underrepresentation as recipients of focused communication (Moola et al., 2021). Kluge et al. (2021) highlighted usefulness of creating meaningful engagement with young people to consider their experiences and well-being. WHO (2021) determined that to comprehend the requirements of young people and establish the areas in which the government has fallen short, behavioural and cultural health approaches as well as health behaviour are necessary.

There is a lack of information in the literature and in practice about how youth viewed and engaged with COVID-19 vaccine messaging. Few studies thoroughly examine the perspectives of young; the majority concentrate on adult populations (Loomba et al., 2021; Wiysonge et al., 2022). Through the analysis of the communication choices and experiences of university students, a group that lies at the center of digital and social fluency as well as education, this research study attempts to close that gap. However, the literature demonstrates a pattern in which young people's vaccine decisions cannot be understood in isolation from their broader social environments. This highlights the importance of communication approaches that account for these contextual realities. This study adds to more inclusive and successful public health communication strategies for future public health emergencies, by elevating the voices of young people and determining the messengers and communication channels they trust.

University Students and COVID-19 vaccine communication

University students are a vital component of public health communication efforts. However, they have been marginalised in the development and

distribution of vaccine information amid the epidemic (Machingaidze & Wiysonge, 2021; Termmee and Wang, 2023). This group is typically aged between 18 and 35 and form part of the category of “young people” as prescribed by the South African National Youth Policy (Department of Women, Youth and Persons with Disabilities, 2020) and the African Youth Charter (African Union, 2006). Students do not always trust or interact with official health messaging, even if they are generally digitally literate and have access to a range of information about health (Moola et al., 2021). As a result, conflicting messages, peer pressure, and media overload have frequently influenced their attitudes and actions regarding the vaccine (Gibson, 2021; Moola et al., 2021). Understanding the complex perspectives of students in higher education institutions is lacking because a large portion of the literature currently in publication focuses on youth or the broader public in general (Machingaidze and Wisonge et al., 2021; Dlamini, 2018). Few studies examine how students as a unique group negotiate the conflict between academic settings, social pressures, and institutional vaccination policies. Dzinamarira et al. (2021) in Zimbabwe and Sewpaul et al. (2023) in South Africa discuss youth perspectives in general.

Important issues have emerged where university students have been engaged by literature. According to Moola et al. (2021), South African university students had access to content about vaccination through digital platforms. However, their comprehension was frequently influenced by peer pressure, false information, and contradicting stories from various sources (Moola et al., 2021). Gibson (2021) also found that there is a discrepancy between official messaging plans and the communication channels that students use and trust. The study showed that many young people trusted their classmates, family and influencers more than the government or medical authority (Gibson, 2021). Similarly, Zimbabwean university students who were receptive to vaccination still expressed suspicion of the government's messaging and had concerns about side effects (Dzinamarira et al., 2021). The significance of communication tactics that incorporate clarity, credibility, and cultural relevance in addition to message delivery is

highlighted by these findings.

There is a lack of research that investigates how academic staff, internal communication teams or student health services at universities contributed to vaccine communication amid the epidemic. Fadda et al. (2021) reveals that higher education institutions can deal with vaccine hesitancy, however during the crisis, several South African institutions seemed to be ineffective in their communication with students. The absence of university students from focused communication efforts is a crucial error, considering their impact within larger social networks and their likelihood to encounter and disseminate important or false information via digital platforms. In line with calls for youth-centered communication strategies that are transparent, participatory, and trust-enhancing, this study fills a significant gap in South African and international literature by concentrating on the lived experiences and communication needs of university students (UNICEF, 2022; Loomba et al., 2021).

Strategies for effective vaccine communication

Reducing vaccine hesitancy, enhancing public awareness, and boosting uptake, especially among young people, all depend on effective vaccine communication (Dubé et al., 2022). According to research, communication initiatives during the COVID-19 pandemic have not adequately addressed the unique communication needs of young people or engaged with the complex reality of their information surroundings (Moola et al., 2021; Sewpaul et al., 2023). A more evidence-based approach to comprehending young people's attitudes regarding vaccinations is suggested by recent research, which focuses on socio-political, psychological, and cultural aspects rather than broad strategies (Wiysonge et al., 2022; Fadda et al., 2021).

Numerous studies indicate that building trust with young people requires a message that is clear, transparent, and consistent (Loomba et al., 2021; Bonnevie et al., 2021). Young people have expressed confusion and

scepticism because of the evolving guidelines about vaccine side effects as well as eligibility requirements and mandates (Fadda et al., 2021). Contradicting information spreads faster than official messaging (Lee et al., 2022). This means that the issue of inconsistent communications is worsened by the fast-paced digital communication system (Lee et al., 2022). Researchers believe that to assist people in coping with cognitive overload in uncertain times, public health messaging should be clear, accurate, and repeated (Covello, 2021; Kennedy, 2020).

Research also demonstrates that people find information more believable if they trust the message sender (Madrid-Morales, 2022). Therefore, the acceptance of vaccines can increase if the vaccine uptake messages are delivered by reliable and trusted sources (Madrid-Morales, 2022). Studies reveal that young people are more prone to believe information from peers and community leaders instead of traditional government and health department representatives (Gibson, 2021; UNICEF, 2022). According to Bonnevie et al. (2021), peer-to-peer communication is very efficient at dispelling myths and establishing immunisation standards in young communities that use digital networks.

The emotional, cultural, and practical factors that students perceive in their everyday lives are often overlooked by standardised communications that use formal language (Bangalee & Bangalee, 2021; Wiysonge et al., 2022; Fadda et al., 2021). Research by Moola et al. (2021) suggests young people in South Africa responded more favourably to vaccination messages when they addressed their social concerns about vaccinations, included perspectives of young people, and used language that matched their natural speech patterns. The results of the study support previous communication frameworks that place an emphasis on tailoring messages to demographic characteristics, cultural aspects, social contexts, and individual psychological drivers (eory; Boateng and Gumede, 2023).

The inadequate use of participatory communication techniques in public

health programmes targeting young people has been criticised by several scholars. According to Gibson (2021) and UNICEF (2022), the literature calls for new approaches that empower students to act as contributors of health messages rather than as passive information consumers. When health communications use participatory tactics, young people show improved message recall, decreased mistrust, and enhanced ownership. According to Sewpaul et al. (2023), the observation is consistent with assessments of general health communication models that concentrate on situations in which structural marginalisation lives with the mistrust of the government. Throughout the global health crisis, digital platforms became widely used, but research shows that they are not always as effective (Metzger, 2021).

Literature highlights that vaccine communication must include certain crucial components for both young people and university students to be effective. Message quality, delivery source, delivery mode, and compatibility with the target audience's beliefs and life experiences all affect the effectiveness of vaccine communication. These results confirm studies on the perceptions of COVID-19 vaccine messaging among South African university students and provide fundamental guidelines for analysing the current shortcomings in vaccine communication.

Evaluation of the Literature

Although the literature examined in this review is recent and offers insightful information about vaccine communication, a more thorough critical analysis reveals some limitations. Most of the current research remains primarily concerned with high-income nation contexts, with little attention paid to how communication strategies are implemented in resource-constrained, culturally diverse environments such as South Africa (Cunningham-Erves et al., 2024; Malecki et al., 2021; John et al., 2022). Research on youth-focused communication frequently focuses on general vaccination attitudes or trends in digital behaviour, but it provides no actual data on how young people understand, negotiate, or reject public health messages during emergencies

(Bangalee and Bangalee, 2021; Sewpaul et al., 2023). Furthermore, few studies examine how structural factors, such as institutional credibility, health system disparities, and historical mistrust, intersect with youth attitudes, even though many emphasise the significance of disinformation and declining trust in developing vaccine hesitancy (Katoto et al., 2022; Lubinga and Sitto-Kaunda, 2023; Fadda et al., 2021; Adebisi et al., 2021). There is also a lack of integration of communication theories in empirical research, as many studies report descriptive results without making a clear connection to theoretical frameworks, such as risk perception or trust-building (Covello, 2021; Metzger, 2021; Ruhrmann and Guenther, 2014). As a whole, these gaps highlight the need for research that critically applies communication theories to understand how future public health communication strategies might be strengthened, while also emphasising the lived experiences and information demands of young people in South Africa.

Conclusion

This literature review has examined vaccine hesitancy, public health communication and vaccine messaging strategies for young people and university students. It demonstrated an assortment of psychological, social and political factors such as mistrust and false information that prompt vaccine hesitancy. The current body of work illustrates not only the diversity of factors influencing vaccine hesitancy but also the need to consider how these factors intersect, which is central to understanding the perceptions of young people in this study. The research identifies reliable messengers, clarity, and relevance as critical components of successful communication. However, these components are not thoroughly examined in studies with university students. This gap is filled by this study, which examines how young South Africans comprehended information concerning the COVID-19 vaccine and investigates effective communication strategies for assisting young people in the event of future medical emergencies.

Chapter 3: Theoretical Framework

Introduction

Communicating about current, potential, and changing risks is necessary for all communities (Sheppard et al., 2012). Theories and models are used and debated in risk communication to characterise, forecast, and test a wide range of factors and interacting agents (Sheppard et al., 2012). Literature has widely examined the potential of risk communication as an effective tool for mitigating the destructive effects that health crises pose to human lives (Abunyewah, Gajendran and Maund, 2018). Therefore, this study is framed by the Trust Determination Theory and the Risk Perception Theory, which stems from the field of risk communication (Saifullah, Harun and Islam, 2023). This chapter discusses the field of risk communication and its foundational models. Thereafter, it examines the origins, characteristics and applications of the Trust Determination and Risk Perception theories. In this study, the Trust Determination and Risk Perception theories are employed as an approach which is suitable for examining the interconnected elements that impact health behaviour. These elements are fundamental in investigating a youth-focused communication strategy to address vaccine hesitancy.

Risk Communication

Defining Risk Communication

Understanding risk perception is a crucial first step to understanding the Trust Determination and Risk Perception Theories. The effective and precise dissemination of messages regarding risks and dangers, usually during an emergency, to increase people's awareness, understanding, and motivation to take precautions is known as risk communication. (WHO, 2023). It is also the sharing of knowledge and insights regarding risk and aspects related to risk between risk managers, consumers, and other stakeholders (Baba and Esfandiari, 2023). Facilitating an informed, engaged, and solution-focused audience is one of the main aims of risk communication (Abunyewah,

Gajendran and Maund, 2018; Sichach, 2024). Although risk communication is generally understood to be and exchange of information including the listeners of the messages as well as the communicators, various definitions frequently incorporate additional factors and comprehending (Lang et al., 2001). This means that risk communication is more than just communication to allay public fears (Abunyewah, Gajendran and Maund, 2018; Sichach, 2024).

Evolution and Importance in Public Health Crises

First used to describe an interdisciplinary field encompassing economics, sociology, psychology, and communication research, the term "risk communication" first arose in the mid-1980s (Zar et al., 2022). Sociologists and psychologists have made significant contributions to the scientific underpinnings of a theory of risk communication since the early 1980s (Ruhrmann and Guenther, 2014). Luhmann offered systems theoretical considerations in 2005 (Ruhrmann and Guenther, 2014). Beck 1992, Douglas and Wildavsky 1983, and Rasborg 2012 integrated cultural-sociological and theoretical perspectives into risk communication (Johnson and Swedlow, 2019). Perrow 1984 on the other hand, continued the legacy of an organisational-sociological approach to risk communication (Le Coze, 2015). The US National Research Council Committee on Risk Perception and Communication's significant 1989 study served as a framework for early discussion, as it covered the multidisciplinary foundations of the basic processes of risk perception, risk communication, and risk (National Research Council (US), 1989; Khan et al., 2022; Ruhrmann and Guenther, 2014).

Traditionally, health risk communication has included messages intended to promote actions that lower risks to individuals and society (Evans et al., 1997). Recently, risk communication, especially health risk communication, is seen by many people, organisations and groups as an interactive process that entails exchanging ideas and knowledge (Sichach, 2024). The research of risk communication began with environmental disputes between local

inhabitants and a firm that was constructing a possibly harmful facility in the vicinity (National Research Council (US), 1989; Evans et al., 1997). Risk communication may be used for the following reasons, among others: (1) promotion of a decision making partnership, which involves people actively participating in risk management and decision making, including framing the problem and choosing management options; (2) education, which provides people with sufficient information to enable them to make effective decisions on their own; or (3) advocacy, which aims to persuade people to take a specific action (Ndlela, 2018).

Understanding risk communication is crucial for assessing the effectiveness of COVID-19 vaccine communication strategies (Saifullah, Harun and Islam, 2023). Risk communication has evolved to take emotional reactions into account in addition to message content (Balog-Way et al., 2020). Thus, the Trust Determination Theory, the Negative Dominance Theory, the Mental Noise Theory, and the Risk Perception theory were developed as the four fundamental theories of high-concern and risk communication (Covello, 2021). When combined, these models offer a framework for considering and arranging for efficient communication in circumstances of great concern (Covello et al., 2001; Covello, 2021). The theories improve risk communication's capacity to handle intricate emotional and cognitive responses, especially in high concern but low trust circumstances (Balog-Way, 2020; Covello, 2021). The Trust Determination and the Risk Perception Theory are crucial in risk perception as they offer communicators structured ways to predict audience responses and modify their communication strategies accordingly. Thus, this study focuses on the Trust Determination Theory and the Risk Perception Theory as the main framework to assist in achieving the study's goals.

Trust Determination Theory

Overview and Origins of the Trust Determination Theory

The Trust Determination Theory is a psychological and cognitive theory that investigates how people build trust in information sources like people,

institutions and media trust (Covello, 2021). It was first developed by Dr. Vincent T. Covello, who is a pivotal figure in crisis and risk communication between the 1990s and early 2000s (Peters et al.,1997; Covello et al., 2001). It focuses on the psychological and cognitive processes that influence the development or breakdown of trust, especially regarding information processing (Metzger & Flanagin, 2015). The process of forming trust is a complicated one that is impacted by several variables, including perceived source intent, authority, reliability, and credibility (Sundar, 2008; Metzger & Flanagin, 2015).

Trust expects that a person or group will act with sincerity, be truthful, and conduct in a way that complies with both stated and implicit obligations not to abuse others unnecessarily, even when the chance arises (Wei, Xu and Wu, 2019). According to the trust Determination Theory, people cannot depend on risk information that is provided until credibility and trust have been established (Covello et al., 2001; Covello, 2021). Trust determination involves assessing a user's reputation and ability (Li et al., 2014). Other objectives cannot be accomplished until confidence and trust have been built (Covello et al., 2001; Covello, 2021). Furthermore, people's decisions about risks are dominated by their trust levels (Covello et al., 2001; Covello, 2021). The messages, messengers, and information-gathering methods will be more acceptable the more reliable the information source becomes available (Covello et al., 2001; Covello, 2021).

Building trust requires consistent acts, attentive listening, and effective communication over an extended period (Covello et al., 2001; Covello, 2021). Although trust is crucial to settling risk disputes, the application of a trust determination model or theory to specific situations is the priority of most of the research on risk communication (Covello et al., 2001; Covello, 2021). The best practices for building and preserving trust include using four trust-determining factors: competence and expertise, caring and empathy, honesty and transparency, and third-party endorsements from reliable sources (Covello et al., 2001; Covello, 2021). Evaluation studies show that

the best venues for conveying these trust qualities are one-on-one or small-group interactions, like information exchanges and open workshops (Covello et al., 2001; Covello, 2021). According to the trust transference principle, a less credible source usually adopts the credibility and trust of the most credible source who has the same position on the matter (Covello et al., 2001; Covello, 2021). In various surveys, people's perceptions of specific groups and individuals with health, safety, and environmental issues range from high to medium (Covello et al., 2001; Covello, 2021; Li et al., 2014).

Expert disagreements can undermine perceptions of trust, resulting in problems like poor coordination, insensitivity to discussion, and low public involvement (Covello et al., 2001; Covello, 2021; Li et al., 2014). Negligent behaviours can also be a factor, including disregarding hazards, delaying information disclosure, and neglecting risk management duties (Li et al., 2014; Shrivastava et al., 2024). Perceived risk has a negative relationship with trust in risk communication and management (Wei, Xu and Wu, 2019). Information from a reliable source could be seen as impartial, knowledgeable, and trustworthy (Wei, Xu and Wu, 2019). Based on this knowledge, it is important for individuals to confidently assess the risks on their own, which would have an impact on their risk perception (Wei, Xu and Wu, 2019).

Key Components of the Trust Determination Theory

Three factors determine trust and credibility: concern and care, knowledge, openness and honesty, expertise (Montijn-Dorgelo and Midden, 2008; Peters, Covello and McCallum, 1997). Aristotle proposed these factors that determine credibility and trustworthiness more than 2,000 years ago (Peters, Covello and McCallum, 1997). Several other contemporary writers have also mentioned these three factors in their works (Peters, Covello and McCallum, 1997; Wei, Xu and Wu, 2019; Covello et al., 2001; Covello, 2021). Credibility, reliability, authority, and the source's perceived intents are the four pillars of the Trust Determination Theory (Sundar, 2008; Covello et al., 2001; Covello, 2021).

Researchers such as Sundar (2008), Covello et al. (2001), Covello (2021), and Metzer and Flanagan (2015) have defined the concept of credibility in accordance with the elements of the Trust Determination Theory. According to Sundar (2008) and Metzer (2015), credibility is the ability to have faith that the information is authentic. This viewpoint is typically related to the type and scope of the information being offered (Covello, 2021; Metzger and Flanagan, 2015). Research has demonstrated that individuals employ factors like authority and clarity to evaluate the reliability of information sources (Flanagin & Metzger, 2007; Metzger and Flanagan, 2015). According to Tsfati & Cappella (2020), several researchers have observed that within the same context, trustworthiness fluctuates and is subject to outside influences such as changes in image, occupation, or even the calibre of the locations one associates with. Credibility is essential to ensure reliable sources and false information, especially on social media, can damage credibility (Desai et al., 2022). Credibility can be built by using genuine messaging, admitting concerns, and being transparent, all of which increase acceptance of the message, especially among young people (Desai et al., 2022).

Reliability refers to the accuracy of the information that is provided (Rieh, 2002; Wei, Xu and Wu, 2019; Covello, 2021). It is closely related to credibility. Accordingly, a source of information is considered reliable if it has been repeatedly demonstrated to compile observable and reliable data (Rieh, 2002). Although trustworthiness can be assessed in a single interaction, reliability is a quality that is established throughout several interactions or over an extended period (Covello et al., 2001; Covello, 2021; Li et al., 2014). People place greater faith in sources that have been demonstrated
and continue to be reliable, such as government agencies and scientific publications (Karlsson et al., 2021). However, because Information is always changing in the present-day media environment, therefore, it can be harder to establish such reliability (Covello et al., 2001; Covello, 2021; Li et al., 2014;

Karlsson et al., 2021; Dahmen and Thomson, 2025). Reliability can be damaged by false statements and inconsistent communication (Desai et al., 2022). Therefore, evaluating public health organisations' consistency and developing long-term communication strategies to manage vaccination hesitancy is essential (WHO, 2020).

According to Sundar (2008), authority is the degree to which a person or organisation is thought to have knowledge or influence in a particular field. Particularly when it comes to intricate and specialised areas, those who are deemed authoritative—such as professionals, academics, or government agencies—are typically seen as reliable sources (Mejia, Beckermann, & Shearer, 2018; Covello, 2021). However, dealing with official sources is still the norm when seeking information, as various societies have recently experienced significant changes that impact the socially endorsed authorities that people trust, particularly in fields like politics and healthcare (Mejia, Beckermann, & Shearer, 2018; Covello, 2021; Stern, Cotten, & Drentea, 2020).

Perceived intent is another significant element in the key components of Trust Determination (Tseng & Fogg, 1999; Covello et al., 2001; Li et al., 2014; Covello, 2021). When people conclude that the source of the information is selfless rather than self-serving, they are more inclined to believe the information (Tseng & Fogg, 1999; Covello et al., 2001; Covello, 2021; Li et al., 2014). Trust quickly erodes if people see undue influence or bias, regardless of how reliable or trustworthy the source may have previously been. For example, a sizable following tends to lose faith in news organisations or social media influencers with apparent hidden agendas, such as promoting political viewpoints or promoting goods (Fisher et al., 2020).

Relevance of the Trust Determination Theory in Vaccine Communication

It is vital to understand the Trust Determination Theory in the current digital era (Sundar, 2008; Metzger & Flanagin, 2015). Amid emergencies like the

COVID-19 surge, the importance of perceived intent, authority, reliability, and credibility has been highlighted by the extensive distribution of misleading information (Pennycook & Rand, 2021). Designing interventions like media literacy and enhanced transparency to combat disinformation and restore confidence in trustworthy sources can be made easier by better understanding how people evaluate trust (Lewandowsky et al., 2017). The requirement to build trust runs across all risk communication tactics (Covello et al., 2001; Covello, 2021).

Limitations of the Trust Determination Theory

While Trust Determination Theory is valuable for understanding how individuals evaluate information sources based on credibility, reliability, authority, and perceived intent, it has its limitations. The theory places strong emphasis on the characteristics of the information source, which may underplay broader structural, cultural, and historical factors that shape trust, particularly in contexts marked by institutional inequality or historical marginalisation (Gilson, 2006, Sundar, 2008; Metzger & Flanagin, 2015). In the South African context, distrust in public institutions may be rooted not only in present communication practices but also in long-standing socio-political experiences, which the theory does not fully account for (Covello et al., 2001; Covello, 2021). Additionally, Trust Determination Theory does not sufficiently explain how trust interacts dynamically with emotional responses, peer influence, and social media environments, all of which are highly relevant to young people's engagement with vaccine information (Vraga & Bode, 2020).

Risk Perception Theory

Overview and Origins of the Risk Perception Theory

Risk perception, or the belief that one is more susceptible to danger than one is, is a basic component of many health behaviour change theories (Ferrer and Klein, 2015; Yie et al., 2024). The ability to recognize and react to particular risk levels while taking emotional aspects into account while assessing and reacting to dangers and threats is known as risk perception (Wei, Xu and Wu, 2019; van der Lindens, 2017; Slovic, 2016). People view

danger not only via a filter; in addition, subjective evaluations, feelings, and personal experiences all have an impact (Slovic, 2016). This idea is invaluable in fields like environmental studies and healthcare, where people's perceptions of risk might influence their decision-making (Ferrer and Klein, 2015; Wei, Xu and Wu, 2019). The theory's foundational work started in the 1970s and 1980s by Paul Slovic (Slovic, 2016). Covello (2001) made substantial contributions to the theory's application to crisis and health situations. Three components form the basis of the theory including perceived risk, perceived severity, and perceived vulnerability (Ferrer and Klein, 2015; Wei, Xu and Wu, 2019.

Key Components of the Risk Perception Theory

A subjective evaluation of possible dangers or occurrences that affect behaviour and judgment is known as perceived risk (van der Linden, 2017; Lin et al., 2022). Perceived risk can be impacted by things like social influences, media exposure and prior experiences (Breakwell, 2014; Reddy and Malu, 2025). For instance, people may perceive danger as increased even while the likelihood stays constant when they are exposed to health concerns like smoking or infectious infections (Breakwell, 2014). Perceived risk is also influenced by emotional reactions, with hazards associated with fear or anxiety being viewed as more serious (Dryhurst et al., 2020). This was made clear throughout the epidemic when various demographic groups' perceptions of risk were heightened by elevated emotional states (Renn, 2020; Lin et al., 2022).

People's perception of the seriousness or non-seriousness of a risk or its effects is known as perceived severity (Covello et al., 2001; Covello, 2021; Li et al., 2014). When it comes to risk perception, perceived severity is often associated with anxiety and fear, and when danger is thought to have a poor consequence, people frequently take precautions to prevent preemptive loss (Weinstein, 2000; Covello et al., 2001; Covello, 2021; Li et al., 2014). This is evident in how people choose to support mitigation efforts of things that they fear the consequences to, like climate change (Hornsey et al., 2018; Li et al.,

2014). Perceived severity in public health influences attitudes and actions, including vaccination uptake (Betsch et al., 2020; Kollamparambil et al., 2021; Yang et al., 2020). Individuals who think that diseases such as COVID-19 or influenza will have harsher consequences typically take precautions more seriously (Betsch et al., 2020; Kollamparambil et al., 2021; Yang et al., 2020). Perceived danger and perceived severity are related, and this link frequently affects an individual's internal or external impulse to act (Covello et al., 2001; Covello, 2021; Ferrer and Klein, 2015).

Furthermore, an individual's concept of vulnerability to a particular risk or threat is known as perceived susceptibility (Ferrer and Klein, 2015). Actions to prevent negative health outcomes, such as getting vaccinated, quitting smoking, or switching to a healthier diet, are frequently motivated by perceived susceptibility (Sheeran, Harris, & Epton, 2014; Ferrer and Klein, 2015). Behavioural change models, like the Health Belief Model, often investigate how a person's belief about their vulnerability to sickness affects their likelihood of engaging in healthy behaviours that prevent disease (Champion & Skinner, 2008; Wei, Xu and Wu, 2019). For example, during COVID-19, people who thought they were in danger of infection adhered more closely to advised practices (Brewer et al., 2021; Kollamparambil et al., 2021; Yang et al., 2020). Optimism bias can also mitigate perceived vulnerability, which occurs when people believe their own risk to be smaller than that of others (Ferrer and Klein, 2015; Brewer et al., 2021; Kollamparambil et al., 2021; Yang et al., 2020).

Health-related actions can have complicated motivations that include societal, political, and economic elements in addition to personal ones (Lin et al., 2022). An appealing strategy for disease prevention has been the use of behaviour change campaigns to promote health (Lin et al., 2022). Effective health interventions are based on social-cognitive frameworks such as the Health Belief Model, the Health Action Process Approach as well as the Protection Motivation Theory (Lin et al., 2022). These frameworks look at how individual convictions and perceptions of risk impact the process

of moving from awareness to preventive action (Lin et al., 2022).

Perceived vulnerability to health risk is a crucial determinant of a person's desire to adopt behaviours to reduce risk (Lin et al., 2022). In the context of pandemics, prior research has offered compelling evidence for a relationship between health-related behaviours and risk perception (Kim & Choi, 2016; Lin et al., 2022). Even more pertinent to this situation, higher risk perception of COVID-19 has a beneficial association with preventive behaviours like social distancing and hygiene (Lin et al., 2022). By further considering how behaviour may be influenced by perceptions of danger, a number of alternative health behaviour models have also supported the role of threat related to a health issue (Trifiletti et al., 2021). When people perceive an illness as a danger, and particularly when they believe the sickness has serious repercussions and they feel personally susceptible to the disease, they are more willing to adopt preventative health practices (Trifiletti et al., 2021). Perceived severity describes how seriously people feel that a disease affects them both medically and socially (e.g., death; impairment in daily activities, respectively) (Lin et al., 2022; Trifiletti et al., 2021). Perceived susceptibility describes people's beliefs about how likely it is that they will get a disease or condition, more precisely, that they are constitutionally vulnerable to it (Lin et al., 2022; Trifiletti et al., 2021). The combination of susceptibility and severity is called perceived threat (Lin et al., 2022; Trifiletti et al., 2021). Individuals who perceive a condition as a risk or serious threat are more likely to engage in actions to mitigate these risks, especially those that are straightforward, like vaccination (Lin et al., 2022; Trifiletti et al., 2021).

Relevance of the Risk Perception Theory in Vaccine Communication

Perceptions of risks are affected by several variables, which can alter risk perceptions to differing degrees (Covello et al., 2001; Covello, 2021). Concern, worry, wrath, anxiety, fear, hostility, and outrage are all highly influenced by these factors, and these emotions can have a profound impact on attitudes and behaviour (Covello et al., 2001; Covello, 2021). For instance,

when danger is seen as being involuntary, unfair, unfavourable, outside of one's control, connected to unreliable people or organisations, or linked to unfavourable, permanent consequences, one's degree of concern is likely to be highest (Covello et al., 2001; Covello, 2021).

Health behaviour change interventions frequently focus on risk perceptions, and meta- analytic research indicates that when these attitudes are successfully engaged and altered, health behaviours rise as a result (Ferrer and Klein, 2015). Despite differences in risk perception categories and accuracy, research indicates that beliefs about illness risk strongly impact health behaviour. (Covello et al., 2001; Covello, 2021; Ferrer and Klein, 2015). An individual is more likely to react emotionally when outrage factors are present because they have strong moral and emotional connotations. This can greatly increase the perceived risk Covello et al., 2001; Covello, 2021; Ferrer and Klein, 2015).

According to research on risk perception, some tasks need to be completed as a component of risk communication campaigns (Covello et al., 2001; Covello, 2021; Ferrer and Klein, 2015). First, it is critical to gather and assess actual data regarding stakeholder assessments of each risk perception factor (trust, benefits, control, fairness, and dread, in particular) through surveys, focus groups, or interviews (Covello et al., 2001; Covello, 2021). It's also essential to maintain ongoing communication and information sharing about identified problem areas with stakeholders (Covello et al., 2001; Covello, 2021). To effectively coordinate risk communication initiatives, interested or impacted parties must have a common understanding of stakeholder views and the anticipated degrees of anxiety, fear, animosity, stress, and outrage (Covello et al., 2001; Covello, 2021).

In today's world, where concerns like pandemics, climate change, and technological threats pose serious risks, the Risk Perception Theory is essential (Ferrer and Klein, 2015; Brewer et al., 2021; Kollamparambil et al., 2021; Yang et al., 2020). Public health professionals and communication strategists can effectively alter public behaviour and allay worries by examining

risk perception, severity, and vulnerability (van der Linden, 2021; Covello et al., 2001; Covello, 2021). Current research emphasises the seriousness of considering the cognitive and affective dimensions of risk perception when developing interventions, particularly considering the widespread dissemination of false information (Pennycook & Rand, 2021; Covello, 2021; Kollamparambil et al., 2021; Lin et al., 2022).

Limitations of the Risk Perception Theory

The Risk Perception Theory provides useful insight into how individuals assess susceptibility, severity, and potential consequences of health risks; however, it also has notable limitations. The theory has been criticised for focusing predominantly on individual-level cognitive and emotional assessments of risk, often neglecting the social, communicative, and relational contexts in which these perceptions are formed (Slovic, 2016; Breakwell, 2014). In the case of vaccine hesitancy among young people, risk perceptions are frequently shaped by trust in institutions, misinformation, and social narratives rather than by personal risk calculations alone (Kim & Choi, 2016; Lin et al., 2022. As such, Risk Perception Theory on its own cannot adequately explain why individuals may reject vaccines even when they acknowledge the severity of a disease, highlighting the need for complementary frameworks—such as Trust Determination Theory—to better capture the role of trust and communication processes in shaping health-related decision-making (van der Linden, 2015).

Application of the Trust Determination Theory and the Risk Perception Theory in this study

This study examines young people's vaccine hesitancy using both the Trust Determination Theory and the Risk Perception Theory. The Risk Perception Theory focuses on how vaccine willingness is influenced by emotional and cognitive aspects as well as how risks are perceived (Covello, 2021). On the other hand, the Trust Determination Theory looks at how young people's acceptance of vaccine messaging is affected by their level of trust in channels (Covello, 2021). Both theories offer a thorough comprehension of

vaccine hesitancy, especially when considering COVID-19 communication. This study, therefore, provides a more complex view of young people's vaccine hesitation by integrating both perspectives.

Rationale for using Both Theories

The Trust Determination and Risk Perception theories are essential in understanding how people process information, come to judgements, and behave when uncertain (Metzger & Flanagin, 2015; Wei, Xu and Wu, 2019; Covello, 2021; Ferrer and Klein, 2015). Numerous parallels between the two ideas help frame this investigation and make the study's conclusions easier to comprehend. The Risk Perception Theory is mostly concerned with avoiding possible danger, whereas the Trust Determination Theory is concerned with trust—or lack thereof—in information providers (Metzger & Flanagin, 2015; Wei, Xu and Wu, 2019; Covello, 2021; Ferrer and Klein, 2015).

The Trust Determination Theory and the Risk Perception Theory highlight the importance of cognitive and affective elements in making decisions in this study. While users evaluate a source's authority, credibility, and reliability using the Trust Determination Theory, they also evaluate risks according to their likelihood and seriousness using the Risk Perception Theory (Metzger & Flanagin, 2015; Slovic, 2016; Wei, Xu and Wu, 2019; Covello, 2021; Ferrer and Klein, 2015). Both frameworks recognise the significance of emotions in cognitive evaluations since fear or anxiety, depending on whether it can amplify or decrease these sentiments, can affect one's level of trust in a source (Dryhurst et al., 2020; Covello, 2021). As a result, feelings like fear or confidence affect how much risk is perceived and how much one trusts information sources (Metzger & Flanagin, 2015; Slovic, 2016; Wei, Xu and Wu, 2019; Covello, 2021; Ferrer and Klein, 2015).

The Trust Determination Theory and the Risk Perception Theory recognise the impact of social and cultural circumstances on perceptions (Lin et al., 2022; Trifiletti et al., 2021). The Theory of Risk Perception considers how

social norms and cultural ideas influence people's perceptions of risk (Lin et al., 2022; Trifiletti et al., 2021). According to the Trust Determination Theory, individuals' values and norms determine how much confidence they place in a source (Wei, Xu and Wu, 2019). According to research, people believe a source that is consistent with their sociocultural identity, and cultural reasoning might make some hazards seem more serious (Brewer et al., 2021; Kollamparambil et al., 2021; Yang et al., 2020). These theories emphasise the significance of comprehending and acknowledging cultural and social factors in the process of forming perceptions overall (Siegrist et al., 2021; Sewpaul et al., 2023).

Several differences exist between the two theories chosen for this study. The Risk Perception Theory and the Trust Determination Theory are unique theories that concentrate on assessing information sources (Ferrer & Klein, 2015; Metzger & Flanagin, 2015; Lin et al., 2022). The Risk Perception Theory determines the likelihood and seriousness of dangers posed by a scenario or occurrence, whereas the Trust Determination Theory appraises the source's credibility, reliability, and intent (Metzger & Flanagin, 2013; Metzger & Flanagin, 2015). In the Trust Determination Theory, individuals use historical events, expertise, and perceived incentives to assess a source's motivation (Metzger, 2021). Even though estimating risk perception is intricate and multifaceted in nature, it measures perceived risk, severity, and vulnerability (Breakwell, 2014). It considers, irrespective of one's faith in the source, the possibility of being exposed to a given risk as well as the possible seriousness of the threat. Risk Perception Theory places more emphasis on the individual's vulnerability than it does on external sources of information (Ferrer & Klein, 2015; Covello et al., 2001; Covello, 2021; Wei, Xu and Wu, 2019). Behaviour is influenced differently by the Trust Determination Theory and the Risk Perception Theory. When it comes to trusting medical professionals in times of medical emergency, for example, the Trust Determination Theory impacts how people get and use information (Metzger, 2021; Metzger & Flanagin, 2015). In contrast, it has been suggested that perceived risk directly affects risk avoidance and

preventive behaviour, such as adhering to public health protocols in high-risk scenarios like the COVID-19 pandemic (Dryhurst et al., 2020; Brewer et al., 2021).

The associated theories of Trust Determination and Risk perception center on the mental and affective processes involved in risk assessment (Metzger, 2021; Metzger & Flanagin, 2015; Ferrer & Klein, 2015; Covello et al., 2021). The Trust Determination Theory concentrates on assessments of information sources' reliability, whereas the Risk Perception Theory mostly looks at how people weigh the potential outcomes of risks (Metzger, 2021; Metzger & Flanagin, 2015; Ferrer & Klein, 2015; Covello et al., 2021). These ideas offer a thorough grasp of how individuals deal with uncertainty and make choices in challenging situations (Metzger, 2021; Metzger & Flanagin, 2015; Ferrer & Klein, 2015; Covello et al., 2021).

Addressing the Research Problem Using Both Theories

Addressing vaccine hesitancy, especially in young people, requires an understanding of how risk perceptions and confidence in credible sources of information impact decision-making (Bangalee & Bangalee, 2021; Cooper et al., 2022; Cipolletta et al., 2022; Katoto et al., 2022; Kollamparambil et al., 2021; Lohoniva et al., 2022). This is because people's perceptions of risks and benefits, the reliability of sources of knowledge, and their confidence in social media influencers and health organisations all affect their health decisions (Slovic, 2016). Young individuals are more vulnerable to false information, which makes them more reluctant to be vaccinated (Hornik et al., 2021). A more detailed response can be obtained by incorporating the Risk Perception Theory and Trust Determination Theory into public health tactics, particularly in academic contexts where students' information environments are dynamic (Reno et al., 2021). It takes credibility and good communication to overcome vaccination hesitancy (Dube et al., 2020). Therefore, understanding efficient communication tactics to boost vaccination uptake can be aided by the Trust Determination Theory and the Risk Perception Theory (Ferrer & Klein, 2015; Covello et al., 2021).

According to young people's attitudes about the validity of vaccines and the risks associated with vaccination and sickness, these theories also assist in creating targeted messaging to appeal to the young people (Ferrer & Klein, 2015; Covello et al., 2021; Kollamparambil et al., 2021; Lohoniva et al., 2022).

The Trust Determination Theory suggests that individuals who trust their sources of knowledge and information are more likely to vaccinate (Metzger, 2021; Bangalee & Bangalee, 2021). This is particularly true because credibility, reliability and authority are essential to vaccine information. Communicators who are relatable peers or public figures can help build trust (Siegrist et al., 2021; Covello et al., 2021; Cooper et al., 2022). This is because young people are more likely to take the message seriously if they think it comes from a reliable source, such as teachers or healthcare professionals (Bangalee & Bangalee, 2021; Cooper et al., 2022). It is also important to acknowledge the message's intention as trust grows when young people see that their best interests are considered and that advantages and side effects are openly disclosed (Metzger & Flanagin, 2013).

Social media significantly influences trust as information shared on sites like YouTube, Instagram, and TikTok has been highlighted to have an impact on the vaccination decisions of young people (Kennedy, 2020; Bangalee & Bangalee, 2021). To preserve confidence, it is necessary to challenge any false information originating from untrustworthy sources (Abbas, 2021; Bangalee & Bangalee, 2021). Young people's campaigns should address emotional concerns that could erode their belief in vaccines as well as reputable sources and evidence-based information from health authorities (Kennedy, 2020; Bangalee & Bangalee, 2021; Abbas, 2021).

Communication strategies, especially addressing COVID-19 vaccine hesitancy, need to be able to emphasise that young people are not only vulnerable but also spread the disease (Cooper et al., 2018; Kennedy 2020).

Brewer et al. (2021) highlights the collective responsibility of vaccination, including protecting family, friends, and vulnerable populations, to raise awareness of both susceptibility and severity. The Risk Perception Theory explains how young people assess vaccine risks, considering perceived risk, severity, and susceptibility (Kollamparambil et al., 2021; Cipolletta et al., 2022). It suggests that young people may underestimate their risk of spreading communicable diseases, resulting in lower vaccination rates among the age group.

The intricacy of the research questions for this study justified the use of both the Trust Determination and Risk Perception Theories. Vaccine hesitancy can be attributed to the collaboration between risk perception and communication trust or confidence, as it is not exclusively driven by one or the other (Siegrist and Zingg, 2014; Covello, 2021). The Risk Perception Theory can effectively address the research question "What are the perceptions of UKZN students regarding the COVID-19 vaccine?" This is because it examines elements such as perceived vulnerability, seriousness, emotional responses, and personal relevance to help explain how health risks are perceived and reacted to by young people (Slovic, 1987; Brewer et al. 2021).

The Trust Determination Theory can be applied to find out how much trust young people in South Africa have in health information through the study question, "What are the communication needs for South African youth during public health emergencies?" Credibility, dependability, authority, and the communicator's perceived intent are among the elements that the theory emphasises (Covello, 2021; Covello et al., 2001). The question, "What communication strategies can be used to address the youth's communication needs during public health emergencies?" necessitates applying both theories. The Risk Perception Theory aids in understanding what content appeals to young people while the Trust Determination Theory assesses message delivery and trust-building (Slovic, 1987; Brewer et al. 2021; Covello, 2021). Each theory is flawed on its own. The Trust

Determination Theory ignores risk-related cognitive and emotional reactions while the Risk Perception Theory fails to sufficiently acknowledge the credibility of the communicator (Siegrist and Zingg, 2014; Covello, 2021).

Conclusion

This study is framed by the Trust Determination Theory and the Risk Perception Theory. These theoretical frameworks are crucial for explaining how young people assess health information, explore risks and make COVID-19 vaccination decisions. The combination of the theoretical models establishes a foundation for interpreting the communication processes that are discovered in this study.

Chapter 4: Research Methodology

Introduction

This study seeks to explore a youth-focused communication strategy to address vaccine hesitancy, using COVID-19 as a case study. To understand the role of effective communication tailored for young people during health emergencies, data was collected from the University of KwaZulu-Natal. In addition to describing the study's methods for participant sampling, data collection, and analysis, this chapter expands on existing literature on vaccination reluctance. The ethical considerations surrounding the conduct of this research study are also covered.

The Interpretivist Paradigm

The study uses the interpretivist research paradigm to explore young people's perceptions of vaccines and vaccine communication, focusing on their experiences and perceptions of a specific social environment (Alharahsheh and Pius, 2020). It highlights the significance of understanding the subjective meanings that people make of their lives and realities (Creswell and Creswell, 2017; Cohen, Manion and Morrison, 2018). Interpretivism examines how people comprehend their environment through interpersonal, cultural and historical perspectives (Babbie, 2017). This is in contrast with positivism which focuses on unbiased truths (Babbie, 2017). Edmund Husserl's phenomenology and Wilhelm Dilthey's hermeneutics—the study of interpretative understanding—formed the foundation of the interpretivist paradigm (Husserl and Welton, 1999; Dilthey, Makkreel and Rodi, 2002; Alharahsheh and Pius, 2020; Pervin and Mokhtar, 2022). Understanding "the world of human experience" is the goal of the interpretivist approach to research, which implies that reality is socially produced. The interpretivist approach is dependent on participants' perspectives on the topics under investigation (Alharahsheh and Pius, 2020).

The interpretive paradigm is essential to this study's goal of comprehending the factors that influence vaccine uptake or hesitancy among young people (Lee and Wu, 2023). For this study, a functional understanding that is rooted in student interplay and meanings is essential. The interpretivist paradigm is relevant to this study, given that this study explores how 18 to 35-year-old young people perceive vaccines and

vaccine communication that addresses vaccine hesitancy. The paradigm chosen allows for the uncovering of the details, as young people's perceptions are not fixed or universal (Cohen, Manion and Morrison, 2018). They depend largely on their social context, risk and trust (Cohen, Manion and Morrison, 2018). This study's qualitative methods such as the use of focus group discussions and key informant interviews which provide in-depth descriptions of the processes that contribute to the making of meanings integrated well with the interpretivist paradigm.

The interpretivist paradigm made it possible to understand the participants' subjective viewpoints on the topics being studied as well as the meanings underlying their concerns over the COVID-19 vaccine messages and the circumstances that fuelled the concerns (Pervin and Mokhtar, 2022). The researcher was able to acquire and comprehend the student's perceptions of their surroundings through conversation. The use of this interpretivist paradigm demonstrated how crucial it is to comprehend the circumstances in which people arrive at their own conclusions and interpretations of certain events (Alharahsheh and Pius, 2020). The researcher can offer interpretive explanations that tend to concentrate on language, signs, and meaning from the perspective of participants because the interpretivist analysis is inclusive and circumstantial (Pervin and Mokhtar, 2022).

The interpretivist paradigm can also pinpoint detailed life events (Pervin and Mokhtar, 2022). Through data analysis, the researcher sought to reconstruct the intended meaning of the text by exploring, explaining, expressing, and trying to put themselves in the participant's shoes (Pervin and Mokhtar, 2022). In understanding the student's perceptions of vaccines and vaccine communication, the researcher ensured to explore the questions: a) what do the participants know about COVID-19 vaccines; b) how the participants find and engage with important COVID-19 vaccine information; c) what extent do certain communication strategies influence the participant's vaccination decisions. Through the accounts of the participants and their lived experiences, the interpretive position allows a deep dive into the social truths of vaccine communication for young people (Pervin and Mokhtar, 2022).

However, the interpretivist paradigm has its limitations. The paradigm emphasises

subjectivity, which raises concerns about generalisability, bias and consistency (Cohen, Manion and Morrison, 2018; Bryman, 2016). This means that the researcher's interpretations can differ based on their positionality and worldview. These interpretations are the basis of interpretivist research (Bryman, 2016; Flick, 2018). Therefore, in this study, the researcher maintained reflexivity to reduce bias and its credibility was strengthened by triangulating data from different sources (Ahmed, 2024). The researcher employed he interpretivist paradigm in the study while acknowledging that a variety of factors including peer pressure, personal or community health experiences and trust in institutions all impact young people's experiences with vaccine messaging. This assisted in framing the researcher's role as an active producer of knowledge alongside the participants and not as an observer. It also directed the development of research questions that prioritised comprehension over calculation (Ahmed, 2024). The data gathered in this study was thematically examined in accordance with an interpretivist methodology while paying close attention to the details in the participant's language, tone and context (Ford et al., 2023; Bryman, 2016; Flick, 2018).

Qualitative Research Design

As part of a qualitative research approach, this study uses an exploratory case study to collect data on UKZN students' perceptions of COVID-19 vaccine communication during the pandemic. The social environment at UKZN, which affects how students perceive the uptake of the COVID-19 vaccine, is examined in this study using a qualitative research methodology (Creswell and Poth, 2016; Creswell and Creswell, 2017). The goal of the study is to comprehend and interpret meaning and feelings from the viewpoints of the participants, emphasising the richness and complexity of human behaviour in natural settings (Denzin and Lincoln, 2011). Given that quantitative methods typically concentrate more on numerical data and statistical findings, this method is helpful when analysing complicated or understudied topics (Merriam and Tisdell, 2016; Tracy, 2020). Knowing how the students feel about the vaccine is made easier with the help of the selected study design.

According to Creswell (2016), qualitative research is a technique that uses descriptive information such as spoken or written words and observable human behaviour. This

is to examine the importance that individuals or groups place on social or human issues to obtain a thorough grasp of human processes, behaviour, and perceptions (Creswell and Poth, 2016; Creswell and Creswell, 2017). In alignment with the interpretivist paradigm, data for qualitative studies comes directly from the natural environment (Muzari, Shava and Shonhiwa, 2022). It focuses on lived, real-life events and circumstances as they arise in the regular flow of events (Muzari, Shava and Shonhiwa, 2022). The primary tool for gathering data in a qualitative study is the researcher (Yin, 2016). This gives the conclusions legitimacy, credibility and trustworthiness by demonstrating the researcher's personal or self-engagement with the phenomenon (Yin, 2016; Tracy 2020). The humanistic aspect of qualitative research is maintained by presenting data in the participant's own words (Tracy, 2020). The act of putting facts into words is known as voice in the text or verbatim, and it serves as concrete evidence of the opinions of participants (Muzari, Shava and Shonhiwa, 2022).

In qualitative research, a case study is an empirical investigation that emphasises on current issues within lived experiences, utilising multiple resources to gather rich data over time and allowing researchers to investigate a case or cases over time (Muzari, Shava and Shonhiwa, 2022; Yin, 2016). Case studies are suitable for analysing attitudes and behaviours that are related to vaccine hesitancy in young people as they provide insight into complex topics in real-world situations (Yin, 2016). A case study has also been described as more than just a data collection method, technique, or procedure; but also, as a research strategy (Cresswell, 2024; Priya, 2020). It is an in- depth analysis of a particular problem that looks at people, things, decisions, and social structures from a practical standpoint (Muzari, Shava and Shonhiwa, 2022). When the methodology is ethical and practicable, this method enables researchers to choose the best data gathering strategy, guaranteeing a thorough study (Cresswell, 2024; Priya, 2020).

This research uses a qualitative exploratory case study design to comprehend the discernment of young people and how they react to vaccine-related communication strategies. It is employed when one of the goals is to obtain knowledge that can guide future research or when the phenomenon being studied has not been clearly defined

(Baxter and Jack, 2008; Yin, 2016). This design is particularly appropriate for this study as youth-focused communication to address vaccine hesitancy is a developing area of public health communication in South Africa. Furthermore, the exploratory case study relevant to this research study as it enables a flexible yet targeted analysis of the participant's experiences and perspectives (Baxter and Jack, 2008). It allows the researcher to easily identify trends and themes in ways that communication strategies can be used to guide vaccine attitudes, trust and risk assessment (Muzari, Shava and Shonhiwa, 2022; Cresswell, 2024). Therefore, the implementation of this qualitative research approach to this study enabled the researcher to understand the perceptions and choices of the students as well as their influences in their uptake or refusal of the COVID-19 vaccines. Additionally, it aligns with the interpretivist paradigm that guides this study, thus focusing on understanding the interpretations that people make of their experiences (Schwandt, 2015).

The exploratory case study methodology presents a few limitations. Due to its context specific characteristic, the results from this methodology may not be easily generalizable beyond the research environment (Yin, 2016). Exploratory case studies may also not offer definitive answers on causality or efficacy because they do not seek to test hypotheses or assess interventions (Merriam and Tisdell, 2016). Additionally, since qualitative data interpretations need subjective evaluation, exploratory case studies can also present the possibility for researcher bias (Merriam and Tisdell, 2016). However, the researcher acknowledged and controlled these limitations using techniques like data triangulation and dense description to improve the credibility and dependability of this study. Data triangulation enhances the credibility of research by employing multiple data sources or techniques, such as focus groups and interviews, to confirm results (Carter et al., 2014). On the other hand, a dense description enhances qualitative research and enables readers to assess the relevance of the findings in various contexts by providing a thorough background and participant testimonies (Nowell et al., 2017). Together, these steps improved the study's credibility and dependability by guaranteeing that the conclusions were transparent in their methodological application and well-supported by the data.

The exploratory case study methodology is applied in this study to analyse how a particular group of young people at a South African university institution perceive vaccination and vaccination communication through focus group discussions and

key informant interviews. This case is constrained by the stud's duration, the target demographic (young people between the ages of 18 and 35) and the study's location (UZN Howard College Campus). The researcher can collect rich and detailed information which can shape future communication strategies that are aimed at this audience.

Positioning the research: Description of the research site

This study was conducted at the University of Kwazulu-Natal, Howard College Campus. Located at the South African province of KwaZulu-Natal, the University of KwaZulu-Natal is a public research institution with five campuses (University of KwaZulu-Natal, 2017). It was established on January 1, 2004, following the merger of the University of Natal and the University of Durban-Westville (University of KwaZulu-Natal, 2017). Prior to the merger, the University of Natal was housed on the Howard College campus in Durban (University of KwaZulu-Natal, 2017). It is situated in a nature conservancy on the Berea Ridge (University of KwaZulu-Natal, 2017). Howard College campus provides a broad range of degrees, with a sizable engineering department that includes chemical and electrical engineering (University of KwaZulu-Natal, 2017). Along with the Elizabeth Sneddon Theatre and the Centre for Creative Arts (CCA), this campus also houses the College of Humanities, College of Law, and College of Management (University of KwaZulu-Natal, 2017).

The University of KwaZulu-Natal registers over forty-five thousand students every year (University of KwaZulu-Natal, 2017). Most of the students range between the ages of 18 and 35 (University of KwaZulu-Natal, 2017). The researcher considered a few strategic and contextual factors that support the goals of the study when choosing this location. Due to the disruptions caused by COVID-19, the Howard College Campus offers a special case for investigating young people's perceptions of vaccines in a post- pandemic setting. UKZN was exposed to extended lockdown restrictions like many other universities around the world. There was a major breakdown in communication between the school and its pupils during this period. In-person academic and health services were either discontinued or digitalised (Czerniewicz et al., 2020). This meant that vaccination efforts and other health promotion initiatives were halted or modified without consistent messaging (Czerniewicz et al., 2020;

Mhlanga and Moloi, 2020).

This background is valuable for examining young people's communication needs during and after the epidemic since these interruptions led to gaps in health messaging and restricted access to the institutional support systems. UKZN is located in the province of KwaZulu-Natal which has a high prevalence of public health issues, especially among young people. Some of South Africa's highest rates of HIV prevalence are recorded in the province and comorbidities like tuberculosis (TB) which make people more susceptible to COVID-19 and other health crises (Bekker et al., 2018; Zuma et al., 2022). Therefore, students at UKZN constitute a significant population for public health research given their exposure to several health risks and their positioning as a target audience for health treatments (Bekker et al., 2018; Zuma et al., 2022).

Additionally, UKZN has a strong institutional health programme that includes campaigns for HIV counselling and testing, student wellness activities and vaccine awareness (UKZN, 2021). These initiatives encountered significant operational difficulties during the pandemic, despite their benefits (UKZN, 2021). This study seeks to explore how institutional changes may have affected students' perceptions of vaccines and vaccine communication, considering the broader changes in communication and engagement for young people. The diversity of UKZN's student population, across socioeconomic, cultural and geographic boundaries, is often highlighted as a general strength. However, it also has a methodological purpose in this context. Exploring the diverse experiences of vaccine hesitancy and confidence in health communication is made possible by the diversity that exists within the shared institutional context. It provides an example of larger South African populations of young people (Statistics South Africa, 2024). Furthermore, the campus has an extensive residential student population which makes it easier to conduct research while offering a stable living and learning environment.

Therefore, the UKZN Howard College campus was selected as the location of this study for its relevance, contextual richness and its compatibility with this study's objectives. It offers a setting where risk perception, institutional trust and public health

communication for young people interact in ways that can provide significant insight for future pandemic preparedness and health communication strategies for young people.

Sampling

Sampling is used in qualitative research to select the most relevant and valuable population for a study (Muzari, Shava and Shonhiwa, 2022). A sample is a portion of a population that can be categorised based on a specific condition (Palinkas et al., 2015). Qualitative research employs non-probability sampling methods include convenience, purposive, snowball, and quota sampling (Campbell et al., 2020; Pahwa, Cavanagh and Vanstone, 2023). These techniques have an advantage over random sampling since they can capitalise on participants' humanistic qualities (Robinson, 2024; Pahwa, Cavanagh and Vanstone, 2023). Selecting a pertinent sample is essential for researchers to address research questions.

Purposive sampling, a non-probability sample technique, is employed in this study to choose participants based on pertinent characteristics, experience, or background (Palinkas et al., 2015; Campbell et al., 2020; Etikan, Musa and Alkassim, 2016). In case studies, purposeful sampling is frequently employed, particularly when working with small samples and choosing instances that offer unique insights into the subject of the study (Muzari, Shava and Shonhiwa, 2022; Pahwa, Cavanagh and Vanstone, 2023). Understanding how young people viewed and engaged with public health information during the COVID-19 pandemic is the goal of this study. This strategy guarantees a representative sample of the whole population being studied, making it suitable for this exploratory study (Robinson, 2024).

To understand the attitudes of UKZN students about COVID-19 vaccine communication during the pandemic, the researcher purposefully selected the study sample to include students who were vaccinated willingly, those who were vaccinated but were hesitant and those who refused the vaccine altogether. This represents the range of vaccine attitudes found in the research studies on vaccine hesitancy (Chou and Budenz, 2020; Muthoni et al., 2023; WHO, 2021). Therefore, this study was able record differing experiences, reasons and interpretations of vaccine communication

by using sampling across these three groups. Students who were vaccinated willingly are a population whose favourable perceptions of vaccinating and public health communication may aid in determining which strategies were effective in promoting adherence. Students who were hesitant but still got vaccinated offer useful insights about perceived risk, trust challenges and societal or institutional factors that may have influenced their decision and can aid significantly in understanding how to reduce vaccine hesitancy among young people (Chou and Budenz, 2020). Additionally, students who refused the vaccines are critical to this study because their narratives reveal mistrust, resistance and communication gaps in young people who could be affected by false information or alternative belief systems (Muthoni et al., 2023). This categorisation is in line with the Risk Perception Theory and the Trust Determination Theory which frame this study. The classification allowed for the investigation of ways in which emotions reactions, perceived risk and source credibility differed throughout the decision-making process (Covello, 2021; Metzger & Flanagin, 2015). It was crucial to capture these differences for future communication strategies aimed at vaccine-hesitant young people.

Twelve participants were selected to participate in focus group discussions. Two focus group discussions were conducted for this study, consisting of six participants per group. Each focus group's participant count helps provide thorough information in a comparatively short amount of time (Gundumogula, 2020). The participants were between the ages of 18 and 35 and were enrolled as students in UKZN. The choice to employ two focus group discussions was led by the need to explorea variety of student perspectives while preserving manageable group size that would allow for extensive debate and participation (Nyumba et al., 2018). The two focus groups were designed to capture diversity in academic backgrounds, living arrangements (residence vs. off-campus) and vaccination decisions. This was done to ensure that the participants could provide distinct perspectives on the experience of vaccination communication within different student contexts (Gundumogula, 2020).

The initial intention was to organise three focus group discussions, with each one concentrating on the students from the three vaccination decision categories (students who were vaccinated willingly, those who were vaccinated but were hesitant and those

who refused vaccination). However, due to logistical difficulties and low availability of students during the recruitment process, the categories were merged into two groups. This change was required to ensure viability while maintain the diversity of the perspectives (Nyumba et al., 2018).

Three key informants who possess valuable knowledge of students and their experiences during the pandemic were selected by the researcher (Pahwa et al., 2023). The number of key informants was important as it ensured that there was diversity within the key informants to provide a broad range of perspectives and avoid biases (Pahwa et al., 2023). The key informant interviews were conducted with individuals who play significant roles in student administration, leadership or health services. Their institutional positions, personal knowledge of health communication initiatives, student health behaviours and opinions on vaccination uptake in the university setting were considered when selecting these individuals. Based on their knowledge, key informants offer important information about the institutional communication strategies during the pandemic, challenges to successful communication, and perspectives on student engagement. The interviews enabled a more refined comprehension of the phenomenon which enriched the student participants' prospects (Lokot, 2021).

The decision to conduct three key informant interviews was influenced by the purposive sampling method chosen for this study as well as practical constraints related to availability and accessibility of the informants. The sample size establishes how many interviews are necessary for qualitative research and the knowledge power of the participants or how much each person contributes to achieving the study's objectives (Vasileiou et al., 2018). The three key informants in this study contributed enough depth and diversity of knowledge to support the study's goals. Although additional interviews might have provided a wider diversity of perspectives, the number of key informant interviews in this study was limited by recruitment difficulties and the limited availability of qualified candidates within the university. Participation was also impacted by potential informants' workload, time restraints and lack of response.

These challenges are common in qualitative research, especially when working with

administrative or expert groups (Palinkas et al., 2015; Lokot, 2021; Vasileiou et al., 2018). However, the validity of their inclusion was supported by the rich, relevant and thematically connected information gathered from the three interviews. Furthermore, the focus group discussions with students helped to counteract the constraints of a smaller key informant sample by providing a wider range of student perspectives.

Selection Criteria

The study's inclusion and exclusion criteria are designed to guarantee that the sample population fairly represents the population of interest while emphasising the proper age range for youth communication tactics. Table 4.6.1 exhibits the inclusion and exclusion criteria of the participants selected for the focus group discussions. Furthermore, Table 4.6.2 exhibits the inclusion and exclusion criteria for the participants selected for the key informant interviews.

Table 4.6.1: Table illustrating the inclusion and exclusion criteria for the focus group discussions.

Criteria	Inclusion	Exclusion
Age	Participants aged 18 to 35 years	Participants under 18 or over 35 years
Student Status	Registered for a degree at UKZN	Non-UKZN Students
Knowledge of COVID-19	Participants with basic knowledge or awareness of COVID-19 vaccines	Participants with no awareness or knowledge of COVID-19 vaccines
Presence During Pandemic	Participants who were enrolled at UKZN during the COVID-19 pandemic (2020–2022)	Participants who enrolled post-pandemic and were not present during 2020–2022
Consent	Students willing to participate and provide informed consent	Students unwilling to provide consent or engage in discussions

Vaccine Decision Category	Participants who (a) willingly accepted the vaccine, (b) were hesitant but accepted, or (c) refused the vaccine	Participants who do not clearly fall into one of the three categories or are unwilling to disclose their vaccine status

This sample frame was chosen for strategic and theoretical reasons. The 18 to 35 age group is frequently acknowledged as a crucial public health population, especially in studies on health behaviour and vaccination uptake (Betsch, Böhm and Chapman, 2015; Metzger, 2022; Chou and Budenz, 2020). As a subgroup, university students often act as early information consumers and consequently affect peer-based health communication (Abbas et al., 2018; Kühn et al., 2022). The study's emphasis on UKZN students allowed it to reach a demographic that is essential to health policy for young people and reflects the larger challenges faced by institutions when it comes to vaccine communication during health emergencies.

This study concentrated on individuals between the ages of 18 and 35, in accordance with the definitions of "young people" found in recent public health literature (WHO, 2024; UNICEF, 2021). This age group has been demonstrated to have unique views and behaviours regarding vaccine uptake. Their views and behaviours are often characterised by increased vaccine hesitancy and a dependence on social media for health information (Kühn et al., 2022; Sallam et al., 2022; Montagni et al., 2021). Therefore, by including individuals within this age range, the study was able to explore how these factors affected South African university students' decisions to get vaccinated.

The sample was restricted to UKZN students to guarantee contextual relevance as the goal of the study was to explore vaccine perceptions and communication in a specific institutional setting. UKZN and other universities are key sites for promoting youth engagement and health (Abbas et al., 2018; Kühn et al., 2022). The uniqueness of this demographic is crucial for effective data collection as their internal communication processes and support systems are different from those outside of academic settings

(Musheke and Phiri, 2021).

To guarantee informed responses, the study only included people with some or basic awareness of COVID-19 vaccines. Participants required a certain amount of background knowledge to discuss their perspectives of vaccination and vaccination communication. This aligns with literature indicating that individuals need to have a minimal level of health literacy to participate in meaningful conversations about vaccine perceptions (Zhang et al., 2022; Paakkari and Okan, 2020; Lamot and Kirbiš, 2024). Only students who willingly agreed to participate were included in the study in accordance with ethical considerations. It was also essential to include individuals who were present at UKZN during the COVID-19 pandemic. Participants had to be familiar with the institutional communication efforts, vaccine- related messaging and public health dynamics of the period as the study aims to understand the perspectives of vaccines and vaccine communication during the pandemic. The inclusion of post- pandemic students may have weakened the study's validity by introducing recall bias or second-hand interpretations (Khare and Vedel, 2019).

To ensure that participation is independent and respectful, informed consent is essential to ethical qualitative research (Xu et al., 2020; Silverman, 2020). It was crucial to exclude people who did not fit these criteria, such as those who were under the age of 18 and over the age of 35, were not students at UKZN or did not know about COVID-19 vaccinations. This was essential to keep focus, prevent unnecessary information and to protect vulnerable groups (Xu et al., 2020; Silverman, 2020). These standards made it possible to guarantee that the information acquired would represent the diversity and lived experiences of the target group and be relevant to the study's main research questions.

Table 4.6.2: Table illustrating the inclusion and exclusion criteria for the key informant interviews.

Criteria	**Inclusion**	**Exclusion**

Role	SRC Campus Chairperson, SRC Campus Student Support Services officer, SRC Campus Residence Affairs officer, the heads of the Campus Health Clinic, key members of the UKZN Campus Health COVID-19 "War Room	Individuals with no professional or direct experience in UKZN student health communication or vaccination
Experience	Experience in health communication with UKZN students	No experience with health communication with UKZN students

Presence During pandemic	Held or were active in their role during the COVID-19 pandemic (2020–2022)	Assumed role only after the pandemic or were not involved during the pandemic period
Consent	Willing to provide informed consent	Unwilling to provide consent for the interview

Key informants provided an institutional lens to effectively interpret the students' stories and close the gap between policy practice and perception (Palinkas et al., 2015; Vasileiou et al., 2018). This approach was in line with interpretivist methodologies which value the diversity of perspectives (Denzin and Lincoln, 2011; Pervin and Mokhtar, 2022).

When choosing the key informants, their official positions and professional experiences related to student health communication and support services were considered. Student leaders from the university's student representative structures and a staff member involved in student support and health services were among them. Their direct involvement in decision making, information dissemination and student engagement throughout the pandemic made their roles crucial for this study (Zhang et al., 2022;

Paakkari and Okan, 2020; Lamot and Kirbiš, 2024). To further ensure the validity and applicability of the data gathered, inclusion was limited to participants who have proven experience in health communication aimed at UKZN students (Vasileiou et al., 2018). The willingness to give informed consent was also a requirement for inclusion, in alignment with ethical considerations (Silverman, 2020). It was essential to exclude individuals who lacked professional or personal knowledge with student health communication to guarantee that the data was based on institutional knowledge and lived experiences (Lamot and Kirbiš, 2024). This prevented the conclusions from being compromised by perspectives that were not supported by relevant institutional practices (Lamot and Kirbiš, 2024; Zhang et al., 2022). Furthermore, in compliance with ethical guidelines for qualitative research, participants who were unwilling to give informed consent were eliminated (groups (Xu et al., 2020; Silverman, 2020).

The study was able to gather extensive data about institutional strategies, gaps and perceptions that may not be apparent at the student level by focusing on the important decision-makers and frontline staff in student health and communication systems. These criteria supported the study's aim of investigating a youth-focused communication strategy to address vaccine hesitancy.

Participant Recruitment

The recruitment strategy initially called for the purposive selection of 18- to 35-year- old UKZN students who had been enrolled at the time of the COVID-19 pandemic and had a range of vaccination experiences. This included those who refused the vaccine, those who were hesitant but accepted the vaccine and those who willingly accepted the vaccine. The goal was to gather diverse perspectives that would offer complex insights on vaccine hesitancy and communication.

To recruit participants, the researcher and an assistant used common areas of Howard College and UKZN, such as the E.G. Malherbe Library,

Shepstone Building, the Memorial Tower Building, and the Desmon Clarence Building. However, recruitment was more challenging than expected. A major challenge was that many students who had been active in the pandemic had graduated or relocated, making them inaccessible. The researcher had trouble finding individuals who had the desire to participate and fit the inclusion requirements for the focus group discussions. Only twelve participants who met the criteria were successfully recruited after several weeks of outreach. Casual conversations and snowball sampling in which current participants recommended others were the main methods used to approach the individuals on campus. However, the final group reflected diverse vaccination attitudes, which improved the range of perspectives that were recorded.

Recruiting the key informants was more challenging. The first strategy was to contact UKZN personnel who were directly involved in student health communication and COVID-19 response, especially those connected to the Campus Health Clinic, the SRC and the COVID-19 “War Room”. Only one key informant was found and approached by researcher in the Students Union Building on campus. They were one of the student leaders from the university’s student representative council between the years 2020 and 2021. They were recruited by the researcher in person, then were emailed further information about the study and the details of their participation. The second key informant who was also one of the student leaders from the university’s student representative council between the years 2020 and 2021 was recruited through the assistance of a common acquaintance who facilitated the introduction and encouraged their participation. The last key informant was a staff member who was involved in student support and health services. The informant was initially contacted through emails which were not returned. The researcher then contacted them through their campus office number where they agreed to participate. Every participant received a comprehensive explanation of the study's details and was given the chance to decide whether to take part.

These unforeseen circumstances required adaptability and perseverance. The recruitment process did not go as intended; however, the use of alternative strategies resulted in the inclusion of individuals with applicable experiences and a wealth of information. This is consistent with the tenets of qualitative research, which place emphasis on flexibility and depth rather than sample size (Tracy, 2020; Yin, 2016; Merriam and Tisdell, 2016). Additionally, the recruitment process highlighted broader challenges with post-pandemic fieldwork in higher education, such as decreased campus attendance and institutional disruptions.

Data Collection

Qualitative studies employ a variety of data collection techniques. This enables the investigator to determine the most precise and appropriate approach for the phenomenon under investigation (Christenson et al., 2011) For qualitative research to yield themes and conclusions through careful analysis, the data must be extensive, intricate, and detailed (Barrett and Twycross, 2018). Focus group discussions and key informant interviews were employed as the data gathering technique in this study, following the qualitative research design.

Focus Group Discussions

Qualitative researchers use focus groups to collect information from a group of six to twelve people (Barrett and Twycross, 2018; Fusch and Ness, 2015). Participants discuss the study question with a moderator or facilitator, who permits a free flow of ideas (Christenson et al., 2011; Fusch and Ness, 2015). The premise behind this approach is that it enables people to examine and elucidate their viewpoints in ways that would be more challenging in one-on-one interviews (Christenson et al., 2011; Fusch and Ness, 2015). The moderator can sit back and let the discussion flow freely, a greater number of participants can result in a higher level of argument (Barrett and Twycross, 2018). This method improved the entire research process by enabling the gathering of comprehensive data regarding vaccine

perceptions directly from young people (Barrett and Twycross, 2018).

Two focus groups with six individuals each were used in this investigation. To learn more about participants' opinions on vaccines and vaccine communication, the researcher used open-ended, semi-structured questions (Christenson et al., 2011; Fusch and Ness, 2015). Participants found the focus group conversations to be more comfortable because they were not required to engage in every phase of the discussion. When others shared their views, they felt more comfortable to speak (Christenson et al., 2011; Fusch and Ness, 2015). Focus groups also gave members the chance to "bounce" ideas off one another, which occasionally resulted in new viewpoints in the discussion (Barrett and Twycross, 2018). All things considered, the study offered insightful information about vaccine communication and perceptions (Barrett and Twycross, 2018).

All participants consented to participating in the group discussion through signing the informed consent form. The researcher used two mobile phones as recording devices and also took notes during the discussions. The participants were comfortable in the setting and could express their ideas freely with one another. Each focus group discussion lasted about 45 minutes. This ensured that the discussions yielded a wealth of data that could be transcribed and analysed. Additionally, the researcher ensured to keep the conversations on track, to encourage everyone in the group to speak and to prevent any one person from controlling the conversation (Barrett and Twycross, 2018).

Semi-Structured Interviews

Semi-structured interviews were used in the study to collect rich and thorough data from the key informants (Barrett and Twycross, 2018). Semi-structured interviews entail a two-person discussion and therefore are the most popular and conventional method in qualitative research (Muzari, Shava and Shonhiwa, 2022). The research questions, participant characteristics, and the researcher's preferred method all determine the sort

of interview that is performed Barrett and Twycross, 2018; Muzari, Shava and Shonhiwa, 2022). Most interviews are done in person, however, to bypass regional limitations on participant recruitment, telephone interviews are becoming morecommon (Barrett and Twycross, 2018). The goal of the study was to comprehend the phenomenon under investigation and how it would affect further research. A common technique in qualitative research is semi-structured interviews, which let participants openly reveal their personalities and points of view while gathering crucial data (Barrett and Twycross, 2018). According to Barrett and Twycross (2018) and Muzari, Shava, and Shonhiwa (2022), they are crucial for collecting attitudinal data or carrying out exploratory research with little understanding of the problem.

To get comprehensive, qualitative data about the community, the researcher conducted four semi-structured interviews with key informants, which included members of the public, professionals, and community leaders (Muellmann et al., 2021). According to Mueller et al.'s (2021) study approach, the purpose of these interviews is to obtain perspectives from people who have firsthand experience. In this study two student leaders from the UKZN student representative structures and a staff member involved in student support and health services were interviewed by the researcher. Due to the key informants' availability constraints, all the interviews were conducted online on Zoom. Each interview was recorded and lasted between 40-45 minutes.

A set of questions and topics that needed to be discussed in the interviews were included in an interview guide (Muellmann et al., 2021). These guides helped to ensure that the interviews stayed on topic, but they were only meant to serve as a guide and not to prevent participants from delving into other aspects of the topic being studied during semi-structured interviews (Muellmann et al., 2021; Muzari, Shava and Shonhiwa, 2022). The researcher preserved flexibility throughout the interviews by being guided by the interview guide but also exploring any additional themes that arose during the interview that were not considered when the interview guide was

developed. The researcher is required to probe for clarity in some of the points that the key informants raise to gain a better understanding of their thoughts (Muellmann et al., 2021; Muzari, Shava and Shonhiwa, 2022).

Data Analysis

A reflexive thematic analysis was used to analyse the data collected in accordance with the study's qualitative research methodology. A thematic analysis provides a practical and flexible theoretical framework for the analysis of qualitative data (Braun and Clarke, 2019). The reflexive thematic approach, which is a revised version of the original thematic analysis, is an interpretive approach that is strongly based on the qualitative paradigm and can be used in a variety of qualitative health research methodologies (Braun and Clarke, 2019; Campbell, 2021). This method of analysis acknowledges and values the researcher's subjectivity as a necessary component of the analysis process rather than only viewing it as problematic (Braun and Clarke, 2019; Campbell, 2021). Therefore, this study's process of data analysis used to analyse the focus group and key informant interviews data applied the six phases of the reflexive thematic analysis, as presented by Braun and Clarke (2019).

First, the researcher actively interacts with the data derived from the focus group discussions and the key informant interviews using Braun and Clarke's (2019) theme analysis method. The audio recordings of the focus group and key informant conversations were transcribed using precisely the same vocabulary as used originally by the participants. To uncover the elements (themes) of interest, the researcher printed out the transcripts and was familiarised with the data that has been collected (Braun and Clarke, 2019). Using this method, the researcher organised the data into themes to create a shared understanding of and perspective on the research topic as well as the conceptual frameworks underlying this study (Braun and Clarke, 2019).

Thereafter, in the second phase, the transcribed data were coded by placing

identifiers on the transcriptions' axis and making note of significant findings (Braun and Clarke, 2019). All the data must be coded and labelled to identify similarities and discrepancies (Maguire and Delahunt, 2017). The codes were directly linked to the main ideas of the conceptual framework used in this study. The collection of codes from the quantity of codes gathered was done in the third phase. The researcher created themes according to their significance to the research interest (Braun and Clarke, 2019).

The concepts that were produced were examined in the fourth stage to determine their applicability to the study (Braun and Clarke, 2019). The themes were refined during the fifth phase of analysis to provide each theme with a name and definition that is appropriate (Braun and Clarke, 2019). The final phase of the thematic analysis required the researcher to go over the data to determine which extracts best represent the data analysis (Braun and Clarke, 2019). All the information that was obtained was presented, clarified, and analysed in connection to the study's conceptual underpinnings and research questions (Braun and Clarke, 2019; Peterson, 2019).

Limitations of the study

This study used qualitative approaches to explore a youth-focused communication strategy to address vaccine hesitancy. However, a few methodological limitations of the study have been acknowledged. The results of this qualitative case study cannot be statistically generalisable to all young people in South Africa due to its focus on a single university. Case studies often prioritise depth over size, especially when employing purposive sampling (Yin, 2016). Therefore, this method restricts the potential to generalise findings to larger populations, even though it provides rich, context-specific insights (Cresswell and Poth, 2017).

The small sample size posed as a limitation. Participant recruitment was challenging because the study focused on individuals that were enrolled at UKZN during the COVID-19 pandemic. The number of participants was lower than anticipated as many individuals who fit the criteria were no longer

accessible. Three key informants were interviewed and only twelve students were eventually selected for two focus group discussions. Small sample sizes are common in qualitative research however, the small size may limit the diversity of perspectives (Hennink and Kaiser, 2022).

Recall bias is a possibility because of the time that has passed since the COVID-19 pandemic. The study is based of participants' memories of their perceptions and experiences between the years 2020 and 2022. This presents the risk of recall bias where participants may forget, distort or reconstruct memories in ways that may compromise the accuracy of the data (Colombo et al., 2020). Despite the efforts to include only those who has firsthand, lived experience during the pandemic, the risk of recall bias is still present in historical research designs (Colombo et al., 2020).

The interpretivist paradigm maintains that the interpretation of data is influenced by the researcher's background and assumptions (Pervin and Mokhtar, 2022). Therefore, even though reflexivity was applied throughout the data, it is still possible that the researcher's positionality may influence the identification or interpretation of the themes (Holmes, 2020). Procedures that can improve credibility such as peer debriefing and member verification were prevented by time constraints (Holmes, 2020). Although member verification was not implemented, procedures including re-listening to audio recordings and checking transcripts for accuracy were used to ensure that the participants' meanings were accurately recorded. This limitation is acknowledged; however, the use of data triangulation and dense description enhanced the study's overall credibility and dependability. This study employed data triangulation where insights from focus groups and key informant interviews offered a thorough understanding of the communication needs of young people in public health emergencies results (Carter et al., 2014). This method assisted in identifying consistencies or inconsistencies results (Carter et al., 2014). Similarly, dense description was also employed to enhance the qualitative research and to enable the readers to assess the findings' relevance in many contexts (Nowell et al., 2017). In this study, this

was demonstrated through participant quotes and contextual details (Nowell et al., 2017).

Another limitation was the inability to access key institutional informants. Finding key informants who were involved in student health communication between 2020 and 2022 was a great challenge due to the disruptions caused by the pandemic and the subsequent staff changes. Ultimately, only three informants were recruited by persistent outreach and personal connections. The limited number may not fully represent the scope of institutional strategies or internal discussions about vaccine communication.

Although the study provided insightful information about the perceptions of young people in South Africa about vaccination and communication during public health emergencies, there was a noticeable variation in the depth and richness of the data among the participants. Some participants in the focus group discussions provided brief responses. This is due to the sensitivity of vaccine-related topics and varying levels of participant engagement. Similarly, the key informant interviews were constrained by the participants' limited availability and institutional roles which sometimes restricted their elaboration of personal reflections. This resulted in fewer direct quotations being presented. Despite this, the collected data was sufficient to identify recurring themes and patterns that aligned with the aim of the study. A reflexive thematic analysis enabled a careful interpretation of both explicit and implicit meanings throughout the datasets (Braun & Clarke, 2021).

Ethical Considerations

This study complies with social research ethics standards. The study guaranteed that participants are above eighteen years old and willing to provide their opinions on COVID-19 vaccination messaging throughout the pandemic. Participants were advised that their involvement was entirely optional, that their names would remain anonymous, and that confidentiality would be maintained throughout the dissertation. Pseudonyms were employed when needed. The researcher also guaranteed that participants would not experience any negative consequences or issues if they decide to

discontinue their participation. It is essential that the study prioritise participant confidentiality and safety.

Prior to focus groups and interviews, participants were provided with an informed consent form to obtain their consent and ensure their active involvement. With their permission, the conversations and interviews were recorded. Only the researcher and supervisor had secure access to the participant data, which would be kept in the researcher's workspace. The data will be safely archived for a maximum of five years following the completion of the study. It is a time to see if further investigation, publishing procedures, or verification are required. After five years, all information, including transcripts and recordings that contain personal information, will be permanently erased and destroyed in a manner that ensures participant privacy. To guarantee that participants are fully informed of the duration of their data retention and its eventual destruction, this was noted in the consent form. The researcher created a link to share with the participants that they can use to access the study information once it has been completed. Gatekeeper permission to conduct this research was obtained through the university authorities before the commencement of this research study.

Chapter 5: Data Presentation and Findings

Introduction

Using COVID-19 as a case study, this study attempts to explore a youth-focused communication approach to overcome vaccine hesitancy. The preceding chapter covered the methodology used in this investigation. The information gathered from the research sample is presented in this chapter. To address the primary research objectives of the study, evidence was obtained through key informant interviews and focus group discussions. The data presented in this chapter sought to answer the study's research questions, which are: what are the perceptions of UKZN students regarding vaccines, using the COVID-19 pandemic as an example? What are the communication needs of South African youth during public health emergencies, based on their experiences with COVID-19? What communication strategies can effectively address the communication needs of South African youth during future public health emergencies?

Three key informant interviews and two focus groups were used to collect data for this study. The two focus group discussions consisted of six participants per group. To extract themes from the gathered data and offer a comprehensive interpretation of hidden meanings, the researcher employed reflective thematic analysis (Braun and Clarke, 2020). After becoming acquainted with the data, preliminary codes were developed and the themes were identified, named and defined (Byrne, 2022; Braun and Clarke, 2020). Thereafter, a report was produced (Byrne, 2022; Braun and Clarke, 2020). The constant transition between unprocessed data, codes, and developing topics guaranteed reflexivity (Naeem et al., 2023). The formation of themes was led by the depth and applicability of insights in addressing research concerns (Naeem et al., 2023). To bolster the findings and keep a strong connection to participant voices, data extracts were employed (Sutton and Austin, 2015).

The guiding questions for the focus group discussions and the key informant

interviews were designed to be complementary. This allowed the themes to align across both data sets even though they examined different perspectives (UKZN students and institutional informants). The overlapping focus on vaccine perceptions and communication strategies allowed the findings to coordinate meaningfully, thus supporting a joint coding and thematisation process. Presenting them together improves the analysis's clarity and provides an enhanced understanding of the issues being studied.

Four main themes were developed from the data, each with several sub-themes representing the complex and diverse perspectives of UKZN students and the key informants on COVID-19 vaccine communication and perceptions. The first theme focuses on the different fears and concerns students had about the vaccine's effects and safety. These included their experiences with side effects, long-term health implications and prioritising the well-being of others over themselves. The second theme concentrates on the communication experiences of students. It encompasses how they obtained information on vaccines, the information sources they trusted or distrusted and their engagement (or lack thereof) with institutional communication. The third theme centres around the communication needs of students during public health emergencies. The fourth theme offers recommendations from the students and key informants for improving communication strategies for young people in future public health emergencies. It focuses on trust building and engagement among young people. The table below shows presents the themes and sub-themes generated from the data collected.

Table 5.1.1: Themes and sub-themes generated from the data

Theme	**Sub-theme**
1. Uncertainties and perceived risks regarding COVID-19 Vaccines	• Fear of vaccine side effects • Perspectives about vaccine effect on immunity • Low self-risk perception • Concern for older or vulnerable populations

2. Information access, trust and vaccine communication gaps	• Influence of different information sources • Passive vs proactive information seeking • Trust in channels of information

3. Youth communication needs in public health emergencies	• Clarity and consistency in communication • Contextually relevant and engaging messaging
4. Strategies for future public health communication	• Trusted messengers and youth-focused messaging • Institutional role and student engagement • Building vaccine literacy and confidence

The themes presented in this chapter represent the most relevant insights that address this study's research questions. An intensive process of analysis was used to construct the themes in this chapter. Initial codes were grouped into categories that represented common patterns in the data. Following their refinement into sub-themes, these categories were combined to form the main themes that are covered here. According to Braun and Clarke's (2020) recommendations on reflexive thematic analysis, each theme is a synthesis of the most recurrent and significant ideas brought up by participants during both the focus groups and key informant interviews.

A summary of each theme and its related sub-themes is presented and supported by quotations from the study's participants to highlight their voices and experiences. The following section presents the first theme: Uncertainties and perceived risks regarding COVID-19 Vaccines.

Uncertainties and perceived risks regarding COVID-19 Vaccines

The participants in the focus group discussions and the key informant interviews were asked questions to comprehend their knowledge and perceptions about the COVID- 19 vaccines. The literature in this study revealed that young people are the most hesitant group to accept the

COVID-19 vaccine (Muthoni et al., 2023; Moola, 2020; Chou and Budenz, 2020). Therefore, it was important for this study to uncover the diverse perceptions of young people regarding vaccination acceptance. The researcher asked questions such as: “What do you know about COVID-19 vaccines?” “What influenced your decision to vaccinate or not vaccinate against COVID-19?” The researcher was able to gain deeper awareness into the participants' beliefs about vaccination, leading to the emergence of the sub-themes discussed below.

Fear of vaccine side effects

The fear of experiencing side effects from the COVID-19 vaccines was a commonly raised concern among participants in both focus groups. Some of the students’ decisions about vaccinating were influenced by this fear. This finding is consistent with earlier studies that highlight how perceptions of possible side effects can negatively affect vaccine acceptance among young people, whether these beliefs are based on personal experience or misinformation (Cooper et al., 2021; Cooper et al., 2022). A few participants recalled instances where they themselves or someone they knew experienced unpleasant side effects after getting vaccinated.

“I also wouldn’t vaccinate. The people that got vaccinated, their arms would be in pain for a week” (FGD2, 20 March 2025)

“…someone got a nosebleed during our soccer match after he got vaccinated” (FGD2, 20 March 2025)

“When you get vaccinated, I think you get like a small dose of that thing [the virus] so it makes you sick” (FGD1, 202 March 2025)

These statements illustrate how fear and hesitancy were influenced by mild and unverified post-vaccination experiences. Immediate physical discomfort was more feared than long-term illness by students. Research has suggested that when people assess their readiness to get vaccinated, their worries about unknown and exaggerated health risks may have a greater

influence on their decision compared to accurate information (Sewpaul, 2023; Peterson, Lee, and Nugent, 2022; Betsch, 2015).

Perspectives about vaccine effect on immunity

A few participants in the FGDs expressed that they were uncomfortable with taking the vaccine because of how it was known to significantly weaken an individual's immune system, making them more susceptible to diseases and viruses. Participants expressed that there was fear among their age group that vaccinating would make them weaker and more vulnerable. Some of the responses recorded in this discussion are highlighted below:

"I've realised a trend that people who have been vaccinated easily get sick now." (FGD1, 20 March 2025)

"I also think I saw that people who were vaccinated, they'll get sick more than people who didn't..." (FGD1, 20 March 2025

"Yeah, I definitely do get sick more often than before yeah." (FGD1, 20 March 2025)

"Imagine if I had vaccinated, I feel like I'd kind of be that sickly person…" (FGD1, 20 March 2025)

"It made people sick" (FGD2, 20 March 2025)

From the responses above, it is evident that there is limited knowledge among the participants of how the COVID-19 vaccine works. In the second FGD, two participants expressed that they refused to vaccinate because they witnessed their loved ones' health deteriorate significantly after accepting the COVID-19 vaccine. They suggested that they were deeply affected by these experiences that they feared the COVID-19 vaccine.

"My dad got injected and he woke up in ICU. He only slept for two weeks and he almost died" (FGD2, 20 March 2025)

"I lost my grandmother after she got vaccinated. She was sick, then she got injected and she was fine, but just before the week ended,

she passed away" (FGD2, 20 March 2025)

This suggests that young people were not particularly worried about contracting COVID-19 themselves and the effects that the virus would have on their health and others around them. They view COVID-19 as more dangerous to older people than it is to themselves. This highlights a lack of knowledge among the young people regarding vaccine science and a major perception gap. According to Paul, Steptoe and Fancourt (2021), young people who have not had personal experiences with COVID-19 were more likely to overestimate the dangers of vaccine side effects.

Low self-risk perception

The literature assessed in this study suggested that risk perception and vaccine acceptance are directly correlated (Sewpaul et al., 2023; Cipolletta et al., 2022; Kollamparambil et al., 2021). Individuals who demonstrated high risk perception were more inclined to get vaccinated whereas those who demonstrated low risk perception were less accepting of the vaccine (Cooper et al., 2022; Sewpaul et al., 2023; Cipolletta et al., 2022; Kollamparambil et al., 2021). Within this study, some participants perceived themselves as at risk of being severely affected by the virus.

"…when I started hearing that kids were passing away, and my age group and younger." (FGD1, 20 March 2025)

"…it was not choosing anyone. Politicians, rich people, everyone. Like you'd literally hear the news… like at least four people passed away in one area…" (FGD1, 20 March 2025)

According to these participants, the realisation that everyone was at risk of being severely impacted by the virus increased the fear for their own lives. They suggested that they were likewise at risk of acquiring COVID-19 and possibly passing away from it. Consequently, their motivation to vaccinate increased to stay protected. However, some participants did not perceive

themselves as being at risk of being severely affected by the virus.

"I wasn't gonna [get vaccinated], because I didn't get sick..." (FGD1, 20 March 2025) "I didn't take it because I was scared. I fear needles anyway" (FGD1, 20 March 2025)

These participants demonstrated that some young people, regardless of the level of risk, were not willing to get vaccinated. Despite the shifting health landscape, they did not fear for their life. They appeared to believe that they were immune to the virus's severe effects. Thus, agreeing with the literature, this reasoning was directly related to their unwillingness to get vaccinated. This also reveals a deep mistrust and a low perception of risk associated with COVID-19 itself.

Concern for older or vulnerable populations

When it came to COVID-19, the participants expressed greater concern about its impact on older people. They did not consider themselves to be in significant danger, as they suggested that COVID-19 predominantly affected older populations or people with comorbidities. Participants in this study were in mutual agreement that the virus was more dangerous to the older age groups than to people of their own age group.

"…what I saw was a lot of older people were getting sick. And people, my age or around my age weren't really getting sick, but like they'd get COVID…" (FGD2, 20 March 2025)
"…it's (immune system) weaker and they get sick easily..." (FGD1, 20 March 2025)

One participant in the discussion suggested that although older people were at risk of being severely affected by the virus if they contracted it, they were also being negatively affected by the vaccine meant to protect them.

"…our parents, if they were previously vaccinated… their health is no longer the same." (FGD1, 20 March 2025)

These responses highlight that while many young people minimised their personal vulnerability to COVID-19, they were still aware of the dangers of COVID-19 and displayed concern for those they thought were more vulnerable. However, this concern did not result in vaccine uptake among young people as it was often outweighed by other factors such as concerns about the side effects of the vaccine and mistrust of vaccine communication.

Information access, trust and vaccine communication gaps

The data from this study demonstrated that young people accessed information about the COVID-19 vaccine from a variety of sources, such as family members, official news sources, social media, and university communications. These sources, however, differ in their trustworthiness, accuracy, and clarity. Due to their widespread use of digital platforms that lack controlled content, participants frequently exhibit inconsistencies and misconceptions in their knowledge and perspectives, leaving them extremely susceptible to incorrect information (Roozenbeek et al., 2020; Bozzola et al., 2022). The following sub-themes emanated from the study's data, giving insight into the different information sources used by young people during the COVID-19 pandemic, their level of trust in the sources and the recurring gaps in vaccine communication for young people.

Influence of different information sources

The literature discussed earlier affirmed the implication of useful and precise information about the efficiency and security of the COVID-19 vaccines (Katoto et al., 2022). The literature also found that due to the strict restrictions enforced on the country, much of the population relied on online channels as their source of information (Bangalee & Bangalee, 2021). In this study, there were four main sources of information that emerged, including:

social media, official news outlets on television, university communications and family.

The participants' primary source of information on the COVID-19 vaccine seemed to be social media. Most participants reported that WhatsApp, Instagram, and TikTok were the social media platforms on which they were most active. Only two participants reported using Facebook, however the rest of the participants agreed that Facebook was mostly used by older people, such as their parents. Although the participants were active on these social media platforms, many agreed that they did not deliberately use these platforms to find important COVID-19 information. Instead, the information would be all over these platforms in the form of advertisements.

"…think I'd open my phone and on WhatsApp they'd be an ad. on Facebook, they'd be an ad on TikTok." (FGD1, 20 March 2025)

"I was on all of them. Probably not Facebook, but TikTok and Instagram." (FGD1, 20 March 2025)

"Everywhere. There's no place where you wouldn't find information about COVID-19. Sometimes that would be the thing that would scare you" (FGD2, 20 March 2025)

"Social media and posters that were everywhere in public saying what we should do and precautions" (FGD1, 20 March 2025)

"It was social media. It played a huge role." (KII3, 24 April 2025)

It is evident that social media was crucial in spreading information about COVID-19. It was observed during the FGD that most participants had no desire to search for COVID-19 information actively. This shows the importance of sharing important health messages on the platforms that are most utilised by the demographic they are trying to target.

The participants agreed that they found the news media's role to be significant during the COVID-19 pandemic. Many participants displayed high

confidence in the information they viewed on the official news television channels, especially during the early stages when uncertainty was high. They even highlighted that as much as the information was relayed to them on social media platforms, they would only believe that it was true if the same information was also reported on the official news channels. The participants frequently brought up President Cyril Ramaphosa's nationally televised address, which were humorously referred to as "family meetings". They reported using these broadcasts to verify the accuracy of information they found elsewhere. The broadcasts were perceived as authoritative and comforting.

Participants used the nickname "Cupcake" to refer to President Cyril Ramaphosa. The nickname gained popularity on social media throughout the COVID-19 outbreak, demonstrating a common cultural understanding between the participants. The name was used in a way that was both familiar and amusing. Some participants said things like "Cupcake", "Cupcake told me", and "even on TV guys" when asked where they received the most trustworthy information about the COVID-19 vaccine. (FD1, 20 March 2025; FGD2, 20 March 2025). Other participants specifically referenced news outlets, responding with comments such as, "SABC news" and "I think you know the news media… that was playing a huge, huge role in um, you know, getting information out there" (FGD1, 20 March 2025; KII2, 7 April 2025).

This highlighted the relevance of news media as a source of public trust, especially during times of national emergency. The results are consistent with earlier studies on pandemic-related information-seeking behaviour and confidence in media. Although young people regularly use social media to obtain information, they typically verify this content through more formal and established media outlets (Gibson, 2021). Throughout the pandemic, a sense of security and behavioural conformity were improved by the widespread visibility and constant messages from official sources, such as government broadcasts (Gibson, 2021; Mheidly and Fares, 2020).

The University of KwaZulu-Natal was involved in a few COVID-19 initiatives. One of them was the COVID-19 War Room, which included staff from the campus clinics across all campuses. This initiative primarily involved facilitating vaccinations for all students and staff who had returned to campus when the vaccine rollout began. However, from the key informant interviews, it was evident that the members of the War Room and the Howard College Campus Clinic staff were not involved in communicating COVID-19 information to the students. These key members of the campus during the pandemic were working tirelessly to trace and track COVID-19 positive students and their contacts to ensure that the virus would not spread within the campus. Once the vaccines became available, the Campus Clinic staff then oversaw the vaccinations of students who were willing to be vaccinated.

This means that communication about COVID-19 and vaccinations from the university had to be shared by other departments. The school ensured that notices were shared with students via email. They also utilised their official social media pages on Facebook and Twitter (now 'X') to share information with students. The College of Health Sciences, which was also very involved in COVID-19 vaccine research, ensured to share important information and statistics surrounding the virus on their social platforms. The SRC also leveraged its large student following on social media to share important information on its pages. The key informants shared a few ways in which their teams and the university shared important COVID-19 information.

"UKZN released information on all their pages on Facebook and twitter… College of Health Sciences were responsible for the updates on stats" (KII1, 26 March 2025)

"Emails we sent out to the students that were from the DVC office of Health Sciences, updating students about vaccine developments" (KII2, 7 April 2025)

"The SRC used Facebook as their main communication platform because it had about 54000 students, we also used our WhatsApp statuses" (KII1, 26 March 2025)

"The university, if I remember correctly, at some point, it promoted the vaccine, if I remember well." (KII3, 24 April 2025)

Despite the university's efforts to educate students regarding the dangers of COVID-19 and the importance of vaccinating against it, their efforts were not enough to be recognised by the students. Participants did not indicate that they received or accessed any information from the university or any of its supporting departments regarding COVID-19 and vaccinations. The participants did not display any knowledge of or interest in the initiatives done by the university to raise awareness.

Family is pivotal in shaping a young person's perceptions. The FGDs revealed that young people obtain information from a variety of outlets. However, they did not believe everything they were exposed to, whether it was true or not. The sub-theme of "family" emerges from the discussions as several participants suggested that they learned about COVID-19 from a parent or a loved one.

"I got it from my mom and I wasn't really interested on social media, I didn't believe in this thing. I thought they were making it up to scare us… So I would hear it from my mom cause my mom works in a hospital," (FGD1, 20 March 2025)

"You know, there's "my father says I can't have the vaccine, well, I can't have it even though I can make choices myself…" (KII2, 7 April 2025)

Young people respect and trust their families, especially their parents. Any perceptions that are prominent in a family structure were more likely to be adopted by the young people within that setting. This shows that despite the university's efforts, students still preferred the advice they received from

family, peers or social media. Thus, raising important questions about why institutional communication channels are failing to connect with students.

Passive vs proactive information seeking

Understanding how young people access information is crucial in this study. Identifying and addressing the communication needs of young people South Africa during public health emergencies raises the need to also understand how young people access the information that is being communicated to them. The theme of proactive vs passive information access developed from the study's collected data.

Throughout the duration of the FGDs, the participants vocalized how they would find important COVID-19 vaccination information. Most participants reported that they only actively searched for information if they wanted to verify what they came across on their social media platforms. If not for verification, they would not actively seek the information. However, the participants emphasised that whenever they felt the need to find important COVID-19 vaccine information, they would find it on the official platforms.

"So, it was the family meeting basically the news as well, which gave us like surety on what's really, really going on" (FGD1, 20 March 2025)

"…from the news and from the official sites, yeah, that's where I find the most information." (FGD1, 20 March 2025)

"I just followed the news channels. You see the news channels, they never included false information" (FGD2, 20 March 2025)

"I don't think students were actively searching for vaccine information…" (KII1, 2 March 2025)

Knowing how young people consume and verify important health information is essential in addressing communication needs. From this knowledge, we can create more effective communication strategies that are specifically tailored to reach young people in a manner they will find engaging.

Many participants in the FGD discussions stated that they were exposed to COVID-19 vaccine information, highlighting that this type of content was unavoidable. They described vaccination information as being “everywhere” meaning that it was widely disseminated across a variety of media platforms. Social media was particularly an important source as users reported seeing posts and ads about vaccines regularly while using WhatsApp, Facebook, Instagram and X (Twitter). Whether through influencers, official health pages or peer sharing, this continuous exposure contributed to raising awareness about COVID-19 vaccination among young people, without having to search for it.

“…think I'd open my phone and on WhatsApp there’d be an ad. on Facebook, there’d be an ad on TikTok.” (FGD2, 20 March 2025)

All the responses from the participants mentioned so far are crucial to investigating youth-focused communication strategies for addressing vaccine hesitancy. Youth-focused communication needs to combine knowledge of young people’s perceptions about vaccination and their communication needs. This will significantly contribute to the establishment of relevant and comprehensive communication strategies tailored for young people, particularly in public health emergencies such as COVID-19. From the data, the elements that need to be considered when evaluating effective communication strategies for young people in South Africa are undeniable.

Trust in channels of information

Participants’ level of trust in the channels used to disseminate COVID-19 vaccination information was a significant determinant of how they perceived the vaccine. Participants expressed differing levels of confidence in the credibility of the sources that were available to them. It was evident that they were more sceptical of sources like social media. This aligns with broad

research studies that suggest that people's willingness to accept and act on health recommendations is strongly influenced by their confidence in information sources (Alzahrani and Almarwani, 2024; Roozenbeek et al., 2020). Young people's uncertainty and hesitancy were heightened by misinformation or contradicting narratives from unofficial sources (Mheidly and Fares, 2020). Thus, highlighting the need for clear and transparent communication strategies during public health crises (Cooper et al., 2022).

The participants recognised that there was an abundance of misinformation surrounding COVID-19 and COVID-19 vaccination. They highlighted some of the main conspiracies and myths that they knew were being circulated during the pandemic.

"Like they're putting 5G in your body" (FGD1, 20 March 2025) "They'd say we'd get R350 or R800 now" (FGD2, 20 March 2025) "There was no covid in the rural" (FGD2, 20 March 2025)

"You know how social media is. It comes with a lot of different ideas, and you can't have facts around them if you're not a thorough person" (KII3, 24 April 2025)

Most of the participants agreed that most of the false information came from the social platform, Facebook, which would then be shared and spread to other social media platforms.

"You'd find, you know those messages that are forwarded many times I didn't believe any of those things because I would automatically think this is coming from Facebook, firstly." (FGD2, 20 March 2025)
"They lie on Facebook" (FGD2, 20 March 2025)

The consensus within the FGDs was that older people were most active on

Facebook and therefore more susceptible to believing the false information. They suggested that they were more cautious and attentive to the information they consumed about COVID-19 vaccination. The participants shared ways in which they verified the information that they were exposed to.

"When you are on social media, if a page is not verified and they're talking about the vaccine, I wouldn't believe it." (FGD2, 20 March 2025)

"I guess go on official pages or search content" (FGD2, 20 March 2025)

"I just followed the news channels. You see the news channels, they never included false information" (FGD2, 20 March 2025)

The participants agreed that they would have to go to the official news pages on social media platforms they preferred to find accurate details about COVID-19 vaccination. Based on the participants' responses, it is evident that they did not actively verify all the information that they consumed. There are myths and misconceptions that were believed by the participants that contributed significantly to their current perceptions of COVID-19 vaccination. They needed passive exposure to COVID-19 vaccine information consistently on their preferred social media platforms.

Participants also expressed scepticism towards the South African Government, which assisted in influencing the distrust they had towards some official information sources and their overall hesitancy towards the COVID-19 vaccine. This is agreement with prior literature which suggests that low institutional trust negatively impacts vaccine acceptance, especially among young people (Metzger & Flanagin, 2015; Covello et al., 2001; Covello, 2021). When the government is viewed as unreliable, even reliable health information is likely to be disregarded (Kington et al., 2021).

The participants in the FGDs were all in agreement that one of the reasons why their lack of trust in COVID-19 vaccine stemmed from their lack of trust and confidence in government. They agreed that the government was not

being truthful about the vaccines. They suggested that the Government was either trying to have control over them or decrease the population using the vaccine.

"You know these people [the Government] do whatever to get what they want. they'd do anything to get what they want. Because they are super powerful, so they'd want to show their dominance." (FGD2, 20 March 2025)

"We are subjects of the government...you are willingly/unwillingly giving consent to everything." (FGD2, 20 March 2025)

"I thought it was a way of decreasing the population..." (FGD1, 20 March 2025) "People were not interested for real. It was lack of trust." (KII3, 24 April 2025)

The first key informant clarified these perceptions stating that during this time, there were videos circulating on social media platforms of the government excavating mass graves in anticipation of the lives that would be lost because of COVID-19. This insighted great fear among people, especially students, thus believing that the government was involved in trying to eradicate them.

"The government really scared the people when they started digging the mass graves..." (KII1, 26 March 2025)

The South African government aided in the distribution of the COVID-19 vaccines. They were at the forefront of ensuring that accurate COVID-19 information was disseminated among all South Africans. However, this role was diminished by the perceptions that people held about them, based on their reputation in the nation. They have failed the citizens in many socio-economic issues that the citizens were critical of all their actions during the COVID-19 health emergency. This demonstrates that trust and confidence in the communicator is just as important as trust and confidence in the

message itself. Based on the participants responses, their hesitance to get vaccinated was also influenced by their distrust of the government which impacted their trust in the official COVID-19 communication.

Participants reported a higher reliance on the opinions and experiences of their family and peers regarding COVID-19 vaccination. Their vaccine decisions were impacted by this trust network. Some participants reported that they were more inclined to believe the advice of family members and friends demonstrating the importance of interpersonal interactions in influencing health behaviours among young people (Hornsey, Harris and Fielding, 2018). Individuals often seek information from others who are in their close social circle for information when institutions are seen as unreliable or distant (Hornsey, Harris and Fielding, 2018).

There were a few participants within the FGDs who continually mentioned their family or parents in relation to getting vaccinated. This suggested that family and parents, especially within this age group, continue to have crucial role in influencing an individual's vaccination decisions. However, this was more evident in participants who reported to have lived with their parents or families when the COVID-19 vaccine was rolled out.

"I didn't willingly do it. I, my dad said we're going to get vaccinated today and he's my dad..." (FGD1, 20 March 2025)

"I always was around my parents a lot and my parents have Facebook…. they were sharing all their conspiracies and stuff. So they were kind of against it." (FGD1, 20 March 2025)

One of the key informants who was a key staff member in the Howard College Campus Health Clinic added that it was common for students to refuse the vaccine because their parents or family members were against it. The key informant suggested that the influence that the family has on vaccination decisions surpassed their encouragement as health professionals.

"There's a lot of influence from family members, the hierarchy of the family structure. You know, there's my father says I can't have the vaccine, well, I can't have it even though I can make choices myself" (KII2, 7 April 2025)

Just as family is highlighted as a significant influencer of vaccine decisions, peers also have a similar and crucial role in an individual's vaccination decisions. One participant in the first FGD reported that her peers shared a positive perception of the vaccine, thus convincing the participant to agree to get vaccinated.

"I was surrounded by my peers. So we were like, let's just get vaccinated really" (FGD1, 20 March 2025)

Other participants in the FGDs who reported to have been influenced by their peers, had peers who shared negative sentiments towards the vaccines. This influenced them to share the same negative perceptions about the COVID-19 vaccine. Their peers were more afraid of the vaccines than the virus. They refused to accept the vaccine because they thought it was harmful to their health.

"The older people were okay, but my peers would think "no, they want to kill us" (FGD1, 20 March 2025)

"They [peers] thought they were going to die" (FGD1, 20 March 2025)

"The ones [peers] that got vaccinated were scared when we hadn't gotten vaccinated yet. They thought that they would soon pass away." (FGD1, 20 March 2025)

These responses highlight that trust in peer and family communication was a significant factor that reinforced vaccine hesitancy by allowing people to share personal experiences, anxieties and misinformation.

Youth communication needs in public health emergencies

One of the aims of this study is to identify the communication needs of young people in South Africa during public health emergencies, based on their experiences with COVID-19. The literature explored in this study showed that there were numerous communication strategies for communicating important COVID-19 vaccine information to various demographics across the country (Adebisi et al., 2021; Boateng and Gumede, 2023; Chou and Budenz, 2020; Wiysonge et al., 2022). However, the feedback from the participants have shown that most of these strategies fell short when it came to young people. Despite all the efforts, young people were not exposed to enough credible COVID-19 vaccine information. Majority of the participants in this study carried negative perceptions of the COVID-19 vaccines and remained hesitant to accept the vaccines.

Therefore, it was essential for this study to understand the communication needs of the participants during public health emergencies. The researcher asked the participants questions in line with this aim to understand how young people preferred to receive important health information, resulting in the emergence of the following sub-themes.

Clarity and consistency in communication

The participants admitted their dissatisfaction with the contradictory and inconsistent messages they received from various sources during the pandemic. Inconsistent health messaging can weaken public trust and decrease adherence to health recommendations, especially among young people who characteristically challenge authority and look for alternative information sources (Holroyd et al., 2020). Their capacity to make well-informed decisions was affected by the lack of clarity. It is clear from the participants' responses which have been mentioned above that they were uncertain regarding the safety, side effects and validity of vaccines. Their uncertainty can be attributed to the conflicting information from news outlets, government officials and social media. This confirms that inconsistent communication during health crises can damage public trust and encourage the of misinformation (Limaye et al., 2020).

In the understanding of successful and effective youth-focused communication, it is also crucial to combat any misinformation that exists. The communication strategies need to contribute clarity, transparency and timeliness to the messages being disseminated. Within the discussions conducted in this study, it was evident that the major factors in combating misinformation are to target the myths and conspiracies early, while also acknowledging the social influences that propel the dissemination of misinformation.

In a health crisis, misinformation spreads quickly. It begins slowly but ultimately becomes one of the most difficult challenges in trying to raise awareness about how to protect individuals from disease.

"False news travel very fast" (FGD2, 20 March 2025)
"You'd find, you know those messages that are forwarded many times I didn't believe any of those things because I would automatically think this is coming from Facebook, firstly." (FGD1, 20 March 2025)
"When you are on social media, if a page is not verified and they're talking about the vaccine, I wouldn't believe it." (FGD1, 20 March 2025)

Therefore, it is crucial to target any myths and misconceptions as early as possible before they have the power to shape people's perceptions.

"…and once the myth is believed, it's very difficult to change that myth and misconception." (KII2, 7 April 2025)
"Communication must also be able to address concerns directly in regards to a vaccine, meaning that you acknowledge common worries in regards to the vaccine, like side effects, safety so that you are able to be transparent with students." (KII3, 24 April, 2025)

All communication strategies that are used to address a health issue, need to always address the false information in the earliest stages. Leaving the

myths and misconceptions to spread and be interpreted by individuals can be a great danger when trying to contain a dangerous disease. Clarity and consistency are crucial, especially for young people who are navigating several information sources at once (Limaye et al., 2020). Information in health communication should be clear, non- conflicting, simple to understand and without medical jargon (Coleman, 2020; Limaye et al., 2020). Young people can easily be disengaged or seek more accessible sources when health messages change without justification or are presented in complex language (Coleman, 2020; Limaye et al., 2020).

Contextually relevant and engaging messaging

Another insight that emerged from this study's data is the importance of providing young people with engaging and contextually relevant health messages. Many of the public health messages that participants encountered amid the epidemic were disconnected from their actual circumstances, too formal or aimed at older audiences. This gap decreased the efficacy of the communication, thus limiting young people's attention and participation. Content that corresponds to their language, culture and social situations is often preferred by young people (Bröder et al., 2017).

Evidently, social media's broad accessibility and impact on young people's lives makes it an essential tool for communicating important health messages to them. It enables the sharing of relatable, timely and interesting information that can appeal to young people. Social media can be used to encourage informed decision-making and promote awareness about serious health-related issues thus influencing young people's attitudes in adopting healthy habits. Based on the participants' responses, having ads and messaging circulated on the platforms that they use, using trusted health professionals and social media influencers are all essential when trying to appeal to young people.

Many young people are constantly on their phones and have at least one social media platform that they visit daily. Given that young people are

unlikely to seek out health information in public health emergencies, it is crucial to provide it to them using the channels that they utilise frequently. To accomplish this, advertisements about the health concern at hand can be integrated with the social media content that they consume daily. According to the participants in this study, this method raised awareness about COVID-19. One of the participants even suggested that seeing the ads on COVID-19 everywhere emphasised the severity and seriousness of the situation.

"…think I'd open my phone and on WhatsApp they'd be an ad. on Facebook, they'd be an ad on TikTok." (FGD1, 20 March 2025)

"I was on all of them. Probably not Facebook, but TikTok and Instagram." (FGD1, 20 March 2025)

"Everywhere. There's no place where you wouldn't find information about COVID 19. Sometimes that would be the thing that would scare you" (FGD2, 20 March 2025)

One of the participants stated, "*We're on our phones now*" *(FGD2, 20 March 2025),* to emphasise that the best way to reach young people is through their phones.

"…be able to communicate with them on platforms which most of young people socialise on. And young people currently you find them on Instagram, TikTok and X." (KII3, 24 April 2025)

It is evident that students did not find public health messaging to be youth-friendly or relatable. Messaging regarding COVID-19 vaccination failed to reflect the culture, language and aesthetic of young people. This highlights the need for youth-focused formats and the use of tools that are already a part of their daily lives when it comes to health communication. It supports the notion that public health communication should adjust to audiences who are digitally inclined by using youth-friendly platforms and formats to efficiently distribute important information (Knock et al., 2024; Okan et al., 2022).

Strategies for future public health communication

The different perspectives of this study's participants provide guidance for creating more effective communication strategies. The responses from this study's participants emphasised the need for strategies that provide accurate information while also encouraging engagement, build trust and empower young people with knowledge (Lubinga et al., 2023). The experiences discussed by the participants in this study highlighted the flaws in COVID-19 vaccination communication for young people. Thus, stressing the importance of proactive planning that engages young people and addresses their contextual, emotional and informational needs. The following sub- themes emanated from the data collected, suggesting improvements that can be made to public health communication to effectively reach, engage and inform young people in future health crises.

Trusted messengers and youth-focused messaging

Young people are more inclined to acknowledge health messaging when the source is someone they relate to or find credible in their social environment (Freeman, Caldwell and Scott, 2022). Using trusted health personnel to relay crucial information about a health crisis on social media was another critical point that was raised in both FGDS. The participants suggested that they noticed a lack of health professionals, such as qualified doctors, nurses and other medical experts speaking about or encouraging COVID-19 vaccination on social media sites. They suggested that if they were exposed to more credible health staff presenting information about COVID-19 they would have been more inclined to listen and be attentive.

"I think we didn't get a lot of information from actual medical professionals. We got them from politicians, so that made us, uh cautious, I guess. So more medical personnel." (FGD1, 20 March 2025) "We trust qualified people, right? So, yeah, just doctors" (FGD1, 20 March 2025) "Doctors could show us these things" (FGD2, 20 March

2025)

"Maybe if it's about vaccines, they could demonstrate and tell us if the vaccines are okay for us and which ones so when I go get vaccinated, I know which one to get because a doctor said" (FGD2, 20 March 2025)

This suggests that the absence of messaging from health professionals on young people's social media platforms may have aided in the youth's confusion and hesitancy about vaccinating. They were overwhelmed by competing information from sources who were not experts in the medical fields. Therefore, when disseminating vital health information to young people on social media, it is beneficial to utilize credible voices to disseminate the message. This will increase young people's trust in the information being shared and therefore, increasing their willingness to adopt the positive health behaviour that is being encouraged.

Social media influencers have a considerable amount of influence and importance on the social media platforms that are mostly used by young people. Social media influencers are digital content creators who have an extensive online following, a unique brand identity and consistent partnerships with commercial sponsors (Duffy, 2020). The use of influencer marketing has increased dramatically in recent years and is especially popular within the age group that is being analysed in this study (Duffy, 2020). The majority participants in this study reported that they themselves did not follow influencers however, they were aware of their influence on their peers' decisions to vaccinate or not. For this reason, the participants agreed that social media influencers play a crucial role in shaping young people's decisions.

"I would say using social media influencers, because to be honest, many of our people of our age, they are too much into social media and whatsoever." (FGD1, 20 March 2025)

"It was really seeing someone else that was vaccinated and seeing that,

oh, okay, they function very fine? they don't faint, etc" (FGD1, 20 March 2025)

As demonstrated above, one of the participants who suggested the use of social media influencers explained that they followed these individuals during the pandemic and therefore used them as a guide to decide whether to accept the vaccine for themselves or not. After accepting the vaccination, they watched the influencers they followed to see whether they would exhibit adverse side effects or share any negative experiences about getting vaccinated. They became more willing to accept the vaccine themselves after seeing that the influencer was not negatively affected by it.

Other participants agreed other people within their age groups shared the same sentiments about social media influencers. According to Duffy (2020), social media influencers' persuasive communication is generally regarded as more authentic and organic in comparison to traditional paid advertising. Therefore, people who follow social media influencers view them as real people with real experiences thus trusting their reason and knowledge. Using social media influencers to share important health messages during a public health emergency would be beneficial and would allow for the messages to be disseminated across an extensive number of people, especially young people, in a short space of time. This highlights a need for a hybrid model of health communication for young people consisting of health professionals and young influencers.

To be able to encourage young people to adopt positive health behaviour, it is crucial to recognise all the social components that influence their decision-making. It has been made evident in this study that parents, family and peers are imperative in young people's decisions to vaccinate against COVID-19. Young people trust the opinions of the people closest to them and evidently, use these opinions to shape their perceptions as well.

"There's a lot of misinformation. People listening to families oh, no, this is

putting a chip and you. You know all the stuff that is going on" (KII2, 7 April 2025)

It is essential for communication strategies to target these influences as well when addressing issues like vaccine hesitancy. They must not only focus on the young people whom they want to adopt healthy behaviours, but also on the people around them to also accept and adopt the healthy behaviour.

Institutional role and student engagement

The participants in this study highlighted that young people prefer health communication that is educational but also captivating and engaging. This is preferred over informative messaging that is repetitive and fails to capture their attention.

It is evident that there was no shortage of credible COVID-19 information that was being shared by official institutions in this country. The key informants interviewed for this study expressed that they also participated in sharing and disseminating important COVID-19 information within their respective roles. University notices direct emails to students and posts across all of the UKZN official faculty pages were all efforts to raise awareness to students about the disease and encourage the uptake of COVID-19 vaccines. However, none of the participants mentioned to have acquired COVID-19 information from any of the institution's platforms. This highlights the need to change this strategy when approaching young people. Young people need to be captivated and interesting in what they receive and engage with to pay attention.

"If they were just talking and advertising, I won't do it" (KII1, 26 March 2025) "People are I going to read what they are interested in" (KII2, 7 April 2025)

"…because they're not going to read it on the emails. I know that because

they don't read my emails" (KII2, 7 April 2025)

"We know the students don't read the university notices" (FGD1, 20 March 2025)

The data collected within this study suggests the utilisation of engaging communication methods when trying to relay important health information to young people. The participants highlighted some of the things they felt should be applied to communication strategies for them to appeal to the young and help encourage the adoption of positive health behaviour.

One of the participants suggested the use of visual aids when communicating important health information. Most of the participants in the group agreed with this suggestion. This shows that it would be easier for young people to pay attention to the message if it is accompanied by a picture or a video demonstrating the message to them. If the visual aid is interesting, they are more likely to pay attention and have more interest in the message as well.

"Visuals. We have to see how to do things. It's interesting when there's visuals" (FGD1, 20 March 2025)

Another participant encouraged the use of elements that are relevant to young people at the time. When the data was collected for this study, one of the social media trends that were used by people sharing stories or information was to make videos and use AI-generated voices to tell the story while there would be clips of a game in the background. Participants in the group agreed that they all find this method interesting and would pay attention to content curated this way.

"What's popular these days? These AI voices that are being used. They could put a game in the background. Something like that. It must be catchy" (FGD2, 20 March 2025)

One of the key informants suggested that young people need to be included in any efforts that are being used to appeal to young people. He expressed that for campaigns or communication to be relevant and relatable to young people; they must be involved in creating them.

"Students need to be included in campaigns… they must head the campaigns so they are relevant and relatable to other young people… they should use catchy trends" (KII1, 26 March 2025)

Another key informant added to this, expressing that messaging for young people needs to be understandable to them. It needs to include simple language, be clear and direct. The key informant also emphasised the importance of creating engaging campaigns that allow young people to participate while also learning and absorbing the information intended for them.

"I think one of the critical things that could happen to send out a message which is relatable to young people that will be able to avoid things like jargon in explaining the vaccine, put it in the simplest form." (KII3, 24 April 2025)

"Creating campaigns, run campaigns maybe, where people would participate, there's fun and all of that. You know that young people like to engage in things that are vibrant and energetic, that speak to them directly, and activities because they are young. So when you do things like that for them, you are able to draw them close." (KII3, 24 April 2025)

It is evident that a message that grabs attention, employs familiar language, has visual aids and is distributed through the channels they use regularly has great significance in the effectiveness of communication strategies for young people. This suggests that for health campaigns to effectively reach and engage young audiences, they need to abandon conventional, text-heavy forms and instead use innovative, interactive strategies that speak to

the interests and the patterns of media consumption of young people.

Building vaccine literacy and confidence

The responses in this study emphasised how critical it is to improve vaccine literacy and confidence during public health emergencies. This will assist in promoting informed decision-making and reducing vaccine hesitancy. Having access to information the ability to comprehend, assess and apply knowledge about vaccines are the pillars of vaccination literacy which aid in making informed health decisions (Biasio et al., 2020; Bussink-Voorend et al., 2022).

A key aspect that became evident through the FGDs and the KIIs conducted for this study is that young people had very limited knowledge of vaccines in the duration of the epidemic. While some FDG participants displayed some understanding of the various COVID-19 vaccination types, many were unaware of the vaccines' names or distinctions.

"I know that there was the Pfizer and the Johnson and Johnson one. I'm not sure about the difference…" *(FGD1, 20 March 2025)*

"I remember… was it Johnson and Johnson, you had to go twice, and the Pfizer, you only had to go once..." (FGD1, 20 March 2025)

"I did the … I don't know the name of it, but I did it and I went for the second dose after three months..." (FGD2, 20 March 2025)

The participants in both FGDs showed a significant lack of knowledge on vaccine science. Their understanding of the purpose of the vaccines and how they work was very limited.

"When you get vaccinated, I think you get like a small dose of that thing (virus)…" (FGD1, 20 March 2025)

"...I think you did get vaccinated, because when you get vaccinated, you get a tiny dose of the virus and your body makes antibodies. You had the disease, so your body made the antibodies based of the virus that you had..." (FGD1, 20 March 2025)

One of the key informants interviewed from the Howard College Campus Clinic further emphasised that young people did not have enough information about the COVID-19 vaccine.

"They're so young, they're still students, they don't understand how vaccines work.
They don't understand about antibodies" (KII2, 7 April 2025)
"…[they] don't understand our body's immunity and how you build up immunity and the side effects of vaccines" (KII2, 7 April 2025)
"…they're not understanding uh virology and about immunology" (KII2, 7 April 2025)

Another key informant agreed with this reporting that students developed the perceptions they had about COVID-19 and COVID-19 vaccination because there was a lack of credible information regarding the subject.

"...the understanding of the vaccines, there was not much information with regards to vaccines… So people had that perception that vaccines were going to kill them and students saw it as a depopulation strategy." (KII3, 24 April 2024)

Young people had access to COVID-19 vaccine information. Nonetheless, it is unmistakable that the information they had access to was insufficient in accurately establish their perceptions of vaccines. The majority of the FGD participants had unfavourable perceptions about the COVID-19 vaccine. None of the participants, however, claimed to have thoroughly studied the vaccines to comprehend them. Universities and health institutions can play a critical role in integrating vaccination education into student engagement initiatives and health promotion programmes (Biasio et al., 2020; Bussink-

Voorend et al., 2022). There is a need for foundational health education during public health emergencies.

Critical Insights

The data presented in this chapter highlights significant knowledge gaps that need further research as well as the levels of vaccination knowledge among young people. According to the responses, the likelihood of young people to rely on information from their families, peers and social media is higher than on official health communication channels like university emails and posters. This suggests that institutions fail to maintain trustworthiness and meaningful connection, highlighting a critical gap in institutional communication strategies targeted to young people. This research shows that young people choose to learn from social networks rather than official sources. This insight suggests the need for public health communication at the university to adopt a more relational and participatory approach to connect with young people.

Furthermore, participants noticed that on platforms such as Instagram and TikTok, which are mostly dominated by influencers and entertainers, health experts are not present. This gap is an opportunity to create hybrid health communication that combines cultural significance with scientific validity to reach young people. This raises crucial questions about how new roles such as “digital health influencers” might serve to fill this gap in future crises. These roles would include health workers or medical experts who are trained to communicate effectively of social media.

According to the participant’s responses as well as previous research, young people should be treated as collaborator in the creation of messages rather than passive recipients of them (Gibson, 2021; UNICEF, 2022). The responses demonstrates that effective public health communication depends on how people perceive risk, their trust in messengers as well as the cultural significance of messaging instead of solely focusing on information deficits.

Conclusion

The research findings from key informant interviews and focus groups are presented in this chapter, shedding light on how UKZN students interpret the COVID-19 vaccination and their communication requirements during South African public health emergencies. Effective communication techniques for meeting the requirements of young people were revealed. The following chapter analyses the findings in relation to the literature and theory that frames this study.

Chapter 6: Analysis, Discussion and Conclusion

Introduction

Investigating a youth-focused communication strategy to address vaccine hesitancy is the aim of this study. To understand this phenomenon, COVID-19 was used as a case study. The researcher presented the findings from the data collected for this study in the previous chapter. This chapter provides an interpretation of findings, discussion and a conclusion to the study. The research findings were interpreted in relation to the study's theoretical framework and literature. To conclude, the researcher has addressed the main research questions using the research findings, in the context of existing literature. Furthermore, the researcher discussed the theoretical significance of the research findings, with reflections and recommendations for future research.

Interpretation of findings

This study is framed by the Trust Determination Theory and the Risk Perception Theory, which stem from risk communication. The findings of the data collected in this study provide new information about how young people in university perceive vaccines, obtain and evaluate public health information and use health communication strategies during health crises. As proposed by the Trust Determination Theory and the Risk Perception Theory, the themes and sub-themes that emerged from the data in this study represent larger theoretical dynamics around the development of trust and risk perception.

According to the Trust Determination Theory, people base their decisions on trusting information on factors such as credibility, reliability, intent and authority (Pennycook & Rand, 2021; Sundar, 2008; Metzger & Flanagin, 2015). The theme "*Information access, trust and vaccine communication gaps*" made this evident. Under this theme, the participants' responses highlighted differing levels of trust in the different sources of information they

encountered in the epidemic. Many participants displayed high levels of mistrust in the South African government and therefore distrusted vaccine information that came from the government. Instead, participants preferred peer, family, certain social media sources. Evidence from the data also shows that the participants would still use official news sources and presidential addresses to verify information. This emphasises how mistrust of institutions and perceived intent can outweigh potentially trustworthy information (Gibson, 2021; Mejia, Beckermann, & Shearer, 2018).

The Risk Perception Theory states that behaviour related to health is determined by perceived severity and vulnerability (Wei, Xu and Wu, 2019; Renn, 2020; Lin et al., 2022). According to this study's findings under the theme "*Uncertainties and perceived risks regarding COVID-19 Vaccines*", young people displayed higher risk perception towards the vaccine and low risk perception towards COVID-19. They particularly feared the vaccine due to the side effects and informal accounts of health decline after vaccination. Many participants described pain, nosebleeds and more severe complications that they believed to follow vaccination. This is consistent with other research that discovered that vaccine hesitancy results from an imbalance between potential benefits and possible risks (Betsch et al., 2015). It was evident that young people presumed that they were not susceptible to the virus but susceptible the risks of the vaccine. This emphasises the necessity for focused messaging that explains the advantages and disadvantages of the vaccine (Paul, Steptoe and Fancourt, 2020).

The theme "*Youth communication needs in public health emergencies*" demonstrates the importance of clarity, consistency and relevance in health communication tailored for young people (Flanagin and Metzger, 2007; Metzger and Flanagan, 2015). In public health, participants require contextually relevant and engaging messaging that addresses their realities and concerns (Leask et al., 2021). Young people's preference for relatable, clear and transparent health messaging highlights the crucial role of

message structuring and delivery style in effective communication. The Trust Determination Theory suggests that cultural and contextual alignment builds trust was supported by the participants' reports of needing messaging that was genuine and relevant to their daily lives (Ahmed, 2024). The participants' calls for youth-focused engagement and relatable language confirms the theory that trust is increased when communicators are perceived as understanding and respective of the lived experience of the audience (Ahmed, 2024; Metzger and Flanagan, 2015).

Another theme that emerged for this study's data is the theme *"Strategies for Future Public Health Communication*". The findings under this theme recommended that messages about vaccines directed to young people should be disseminated through sources that they deem as reliable and trustworthy, such as health professionals, social media influencers and peers. These results support the Trust Determination Theory's proposition that perceived social alignment and peer influence are important factors in message acceptance (Flanagin & Metzger, 2007; Metzger and Flanagan, 2015). Institutional engagement called for universities such as UKZN can play a more active role in promoting vaccine literacy through discussions, interactive campaigns and student-focused information drives. These strategies will not only promote transparency and trust but will also increase vaccine confidence in young people. This is essential for overcoming vaccine hesitancy in future health crises (WHO, 2024; Evans et al., 1997).

The findings of this study demonstrate that vaccine hesitancy in young people is not just a result of misinformation or lack of knowledge, it is a complex issue that stems from concerns of trust, risk assessment and disconnections in communication. This means that it is possible to create more effective youth-focused communication by integrating public health initiatives with the psychological and social processes of the Trust Determination Risk Perception Theories. This produces significant implications for the establishment of responsive and evidence-based public health strategies for future pandemics.

Summary of Research Study

This study explored a youth-focused communication strategy to address vaccine hesitancy, using COVID-19 as a case study. The study was set at the University of KwaZulu-Natal (UKZN) using students between the ages of 18 and 35 as the study sample. It used a qualitative research design involving four key informant interviews with a campus health clinic expert and student representative council members, as well as two focus group discussions with students. The research objectives were framed by the Trust Determination Theory and the Risk Perception Theory. The study's objectives were as follows:

1. To investigate the perceptions of UKZN students regarding the COVID-19 vaccine.
2. To understand the communication needs of South African youth during public health emergencies.
3. To determine the communication strategies that can be used to address the youth's communication needs during public health emergencies.

Summary of Research Findings

Research question 1: What are the perceptions of UKZN students regarding vaccines, using the COVID-19 pandemic as an example?

There were several themes that materialised from the data in relation to the first research question of the study. The study found that UKZN students have negative perceptions regarding vaccines, especially in the case of COVID-19. Students feared the vaccine more than the illness. They were afraid of the negative side effects that would follow after getting vaccinated. They believed that the vaccines would weaken their immune system, making them more susceptible to other diseases and viruses. There was more concern for older people than there was for themselves and others their age.

The students reported that they were aware that older people would be severely affected if they contracted the virus. However, most students reported that they were less concerned about themselves because most people their age were not affected at all by the virus, even if they contracted it.

The study found that some of the major influencers of the students' perceptions about vaccines were social media, family and peers, which is where they received much of their vaccine information. Social media was imperative in the dissemination of all types of COVID-19 vaccination information. It was also a large contributor to the uncontrollable spread of misinformation. The dependence of students on social media for information and entertainment exposed them to misinformation which they consumed. Their perceptions were also largely shaped by their family, especially their parents, as well as their peers. It was evident that students value and trust their family's and peers' opinions, especially when making important health decisions.

There was a recurring theme of the lack of trust in the government that emanated from the findings. The South African government is perceived negatively by students due to their reputation for corruption, negligence and failure to attend to the socio- economic needs of the nation. Their hesitancy towards the COVID-19 vaccines was also fueled by their lack of trust in the government. Participants in this study often referred to the widely reported occurrence where the South African government was involved in digging one million graves in anticipation of COVID-19 deaths. This instilled fear within people and further propelled the conspiracy that COVID-19 was more than just a virus, but a weapon used by the government to decrease the population.

The findings also show that there was a significant lack of knowledge in relation to COVID-19 vaccination among the students. Students had a limited understanding of the vaccines and their efficacy. This made it easier

for them to believe to some of the myths and conspiracies that existed regarding the COVID-19 vaccines. It is evident from the findings that the lack of knowledge can be attributed to the lack of credible COVID-19 vaccination information being disseminated on platforms frequently used by students. The key informants in this study reported that they were tasked with sharing credible COVID-19 vaccination information with the students. However, none of the students reported having been exposed to COVID-19 vaccine information on the platforms used by the key informants.

The study found that students were indeed hesitant to vaccinate against COVID-19. Only one participant in the study reported having been vaccinated willingly. Some participants also accepted the vaccine, but not willingly. Most of the students refused the vaccines and maintained their views against them. Regardless of the level of risk, they believed that their young age made them immune to the severe effects of COVID-19 and refused to accept the vaccines.

Research question 2: What are the communication needs of South African youth during public health emergencies, based on their experiences with COVID-19?

This study sought to understand the communication needs of young people in South Africa during public health emergencies as part of investigating a youth-focused communication strategy to address vaccine hesitancy. This study found that young people need access to credible information, information that is relevant and relatable as well as passive access to information during public health emergencies. These factors are crucial in the attempts to encourage young people to adopt positive health behaviour, such as vaccinating.

Access to credible information is a crucial aspect of health communication for young people. This study established that young people were exposed to multiple sources of COVID-19 vaccination information during the pandemic which were inadequate in providing crucial information about the vaccines

and their efficacy. The findings revealed that most of the information that students knew about vaccines was either limited or inaccurate. On the platforms that students frequently used for information, there was an influx of false information that overpowered the credible information from official sources. Students were consuming this information but believed that they were able to distinguish between credible and misleading information. However, the study found that students were not verifying the information that they were consuming. Thus, some of the false information that dominated during the pandemic contributed significantly to shaping the perceptions that students have regarding COVID-19 vaccines. Therefore, it is crucial that credible information is accessible to young people during a health crisis. An abundance of dependable information about the crisis at hand, such as COVID-19 vaccine acceptance, needs to be disseminated generously across all platforms that are dominated by young people.

Communication aimed at young people needs to be relevant and relatable to them. Messages promoting behaviour change must be suitable for the platform to capture the interest of young people using platforms that are dominated by them. Therefore, the use of relatable language and visuals is crucial to attracting young people. Giving young people the impression that health messages are tailored to them and are intended specifically for them would likely increase the likelihood of them being attentive to the messages. In the case of COVID-19, the students believed that COVID-19 was not a threat to them but to older people because they were exposed to information that emphasised the risk of COVID-19 to elderly people and people with comorbidities. Students were not exposed to any youth-targeted communication that aimed to inform and eradicate the transmission of the virus.

This study revealed that students preferred to receive important health information instead of searching for it. It was evident in the findings that students did not actively search for COVID-19 vaccination information. A few students reported having searched for information on official news channels

to validate information they viewed on social media. However, most of the students expressed that they were exposed to multiple advertisements while using social media platforms such as Instagram, WhatsApp, X and Facebook. Through peer sharing, official health pages, or influencers, this constant exposure helped to increase the youth's awareness of the COVID-19 vaccine without requiring them to search for it.

Research question 3: What communication strategies can effectively address the communication needs of South African youth during future public health emergencies?

The understanding of young people's perceptions about vaccination and communication needs must be combined in youth-focused communication. This will assist in the establishment of relevant and comprehensive communication strategies tailored for young people, especially in public health emergencies like COVID-19. This study found that the use of social media for youth-focused messaging, combating misinformation and engaging communication are the crucial communication strategies that can effectively address the communication needs of young people in South Africa during public health emergencies.

This study's findings highlight the importance of social media as an instrument for communicating important health messages to young people. The students in this study all reported being on social media frequently every day. They use social for knowledge and entertainment. When used appropriately, social media can be used as a tool to encourage informed decision-making and raise awareness about important health issues such as COVID-19 vaccination among young people. This can be achieved by advertising the health messages and integrating them with the content that is most consumed on apps used by young people. This study found that young people are unlikely to seek out important health information when there is a public health crisis, making it essential to reach them through the channels that they use most often. It was also evident in this study's findings that students were more likely to trust messages that came from health

professionals and experts. The students believed that they would have been more attentive and willing to receive the information if it were presented to them by credible medical personnel. Other students suggested that social media influencers would also play a similar role as their perceptions and opinions are often trusted and valued by young people who follow them on social media platforms.

Another important aspect of effective communication strategies is combating misinformation. Communication strategies tailored for young people need to be clear, transparent and timely. Myths and conspiracies centred around a health issue need to be targeted and corrected early. In this digital age, misinformation during a health crisis like COVID-19 spreads quickly and becomes a challenge in the dissemination of credible information and awareness. Once myths and conspiracies have surfaced, it is essential for health communication strategies to develop messages that will correct the misinformation and eradicate any confusion in its earliest stages. This avoids the risk of the misinformation spreading and shaping young people's perceptions, as it did in the case of COVID-19 vaccinations. Alongside targeting myths early, this study also revealed the significance of acknowledging the social influences that guide young people's perceptions about health behaviour. It was evident in this study that parents, family and peers have a large influence on the students' decisions to vaccinate against COVID-19. Therefore, when addressing issues like vaccine hesitancy, communication strategies must also target these influences and encourage the adoption of healthy behaviour.

Lastly, this study revealed that engagement is essential when considering communication strategies tailored for young people. The findings showed that students were less receptive to information when it was formal and tedious, such as through emails and university communications. They preferred to receive interesting and engaging communication. Most of the key informants agreed that to attract young people to campaigns, it is essential to include young people in their development so they can

contribute valuable insight as to what is relatable among other young people at the time. Campaigns must also encourage participation so that young people can engage with the message and learn simultaneously. Whether it is social media or physical campaigns, messaging targeted at young people needs to be relevant to the current social context and easily understandable.

Theoretical Relevance of Research Findings

This section summarises how the elements of the Trust Determination and Risk Perception Theories are reflected in the findings of this study. When combined, these frameworks offer a lens for understanding the vaccination and communicative behaviours of young people.

Evidence of the Trust Determination Theory in the Data

The findings of this research study reveal how the Trust Determination Theory is applicable in young people's experience with vaccine communication. Participants assessed the authority and dependability of the information sources before deciding to accept or reject the messages. They demonstrated a preference for information from sources such as official news channels (SABC) and reputable individuals like the South African President, Cyril Ramaphosa. However, young people were still more inclined to seek information from family, peers or social media which they found related and trustworthy due to the inconsistencies and lack of clarity in governmental messages. This illustrates how three key principles of the Trust determination theory (perceived intent, reliability and credibility) were the foundations of trust rather than authority alone (Covello, 2021; Ahmed, 2024; Metzger and Flanagan, 2015).

Evidence of the Risk Perception Theory in the Data

The Risk Perception is reflected in participants' evaluations of the dangers of COVID- 19 in comparison to the vaccine itself. Many students believed that they were not at risk of severe illness from COVID-19, often referring to their young age and current health. Consequently, they perceived the vaccination

side effects as a more immediate and significant concern. This demonstrated that their analysis of risk and benefit was distorted, which is a fundamental principle of the Risk Perception Theory. The lack of clear and targeted communication contributed significantly to low perceived severity and susceptibility. Thus, their sense of urgency to receive the COVID-19 vaccine was minimised. Young people's judgement of health risk was influenced by emotional and cognitive biases. This was evident in how false information and unverified stories such as someone experiencing a nosebleed after vaccinating, were more influential than statistical or scientific data.

Conclusion

This study explored a youth-focused communication strategy to address vaccine hesitancy, using COVID-19 as a case study. The perceptions of UKZN students regarding the COVID-19 vaccine, the communication needs of young people South Africa during public health emergencies and the communication strategies that can be used to address the young people's communication needs during public health emergencies were all explored in this study. The study highlighted the complex relationship between vaccine hesitancy among young people, trust and access to information through the perspective of the COVID-19 pandemic. It was evident from the focus group discussions and key informant interviews that although young people were exposed to a considerable amount of vaccine information, the information was often inconsistent, unclear or inadequately contextualized which damaged their trust and affected their decision-making.

Furthermore, this study emphasised the necessity for engaging, relevant and clear public health communication strategies. Young people need information that is delivered through trusted messengers and speaks to them directly. Universities and other institutions are essential in promoting vaccine literacy and enabling meaningful student engagement and health promotion. In conclusion, addressing vaccine among South African young people requires more than spreading knowledge. It requires effort to understand how trust is established, how risk is perceived and how

communication can be adjusted to meet the needs of young people's lived experiences. Future public health campaigns for young people need to prioritise trust-building, engagement and contextual relevance to guarantee stronger and knowledgeable communities during public health emergencies.

References

Abbas, K.M., Kang, G.J., Chen, D., Werre, S.R. and Marathe, A. (2018). *Demographics, perceptions, and socioeconomic factors affecting influenza vaccination among adults in the United States. PeerJ*, 6, p.e5171. doi:https://doi.org/10.7717/peerj.5171.

Abunyewah, M., Gajendran, T. and Maund, K. (2018). Conceptual Framework for Motivating Actions towards Disaster Preparedness Through Risk Communication. *Procedia Engineering*, [online] 212, pp.246–253. doi:https://doi.org/10.1016/j.proeng.2018.01.032.

Adebisi, Y.A., Rabe, A. and Lucero-Prisno III, D.E. (2021). Risk communication and community engagement strategies for COVID-19 in 13 African countries. Health Promotion Perspectives, 11(2), pp.137–147. doi:https://doi.org/10.34172/hpp.2021.18.

Adiputra, A.V., Sjuchro, D.W., Suminar, J.R. and Kheokao, J. (2025). Understanding Risk Perception and Risk Tolerance Among Vaccine Refusers in Bandung: A Case Study of Risk Communication During the COVID-19 Pandemic. *TOPLAMA*, 2(2), pp.72–83. doi:https://doi.org/10.61397/tla.v2i2.308.

African Union (2006) African Youth Charter. Addis Ababa: African Union Commission. Available at: https://au.int/en/treaties/african-youth-charter

Ahmed, S.K. (2024). The Pillars of Trustworthiness in Qualitative Research. *Journal of Medicine, Surgery, and Public Health,* [online] 2(1), pp.1–4. doi:https://doi.org/10.1016/j.glmedi.2024.100051.

Allgaier, J. and Svalastog, A.L. (2015). The communication aspects of the Ebola virus disease outbreak in Western Africa — do we need to counter one, two, or many epidemics? *Croatian Medical Journal*, [online] 56(5), pp.496–499. doi:https://doi.org/10.3325/cmj.2015.56.496.

Alharahsheh, H.H. and Pius, A., (2020). A review of key paradigms: Positivism VS interpretivism. *Global Academic Journal of Humanities and Social Sciences*, 2(3), pp.39-43.

Alzahrani, N.S. and Almarwani, A.M. (2024). The effect of HIV on patients' lives: a phenomenological qualitative study. *International Journal of Qualitative Studies on Health and Well-being*, 19(1). doi:https://doi.org/10.1080/17482631.2024.2315634.

Andigema, A.S. and Cyrielle, T. (2024). Addressing Vaccine Hesitancy: A Review of Factors Contributing to Vaccine Refusal and Effective Communication Strategies for PromotingVaccineAcceptance.*Preprints.org*.[online] doi:https://doi.org/10.20944/preprints202407.1224.v1.

Baba, F. and Esfandiari, Z. (2023). Theoretical and practical aspects of risk communication in food safety: A review study. *Heliyon*, 9(7), pp.e18141–e18141. doi:https://doi.org/10.1016/j.heliyon.2023.e18141.

Babbie, E.R. (2017). *The basics of social research*. 7th ed. Australia: Cengage Learning.

Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and samples. *Industrial Psychiatry Journal*, *19*(1), 60-65. https://doi.org/10.4103/0972- 6748.77642

Bangalee, A. and Bangalee, V. (2021) "Fake news and fallacies: Exploring vaccine hesitancy in South Africa," *South African Family Practice*, 63(1). Available at: https://doi.org/10.4102/safp.v63i1.5345.

Barrett, D. and Twycross, A. (2018). Data Collection in Qualitative Research. *Evidence Based Nursing*, [online] 21(3), pp.63–64. doi:https://doi.org/10.1136/eb-2018-102939

Boateng, A.B. and Gumede, N.F. (2023). Communication Strategies in Relation to COVID-19 in South Africa and Ghana: A Systematic Review. *Journal of Creative Communications*, 18(2), pp.214–229. doi:https://doi.org/10.1177/09732586231168945.

Bonnevie, E., Sittig, J. and Smyser, J. (2021). The case for tracking misinformation the way we track disease. *Big Data & Society*, 8(1), p.205395172110138. doi:https://doi.org/10.1177/20539517211013867.

Bozeman, B. and Moulton, S. (2011). Integrative Publicness: A Framework

for Public Management Strategy and Performance. *Journal of Public Administration Research and Theory*, 21(Supplement 3), pp.i363–i380. doi:https://doi.org/10.1093/jopart/mur031.

Bozzola, E., Spina, G., Agostiniani, R., Barni, S., Russo, R., Scarpato, E., Di Mauro, A., Vita Di Stefano, A., Caruso , C., Corsello, G. and Staiano, A. (2022). The Use of Social Media in Children and Adolescents: Scoping Review on the Potential Risks. *International Journal of Environmental Research and Public Health*, [online] 19(16), pp.1–33. doi:https://doi.org/10.3390/ijerph19169960.

Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: Sage Publications.

Bekker, L.-G., Alleyne, G., Baral, S., Cepeda, J., Daskalakis, D., Dowdy, D., Dybul, M., Eholie, S., Esom, K., Garnett, G., Grimsrud, A., Hakim, J., Havlir, D., Isbell, M.T., Johnson, L., Kamarulzaman, A., Kasaie, P., Kazatchkine, M., Kilonzo, N. and Klag, M. (2018). Advancing global health and strengthening the HIV response in the era of the Sustainable Development Goals: the International AIDS Society—Lancet Commission. *The Lancet,* 392(10144), pp.312–358. doi:https://doi.org/10.1016/S0140-6736(18)310705.

Berube, D.M. (2024). *Pandemic Resilience*. *Risk, systems and decisions*. Springer International Publishing. doi:https://doi.org/10.1007/978-3-031-74062-6.

Betsch, C., Böhm, R. and Chapman, G.B. (2015). Using Behavioral Insights to Increase Vaccination Policy Effectiveness. *Policy Insights from the Behavioral and Brain Sciences*, [online] 2(1), pp.61–73. doi:https://doi.org/10.1177/2372732215600716.

Biasio, L.R., Giambi, C., Fadda, G., Lorini, C., Bonaccorsi, G. and D'Ancona, F. (2020). Validation of an Italian tool to assess vaccine literacy in adulthood vaccination: a pilot study. *National Library of Medicine*, 32(3), pp.205–222. doi:https://doi.org/10.7416/ai.2020.2344.

Birungi, C., Parker, W. and Whiteside, A. (2022). History matters: AIDS in

the time of COVID-19. *African Journal of AIDS Research*, 21(2), pp.iii–iv. doi:https://doi.org/10.2989/16085906.2022.2106064.

Braun, V. and Clarke, V. (2020). One Size Fits all? What Counts as Quality Practice in (reflexive) Thematic analysis? *Qualitative Research in Psychology*, 18(3), pp.328–

352. doi:https://doi.org/10.1080/14780887.2020.1769238.

Breakwell, G. M. (2014). The psychology of risk. *Cambridge University Press*.

Brewer, N. T., Chapman, G. B., Rothman, A. J., Leask, J., & Kempe, A. (2021). Increasing vaccination: Putting psychological science into action. *Psychological Science in the Public Interest*, 18(3), 149-207.

Broadbent, A., Combrink, H. and Smart, B. (2020) 'Covid-19 in South Africa', *Global Epidemiology*, 2, p. 100034. doi:10.1016/j.gloepi.2020.100034. /

Bröder, J., Okan, O., Bauer, U., Bruland, D., Schlupp, S., Bollweg, T.M., Saboga- Nunes, L., Bond, E., Sørensen, K., Bitzer, E.-M., Jordan, S., Domanska, O., Firnges, C., Carvalho, G.S., Bittlingmayer, U.H., Levin-Zamir, D., Pelikan, J., Sahrai, D., Lenz,

A. and Wahl, P. (2017). Health literacy in childhood and youth: a systematic review of definitions and models. *BMC Public Health*, [online] 17(1). doi:https://doi.org/10.1186/s12889-017-4267-y.

Bryman, A. (2016). *Social Research Methods*. 5th ed. Oxford: Oxford University Press.

Bullen, M., Heriot, G.S. and Jamrozik, E. (2023). Herd immunity, vaccination and moral obligation. *Journal of Medical Ethics*, [online] 49(9). doi:https://doi.org/10.1136/jme- 2022-108485.

Bussink-Voorend, D., Hautvast, J.L.A., Vandeberg, L., Visser, O. and Hulscher,

M.E.J.L. (2022). A Systematic Literature Review to Clarify the Concept of Vaccine Hesitancy. *Nature Human Behaviour*, [online] 6, pp.1–15. doi:https://doi.org/10.1038/s41562-022-01431-6.

Byrne, D. (2022). A Worked Example of Braun and Clarke's Approach to Reflexive Thematic Analysis. *Quality & Quantity*, [online] 56(1), pp.1391–1412. doi:https://doi.org/10.1007/s11135-021-01182-y.

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters,
D. and Walker, K. (2020). Purposive Sampling: Complex or Simple? Research Case Examples. *Journal of Research in Nursing*, [online] 25(8), pp.652–661. doi:https://doi.org/10.1177/1744987120927206.

Casale, M., Oluwaseyi Somefun, Ronnie, G.H., Sumankuuro, J., Olagoke Akintola, Sherr, L. and Cluver, L. (2025). Factors shaping Covid-19 vaccine acceptability among young people in South Africa and Nigeria: An exploratory qualitative study. *PLOS Global Public Health*, [online] 5(3), pp.e0003795–e0003795. doi:https://doi.org/10.1371/journal.pgph.0003795.

Centers for Disease Control and Prevention (2024). *Infection Control Basics*. [online] Infection Control. Available at: https://www.cdc.gov/infection-control/about/index.html.

CDC (2016). Reasons for adults to be vaccinated. [online] *Centers for Disease Control and Prevention*. Available at: https://www.cdc.gov/vaccines/adults/reasons-to- vaccinate.html.

Champion, V. L., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 45-65). Jossey-Bass.

Chou, W.-Y.S. and Budenz, A. (2020) 'Considering emotion in COVID-19 vaccine communication: Addressing vaccine hesitancy and fostering vaccine confidence', *Health Communication*, 35(14), pp. 1718–1722. doi:10.1080/10410236.2020.1838096.

Christensen, L.B., Johnson, R.B. & Turner, L.A. (2011) *Research Methods, Design, and Analysis*.11th edition. Boston: Pearson.

Cipolletta, S., Andreghetti, G. and Mioni, G. (2022) 'Risk perception towards COVID- 19: A systematic review and qualitative synthesis', *International Journal of Environmental Research and Public Health,* 19(8), p. 4649. doi:10.3390/ijerph19084649.

Cohen, L., Manion, L. and Morrison, K. (2018). *Research Methods in Education*. 8th ed. Eighth edition. | New York: Routledge, 2018.: Routledge.

doi:https://doi.org/10.4324/9781315456539.

Coleman, C. (2020). Health Literacy and Clear Communication Best Practices for Telemedicine. *HLRP: Health Literacy Research and Practice*, [online] 4(4), pp.224– e229. doi:https://doi.org/10.3928/24748307-20200924-01.

Colombo, D., Suso-Ribera, C., Fernández-Álvarez, J., Cipresso, P., Garcia-Palacios, A., Riva, G. and Botella, C. (2020). Affect Recall Bias: Being Resilient by Distorting Reality. *Cognitive Therapy and Research*, [online] 44(5), pp.906–918. doi:https://doi.org/10.1007/s10608-020-10122-3.

Coman, I.A., Gregor, M. and Lilleker, D. (2024). *Risk Communication and COVID-19*. *Routledge eBooks*. Informa. doi:https://doi.org/10.4324/9781003401681.

Coombs, N.M., Porter, J.E. and Barbagallo, M. (2024). An exploration of the influencing factors for effective public health messaging during disasters: a scoping review. *Public Health*, [online] 228, pp.73–81. doi:https://doi.org/10.1016/j.puhe.2023.12.023.

Cooper, S. et al. (2018a) 'Vaccine hesitancy – a potential threat to the achievements of vaccination programmes in Africa', *Human Vaccines & Immunotherapeutics*, 14(10), pp. 2355–2357. doi:10.1080/21645515.2018.1460987.

Cooper, S., Van Rooyen, H. and Wiysonge, C.S. (2021) "Covid-19 vaccine hesitancy in South Africa: A complex social phenomenon," *South African Medical Journal*, 111(8), p. 702. Available at: https://doi.org/10.7196/samj.2021.v111i8.15800.

Cooper, S., Van Rooyen, H. and Wiysonge, C.S. (2022) "Addressing COVID-19 vaccine hesitancy in South Africa- moving beyond a reliance on information-based responses," *Human Vaccines & Immunotherapeutics*, 18(6). Available at: https://doi.org/10.1080/21645515.2022.2107851.

Cooper, C.A. (2023). Vaccine hesitancy and respect for public health measures: Citizens' trust in politicians and public servants across national, subnational and municipal levels of government. *SSM - Population Health*, [online] 22, p.101386. doi:https://doi.org/10.1016/j.ssmph.2023.101386.

Covello, V. (2021). An Overview of Risk Communication. *IEEE Xplore*, pp.33–67. doi https://doi.org/10.1002/9781119081753.ch3.

Covello, V.T., Peters, R.G., Wojtecki, J.G. and Hyde, R.C. (2001). Risk communication, the West Nile virus epidemic, and bioterrorism: responding to the communication challenges posed by the intentional or unintentional release of a

pathogen in an urban setting. *Journal of Urban Health: Bulletin of the New York Academy of Medicin*e, 78(2), pp.382–391. doi:https://doi.org/10.1093/jurban/78.2.382.

Covello, V. (2021). An Overview of Risk Communication. *IEEE Xplore*, pp.33–67. doi:https://doi.org/10.1002/9781119081753.ch3.

Covid-19 coronavirus vaccine (2023) South African Government. Available at: https://www.gov.za/covid-19/vaccine/vaccine (Accessed: 21 May 2023).

COVID-19 South African Online Portal (2023) "*Latest Vaccine Statistics*." Available at: https://sacoronavirus.co.za/latest-vaccine-statistics/

Creswell, J.W. (2014). Research design: *Qualitative, quantitative, and mixed methods approaches.* 4th ed. London: Sage Publications Ltd.

Creswell, J. W. and Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications

Creswell, J. W. and Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage publications.

Croucher, S.M. and Diers-Lawson, A. (2023). *Pandemic Communication*. *Routledge eBooks*. Informa. doi:https://doi.org/10.4324/9781003214496.

Cunningham-Erves, J., Davis, M., Stewart, E.C., Alexander, L., Moss, J., Barre, I., Parham, I., Tilicia Mayo-Gamble and Davis, J. (2024). COVID-19 risk communication gaps, needs, and strategies related to pandemic preparedness plans among vulnerable, Black American subgroups: A qualitative study. *Journal of the National Medical Association*, 116(1), pp.45–55. doi:https://doi.org/10.1016/j.jnma.2023.12.

Czerniewicz, L., Agherdien, N., Badenhorst, J., Belluigi, D., Chambers, T., Chili, M., de Villiers, M., Felix, A., Gachago, D., Gokhale, C., Ivala, E.,

Kramm, N., Madiba, M., Mistri, G., Mgqwashu, E., Pallitt, N., Prinsloo, P., Solomon, K., Strydom, S. and Swanepoel, M. (2020). A Wake-Up Call: Equity, Inequality and Covid-19 Emergency Remote Teaching and Learning. *Postdigital Science and Education*, 2(3), pp.946–967. doi:https://doi.org/10.1007/s42438-020-00187-4.

Dahmen, N. and Thomson, T.J. (2025). *The Routledge Companion to Visual Journalism*. *Routledge eBooks*. Informa. doi:https://doi.org/10.4324/9781003391340.

de Figueiredo, A. and Larson, H.J. (2021). Exploratory study of the global intent to accept COVID-19 vaccinations. *Communications Medicine*, 1(1). doi:https://doi.org/10.1038/s43856-021-00027-x.

Denzin, N.K. and Lincoln, Y.S. (2011). *The SAGE Handbook of Qualitative Research*. 5th ed. Los Angeles: Sage.

Desai, A.N., Ruidera, D., Steinbrink, J.M., Granwehr, B. and Lee, D.H. (2022). Misinformation and Disinformation: The Potential Disadvantages of Social Media in Infectious Disease and How to Combat Them. *Clinical Infectious Diseases*, 74(Supplement_3), pp.e34–e39. doi:https://doi.org/10.1093/cid/ciac109.

Department of Women, Youth and Persons with Disabilities (2020) National Youth Policy 2020–2030: A decade to accelerate positive youth development outcomes. Pretoria: *Republic of SouthAfrica*. Available at: https://www.dwypd.gov.za/index.php/resource-center/documents/policies/.

Dilthey, W., Makkreel, R. and Rodi, F. (2002). *The formation of the historical world in the human sciences*. Princeton: Princeton University Press.

Dlamini, M.P. (2018). *Experiences of pedagogical and institutional support of students with disabilities in laboratory related courses at Walter Sisulu University: a case of Butterworth Campus.* [online] Ukzn.ac.za. Available at: https://researchspace.ukzn.ac.za/handle/10413/17186 [Accessed 16 Jul. 2025].

Donalek, J. G. (2004). Demystifying nursing research: Phenomenology as a

qualitative research method. *Urologic Nursing,* 24, 516–517.

Douglas, M. and Wildavsky, A. (1982). *Risk and culture : an essay on the selection of technological and environmental dangers*. Berkeley, Calif.: Univ. Of California Press.

Dubé, È., Labbé, F., Malo, B. and Pelletier, C. (2022). Public health communication during the COVID-19 pandemic: perspectives of communication specialists, healthcare professionals, and community members in Quebec, Canada. *Canadian Journal of Public Health*, 113(1). doi:https://doi.org/10.17269/s41997-022-00697-7.

Duffy, B.E. (2020). Social Media Influencers. *The International Encyclopedia of Gender, Media, and Communication*, [online]pp.1–4. doi:https://doi.org/10.1002/9781119429128.iegmc219.

Dryhurst, S., Schneider, C. R., Kerr, J., et al. (2020). Risk perceptions of COVID-19 around the world. *Journal of Risk Research*, 23(7-8), 994-1006.

Edwards, P. and Bowen, P. (2019). Language and communication issues in HIV/AIDS intervention management in the South African construction industry. *Engineering, Construction and Architectural Management*, 26(6), pp.962–988. doi:https://doi.org/10.1108/ecam-12-2017-0260.

English, A. and Middleman, A.B. (2023). Adolescents, Young Adults, and Vaccine Hesitancy: Who and What Drives the Decision to Vaccinate? *Pediatric Clinics of North America*, [online] 70(2), pp.283–295. doi:https://doi.org/10.1016/j.pcl.2022.11.006.

Engelbrecht, M., Heunis, C. and Kigozi, G. (2022) 'Covid-19 vaccine hesitancy in South Africa: Lessons for future pandemics', *International Journal of Environmental Research and Public Health*, 19(11), p. 6694. doi:10.3390/ijerph19116694.

Enhealth Council (2012). *Environmental health risk assessment: guidelines for assessing human health risks from environmental hazards*. Canberra: Dept. Of Health And Ageing And Enhealth Council.

Etikan, I., Musa, S.A. and Alkassim, R.S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of*

Theoretical and Applied Statistics, [online] 5(1), pp.1–4. doi:https://doi.org/10.11648/j.ajtas.20160501.11.

Evans, G., Bostrom, A., Johnston, R.B., Fisher, B.L. and Stoto, M.A. (1997). Introduction and Background. [online] *www.ncbi.nlm.nih.gov*. Available at: https://www.ncbi.nlm.nih.gov/books/NBK233834/ [Accessed 17 Apr. 2024].

Fadda, M., Bezani, K., Amati, R., Fiordelli, M., Crivelli, L., Albanese, E., Suggs, L.S. and Caiata-Zufferey, M. (2022). Decision-making on COVID-19 vaccination: A qualitative study among health care and social workers caring for vulnerable individuals. *SSM - Qualitative Research in Health*, 2, p.100181. doi:https://doi.org/10.1016/j.ssmqr.2022.100181.

Ferrer, R. and Klein, W.M. (2015). Risk Perceptions and Health Behavior. *Current Opinion in Psychology,* [online] 5(5), pp.85–89. doi:https://doi.org/10.1016/j.copsyc.2015.03.012.

Ferris, C. (2017). Social Ecological Factors Associated with Parental Vaccination Decisions and Perceptions of Barriers to Childhood Immunizations. *Dissertations*. [online] doi:https://doi.org/10.22371/07.2017.010.

Flanagin, A. J., & Metzger, M. J. (2007). The role of site features, user attributes, and information verification behaviors on the perceived credibility of web-based information. *New Media & Society*, 9(2), 319-342.

Fisher, J. T., Hummel, C., & Evans, T. (2020). Disinformation and democratic disruption: Social media and protests in comparative perspective. *The International Journal of Press/Politics*, 25(1), 1-21.

Ford, C., MacKay, M., Thaivalappil, A., McWhirter, J. and Papadopoulos, A. (2023). COVID-19 Vaccine Communications on Instagram and Vaccine Uptake in Young Adults: A Content Assessment and Public Engagement Analysis. *Emerging Adulthood*, 12(2), pp.224–235. doi:https://doi.org/10.1177/21676968231222439.

Frimpong, S.O. and Paintsil, E. (2023). Community engagement in Ebola outbreaks in sub-Saharan Africa and implications for COVID-19 control: A scoping review. *International Journal of Infectious Diseases*, 126, pp.182–192. doi:https://doi.org/10.1016/j.ijid.2022.11.032.

Fusch, P. I. and Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The qualitative report,* 20(9), 1408.

Garney, W., Wilson, K., Ajayi, K.V., Panjwani, S., Love, S.M., Flores, S., Garcia, K. and Esquivel, C. (2021). Social-Ecological Barriers to Access to Healthcare for Adolescents: A Scoping Review. *International Journal of Environmental Research and Public Health*, [online] 18(8), p.4138. doi:https://doi.org/10.3390/ijerph18084138.

Gbadebo Collins Adeyanju, Tene-Alima Essoh, Annick Raissa Sidibe, Furaha Kyesi and Aina, M. (2024). Human Papillomavirus Vaccination Acceleration and Introduction

in Sub-Saharan Africa: A Multi-Country Cohort Analysis. *Vaccines*, 12(5), pp.489–489. doi:https://doi.org/10.3390/vaccines12050489.

Gibson, S. (2021). 'South Africa Laughs in the Face of Coronavirus': Presidential Addresses, Face Masks, and Memetic Humour in South Africa. *Springer eBooks*, pp.277–298. doi:https://doi.org/10.1007/978-3-030-79735-5_14.

Gilson, L. (2006). Trust in health care: theoretical perspectives and research needs. *Journal of Health Organization and Management*, 20(5), pp.359–375. doi:https://doi.org/10.1108/14777260610701768.

Goldstein, S., Coulson, N. and Pillay, N. (2021). Latest - How South Africa dropped the ball on health communication - Wits University. [online] www.wits.ac.za. Available at: https://www.wits.ac.za/covid19/covid19-news/latest/how-south-africa-dropped- the-ball-on-health-communication.html.

Gumede, N., Durden, E. and Govender, E. (2022). Presidential communication approaches and the impact on public health: a comparative analysis of three South African presidents' communication on AIDS and COVID-19*. African Journal of AIDS Research*. [online] doi:https://doi.org/10.2989/16085906.2022.2091463.

Gundumogula, M. (2020). Importance of Focus Groups in Qualitative Research. *The International Journal of Humanities & Social Studies*, [online] 8(11), pp.299–302. doi:https://doi.org/10.24940/theijhss/2020/v8/i11/hs2011-082.

Gurabardhi, Z., Gutteling, J.M. and Kuttschreuter, M. (2004). The Development of Risk Communication. *Science Communication*, 25(4), pp.323–349. doi:https://doi.org/10.1177/1075547004265148.

Hallahan, K., Holtzhausen, D., van Ruler, B., Verčič, D. and Sriramesh, K. (2007). Defining strategic communication. International Journal of Strategic Communication, 1(1), pp.3–35.

Han, D., Li, R., Han, Y., Zhang, R. and Li, J. (2020). COVID-19: Insight into the asymptomatic SARS-COV-2 infection and transmission. *International Journal of Biological Sciences,* 16(15), pp.2803–2811. doi:https://doi.org/10.7150/ijbs.48991.

Hennink, M. and Kaiser, B.N. (2022). Sample Sizes for Saturation in Qualitative Research: a Systematic Review of Empirical Tests. *Social Science & Medicine*, [online] 292(1), pp.1–10. doi:https://doi.org/10.1016/j.socscimed.2021.114523.

Henry, J., Azariah, F., Hughsam, M., Skeen, S., Tomlinson, M., Busakhwe, C., Mokoena, K., Mudaly, A., Sinha, M. and Laurenzi, C. (2024). Shared experiences,

shared support: A qualitative study on the importance of relatability in interpersonal relationships for youth mental health in South Africa. *Cambridge Prisms: Global Mental Health*, 11. doi:https://doi.org/10.1017/gmh.2024.117.

Heyns, M. and Rothmann, S. (2015). Dimensionality of trust: An analysis of the relations between propensity, trustworthiness and trust. *SA Journal of Industrial Psychology*, 41(1). doi:https://doi.org/10.4102/sajip.v41i1.1263.

Holmes, A.G.D. (2020). Researcher positionality - a consideration of its influence and place in qualitative research - a new researcher guide. *Shanlax International Journal of Education*, [online] 8(4), pp.1–10. doi:https://doi.org/10.34293/education.v8i4.3232.

Holroyd, T.A., Oloko, O.K., Salmon, D.A., Omer, S.B. and Limaye, R.J. (2020). Communicating Recommendations in Public Health Emergencies: The Role of Public Health Authorities. *Health Security*, 18(1), pp.21–28.

doi:https://doi.org/10.1089/hs.2019.0073.

Hornik, R., Kikut, A., Jesch, E., Woko, C., Siegel, L. and Kim, K. (2020). Association of COVID-19 Misinformation with Face Mask Wearing and Social Distancing in a Nationally Representative US Sample. *Health Communication*, 36(1), pp.1–9. doi:https://doi.org/10.1080/10410236.2020.1847437.

Hornsey, M. J., Harris, E. A., & Fielding, K. S. (2018). Relationships among conspiratorial beliefs, conservatism and climate scepticism across nations. *Nature Climate Change*, 8(7), 614-620.

Hunt, S. (2021). COVID and the South African Family: Cyril Ramaphosa, President or father? *Discourse, Context & Media*, 44, p.100541. doi:https://doi.org/10.1016/j.dcm.2021.100541.

Husserl, E. and Welton, D. (1999). *The essential Husserl: basic writings in transcendental phenomenology*. Bloomington, In: Indiana University Press.

Jiang, N., Gu, P., Liu, K., Song, N. and Jiang, X. (2021). Acceptance of COVID-19 vaccines among college students: a study of the attitudes, knowledge, and willingness of students to vaccinate. *Human Vaccines & Immunotherapeutics*, 17(12), pp.4914– 4924. doi:https://doi.org/10.1080/21645515.2021.2013077.

John, S.F. et al. (2022) 'Government communication in times of crisis: The priorities and trends in South Africa's response to COVID-19', *The Journal for Transdisciplinary Research in Southern Africa*, 18(1). doi:10.4102/td.v18i1.1146.

John, S.F., Maama, H., Ojogiwa, O.T. and Mubangizi, B.C. (2022). Government communication in times of crisis: The priorities and trends in South Africa's response to COVID-19. *The Journal for Transdisciplinary Research in Southern Africa,* 18(1). doi https://doi.org/10.4102/td.v18i1.1146.\

Johnson, B.B. and Swedlow, B. (2019). Cultural Theory's Contributions to Risk Analysis: A Thematic Review with Directions and Resources for Further

Research. *Risk Analysis*, 41(3). doi:https://doi.org/10.1111/risa.13299.

Kadkhoda, K. (2021). Herd Immunity to COVID-19. *American Journal of Clinical Pathology*, 155(4). doi:https://doi.org/10.1093/ajcp/aqaa272.

Karlsson, M., Clerwall, C., & Nord, L. (2021). Can you trust the news? Exploring the effects of the news media's brand trustworthiness. Journalism Studies, 22(1), 19-36. Kakar, Z.H., Rasheed, R., Rashid, A. and Akhter, S. (2023). Criteria for Assessing and Ensuring the Trustworthiness in Qualitative Research . *International Journal of Business Reflections*, 4(2).

Katoto, P.D. *et al.* (2022) "Predictors of COVID-19 vaccine hesitancy in South African local communities: The VaxScenes study," *Vaccines*, 10(3), p. 353. Available at: https://doi.org/10.3390/vaccines10030353.

Kennedy, J. (2020). Vaccine Hesitancy: A Growing Concern. *Pediatric Drugs, 22*. doi:https://doi.org/10.1007/s40272-020-00385-4.

Khan, S., Mishra, J., Ahmed, N., Onyige, C.D., Lin, K.E., Siew, R. and Lim, B.H. (2022). Risk communication and community engagement during COVID-19. *International Journal of Disaster Risk Reduction*, p.102903. doi https://doi.org/10.1016/j.ijdrr.2022.102903.

Khare, S.R. and Vedel, I. (2019). Recall bias and reduction measures: an example in primary health care service utilization. *Family Practice*, 36(5), pp.672–676. doi:https://doi.org/10.1093/fampra/cmz042.

Kim, J.S. and Choi, J.S. (2016). Middle East respiratory syndrome-related knowledge, preventive behaviours and risk perception among nursing students during outbreak.

Journal of Clinical Nursing, 25(17-18), pp.2542–2549. doi:https://doi.org/10.1111/jocn.13295.

Kington, R.S., Arnesen, S., Chou, W.-Y.S., Curry, S.J., Lazer, D. and Villarruel, A.M. (2021). Identifying credible sources of health information in social media: Principles and attributes. *NAM Perspectives*, [online] 2021(1), pp.1–37. doi:https://doi.org/10.31478/202107a.

Kluge, H.H.P., Muscat, N.A., Mishra, S., Nielsen, S., Tille, F., Pfeifer, D., COVID Europe, L. and Sivan, M. (2022). Call for action: Health services in the European region must adopt integrated care models to manage Post-

Covid-19 Condition. *The Lancet Regional Health - Europe*, 18, p.100435. doi:https://doi.org/10.1016/j.lanepe.2022.100435.

Knock, M., Carpenter, D.M., Thomas, K.C., Lee, C., Adjei, A., Lowery, J., Coyne, I., Garcia, N. and Sleath, B. (2024). Disseminating a health information website to teens using a three-pronged approach with social media outreach. *PEC innovation*, pp.100288–100288. doi:https://doi.org/10.1016/j.pecinn.2024.100288.

Kollamparambil, U., Oyenubi, A. and Nwosu, C. (2021) “Covid19 vaccine intentions in South Africa: Health communication strategy to address vaccine hesitancy,” *BMC Public Health* [Preprint]. Available at: https://doi.org/10.21203/rs.3.rs-533888/v1.

Koytak, H.Z. (2025). *Vaccine hesitancy is about much more than misinformation*. [online] STAT. Available at: https://www.statnews.com/2025/03/14/vaccine-hesitancy- misinformation-research-study-reasons-trust/.

Kühn, L., Bachert, P., Hildebrand, C., Kunkel, J., Reitermayer, J., Wäsche, H. and Woll, A. (2022). Health Literacy Among University Students: A Systematic Review of Cross-Sectional Studies. *Frontiers in Public Health*, 9. doi:https://doi.org/10.3389/fpubh.2021.680999.

Laaber, F., Koch, T., Hubert, M. and Florack, A. (2024). Young People’s digital maturity relates to different forms of well-being through basic psychological need satisfaction and frustration. *Computers in Human Behavior*, 152, pp.108077–108077. doi:https://doi.org/10.1016/j.chb.2023.108077.

Lamot, M. and Kirbiš, A. (2024). Understanding Vaccine Hesitancy: A Comparison of Sociodemographic and Socioeconomic Predictors with Health Literacy Dimensions. *Vaccines*, [online] 12(10), pp.1141–1141. doi:https://doi.org/10.3390/vaccines12101141

Lang, S., Fewtrell, L. and Bartram, J. (2001). *Risk communication*. [online] ResearchGate. Availableat:

https://www.researchgate.net/publication/261035726_Risk_communication.
La Rosa, V. L. (2021). Developmental Challenges, Vulnerability, Resilience during the COVID-19 Pandemic: Studies on Psychological Effects from Adolescence to Adulthood. E. Commodari & L. M. Daher, PHDDISSERTATION. https://www.iris.unict.it/retrieve/326779fa-2492-4c1f-ba9b-88f28c02015a/PhD Dissertation (VL La Rosa).pdf
Larson, H.J., Jarrett, C., Eckersberger, E., Smith, D.M.D. and Paterson, P. (2014). Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007–2012. *Vaccine*, [online] 32(19), pp.2150–2159. doi:https://doi.org/10.1016/j.vaccine.2014.01.081.

Le Coze, J.-C. (2015). 1984-2014. Normal Accidents. Was Charles Perrow Right for the Wrong Reasons? *Journal of Contingencies and Crisis Management*, 23(4), pp.275–286. doi:https://doi.org/10.1111/1468-5973.12090.

Leask, J., Carlson, S.J., Attwell, K., Clark, K.K., Kaufman, J., Hughes, C., Frawley, J., Cashman, P., Seal, H., Wiley, K., Bolsewicz, K., Steffens, M. and Danchin, M.H. (2021). Communicating with patients and the public about COVID-19 vaccine safety: recommendations from the Collaboration on Social Science and Immunisation. *Medical Journal of Australia*, 215(1), p.9. doi:https://doi.org/10.5694/mja2.51136.
Leburu, N., Shilumani, C., Bhengu, C., Matlala, N., Maja, P., Jimoh, S. and Mayet, N. (2022). Risk communication and community engagement — unlocking the key to South Africa's response to SARS-CoV-2. *South African Medical Journal*, 112(5b), pp.371–374. doi:https://doi.org/10.7196/samj.2022.v112i5b.16073.

Lee, K. (2018). *Using Culture as a Blunt Instrument to Counteract Antivaccine Misinformation Campaigns - Community Science*. [online] Community Science - Equity in Everything We Do. Available at: https://communityscience.com/news/using-culture-as-a-blunt-instrument-to-counteract-antivaccine-misinformation-campaigns/ [Accessed 16 Jul. 2025].

Lee, S.K., Sun, J., Jang, S. and Connelly, S. (2022). Information of COVID-19 vaccines and vaccine hesitancy. *Scientific Reports*, [online] 12(1), pp.1–11. doi:https://doi.org/10.1038/s41598-022-17430-6.

Lee, Y.-C. and Wu, W.-L. (2023). Key Drivers of COVID-19 Vaccine Hesitancy: A Perspective of Collectivism. *Healthcare*, 11(2), p.176. doi:https://doi.org/10.3390/healthcare11020176.

Mthembu, C. (2024a). *Challenges experienced by special education and learning support educators during the COVID-19 pandemic*. [online] Handle.net. Available at: http://hdl.handle.net/2263/97222.

Lewandowsky, S., Ecker, U. K. H., & Cook, J. (2017). Beyond misinformation: Understanding and coping with the “post-truth” era. *Journal of Applied Research in Memory and Cognition*, 6(4), 353-369.

Li, J., Feng, Z., Wei, Z., Feng, Z. and Zhang, P. (2014). Security management based on trust determination in cognitive radio networks. *EURASIP Journal on Advances in Signal Processing,* 2014(1). doi:https://doi.org/10.1186/1687-6180-2014-48.

Limaye, R.J., Sauer, M., Ali, J., Bernstein, J., Wahl, B., Barnhill, A. and Labrique, A. (2020). Building trust while influencing online COVID-19 content in the social media world. *The Lancet Digital Health*, 2(6). doi:https://doi.org/10.1016/s2589- 7500(20)30084-4.

Lin, T., Heemskerk, A., Harris, E.A. and Ebner, N.C. (2022). Risk perception and conspiracy theory endorsement predict compliance with COVID -19 public health measures. 114(1), pp.282–293. doi:https://doi.org/10.1111/bjop.12613.

Lohiniva, A.-L. *et al.* (2022) ‘Covid-19 risk perception framework of the public: An infodemic tool for future pandemics and epidemics’, *BMC Public Health*, 22(1). doi:10.1186/s12889-022-14563-1.

Lokot, M. (2021). Whose Voices? Whose Knowledge? A Feminist Analysis of the Value of Key Informant Interviews. *International Journal of Qualitative Methods*, 20, pp.1–8. doi:https://doi.org/10.1177/1609406920948775.

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*, [online] 5(5), pp.337–348. doi:https://doi.org/10.1038/s41562-021-01056-1.

Lowbridge, C.P. and Leask, J. (2011). Bug Breakfast in the Bulletin: Risk communication in public health. *New South Wales Public Health Bulletin*, 22(2), p.34. doi:https://doi.org/10.1071/nb10055.

Lubinga, E. and Karabo Sitto-Kaunda (2023). Responses to Mixed Fear and Pro-social Emotional Appeal Covid-19 Health Communication Strategies in South Africa: A Reflection. *Communitas*, 28. doi:https://doi.org/10.38140/com.v28i.7054.

Machingaidze, S. and Wiysonge, C.S. (2021). Understanding COVID-19 vaccine hesitancy. *Nature Medicine*, [online] 27(27), pp.1338–1339. doi:https://doi.org/10.1038/41591-021-01459-7.

Maguire, M. and Delahunt, B. (2017). Doing a Thematic Analysis: A Practical, Step- by-Step Guide for Learning and Teaching Scholars. *All Ireland Journal of Higher Education, 7(3).*

Martin, A., Blowers, A. and Boersema, J. (2006). Combining clarity and uncertainty in science communication. *Environmental Sciences*, 3(4), pp.225–228. doi:https://doi.org/10.1080/15693430601134942.

Mejia, R., Beckermann, K., & Shearer, E. (2018). News use across social media platforms. *Pew Research Center*.

Merriam, S.B. and Tisdell, E.J. (2016). *Qualitative research: A guide to design and implementation*. 4th ed. San Francisco, Ca: Jossey-Bass.

Metzger, M. J. (2021). Digital media, web credibility, and trust. In K. Kenski & K. H. Jamieson (Eds.), *The Oxford Handbook of Political Communication* (pp. 120-138). Oxford University Press.

Metzger, M. J., & Flanagin, A. J. (2013). Credibility and trust of information in online environments: The use of cognitive heuristics. *Journal of Pragmatics*, 59, 210-220.

Metzger, M. J., & Flanagin, A. J. (2015). Credibility and trust of information in online environments: The use of cognitive heuristics. *Journal of Pragmatics*, 59, 210-223.

Mhlanga, D. and Moloi, T. (2020). COVID-19 and the Digital Transformation of Education: What Are We Learning on 4IR in South Africa? *Education Sciences*, [online] 10(7), pp.1–11. doi:https://doi.org/10.3390/educsci10070180.

Mhlungu, M.B. (2021). *Key success factors for developing and managing small and medium-sized enterprises post Covid-19 pandemic.* [online] Ukzn.ac.za. Available at: https://researchspace.ukzn.ac.za/handle/10413/20459 [Accessed 15 Jul. 2025].

Mkhize, Z. (2020). *FIRST CASE OF COVID-19 CORONAVIRUS REPORTED IN SA*.

[online] NICD. Available at: https://www.nicd.ac.za/first-case-of-covid-19-coronavirus- reported-in-sa/.

Montagni, I., Ouazzani-Touhami, K., Mebarki, A., Texier, N., Schück, S. and Tzourio,

C. (2021). Acceptance of a covid-19 vaccine is associated with ability to detect fake news and health literacy. *Journal of Public Health*, 43(4). doi:https://doi.org/10.1093/pubmed/fdab028.

Montijn-Dorgelo, F.N.H. and Midden, C.J.H. (2008). The role of negative associations and trust in risk perception of new hydrogen systems. *Journal of Risk Research*, 11(5), pp.659–671. doi:https://doi.org/10.1080/13669870801967218.

Meekers, S.L. (2020). *Looking through the lens: South African university students' interpretations of gender-based violence.* [online] Ukzn.ac.za. Available at: https://researchspace.ukzn.ac.za/handle/10413/20419 [Accessed 16 Jul. 2025].

Moola, S. (2022). COVID-19 in South Africa and its Impact on Youth: The Media's Representation of the 2020 Super-spreader Matric Rage Festival. *Commonwealth Youth and Development*, 19(1). doi:https://doi.org/10.25159/2663-6549/10031.

Morrow, B. (2009). *Risk Behaviour and Risk Communication: Synthesis and Expert Interviews Final Report for the NOAA Coastal Services Center*. [online]

Available at: https://coast.noaa.gov/data/digitalcoast/pdf/risk-behavior.pdf.

Muellmann, S., Brand, T., Jürgens, D., Gansefort, D. and Zeeb, H. (2021). How many key informants are enough? *Analysing the validity of the community readiness*

Muthoni, J., Otwombe, K., Thaele, D., Choge, I., Steenberg, B., Cutland, C., Madhi, S. A., Sokani, A., & Myburgh, N. (2023) 'COVID-19 Vaccination Hesitancy among Youths in Soweto'. *South Africa:Vaccines*,11(5), 960. https://doi.org/10.3390/vaccines11050960

Muyambo, T., Sibanda, F. and Chitando, E. (2023). *Religion and COVID-19 Vaccination in Zimbabwe*. London: Routledge. doi:https://doi.org/10.4324/9781003388630.

Muzari, T., Shava, G.N. and Shonhiwa, S. (2022). Qualitative Research Paradigm, a Key Research Design for Educational Researchers, Processes and Procedures: A Theoretical Overview2. *Indiana Journal of Humanities and Social Sciences,* 3(1).

Mwelase, S.A. (2019). Mental health literacy: conceptualisation of mental illness among African residents in Pietermaritzburg. *Core.ac.uk*. [online] doi:oai:researchspace.ukzn.ac.za:10413/17532.

Naeem, M., Ozuem, W., Howell, K.E. and Ranfagni, S. (2023). A step-by-step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research. *International Journal of Qualitative Methods*, [online] 22(1), pp.1–18. doi:https://doi.org/10.1177/16094069231205789.

Natarajan, A. (2020). *Missouri Using Health IT to Achieve the Aims of the ADA - Health IT Buzz*. [online] Health IT Buzz. Available at: https://www.healthit.gov/buzz- blog/health-it/missouri-using-health-it-to-achieve-the-aims-of-the-ada [Accessed 15

Jul. 2025].

National Research Council (US) (1989). *Problems of Risk Communication*. [online] *www.ncbi.nlm.nih.gov*. National Academies Press (US). Available at: https://www.ncbi.nlm.nih.gov/books/NBK218586/.

Ndlela, M.N. (2018). A Stakeholder Approach to Risk Management. *Crisis*

Communication, [online] pp.53–75. doi:https://doi.org/10.1007/978-3-319-97256-5_4.

Ndlovu, C.B. (2019). *Examining the disaster mitigation efforts in eThekwini Municipality: the case of Umlazi Township in South Africa.* [online] Ukzn.ac.za. Available at: https://researchspace.ukzn.ac.za/handle/10413/19058.

Netshapapame, T.S. (2023). COVID-19 vaccination hesitancy in South Africa: Biblical discourse. *Hervormde Teologiese Studies*, [online] 79(4), pp.1–7. doi:https://doi.org/10.4102/hts.v79i4.7795.

Ngcobo, N.J. et al. (2019) 'Human papillomavirus vaccination acceptance and hesitancy in South Africa: Research and policy agenda', *South African Medical Journal,* 109(1), p. 13. doi:10.7196/samj.2018.v109i1.13723.

Nyumba, T., Wilson, K., Derrick, C.J. and Mukherjee, N. (2018). The Use of Focus Group Discussion methodology: Insights from Two Decades of Application in Conservation. *Methods in Ecology and Evolution*, 9(1), pp.20–32.

Okan, O., Messer, M., Levin-Zamir, D., Paakkari, L. and Sørensen, K. (2022). Health literacy as a social vaccine in the covid-19 pandemic. *Health Promotion International*, [online] 38(4), p.daab197. doi:https://doi.org/10.1093/heapro/daab197.

Paakkari, L. and Okan, O. (2020). COVID-19: health literacy is an underestimated problem. *The Lancet Public Health*, [online] 5(5). doi:https://doi.org/10.1016/s2468- 2667(20)30086-4.

Pahwa, M., Cavanagh, A. and Vanstone, M. (2023). *Key Informants in Applied Qualitative Health Research. Qualitative Health Research*, 33(14), pp.1251–1261. doi:https://doi.org/10.1177/10497323231198796.

Palinkas, L., Horwitz, S., Green, C., Wisdom, J., Duan, N. and Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*, [online] 42(5), pp.533–544. doi:https://doi.org/10.1007/s10488-013-0528-y.

Paul, E., Steptoe, A. and Fancourt, D. (2020). Attitudes towards vaccines and

intention to vaccinate against COVID-19: Implications for public health communications. *The Lancet Regional Health - Europe*, [online] 1(100012), p.100012. doi:https://doi.org/10.1016/j.lanepe.2020.100012.

Pennycook, G., & Rand, D. G. (2021). The psychology of fake news. *Trends in Cognitive Sciences*, 25(5), 388-402.

Pervin, N., & Mokhtar, M. (2022). The Interpretivist Research Paradigm: A Subjective Notion of a Social Context. *International Journal of Academic Research in Progressive Education and Development*, 11(2), 419–428.

Peters, R.G., Covello, V.T. and McCallum, D.B. (1997). The Determinants of Trust and Credibility in Environmental Risk Communication: An Empirical Study. *Risk Analysis*, 17(1), pp.43–54. doi:https://doi.org/10.1111/j.1539-6924.1997.tb00842.x.

Peterson, J.S. (2019). Presenting a Qualitative Study: *A Reviewer's Perspective. Gifted Child Quarterly,* 63(3), pp.147–158. doi:https://doi.org/10.1177/0016986219844789.

Priya, A. (2020). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin,* [online] 70(1), pp.94–110. doi:https://doi.org/10.1177/0038022920970318.

Pinho, A.S. and Mawila, D. (2024a). Risk factors and policy recommendations for parental divorce amongst adolescents during the COVID-19 pandemic in South Africa. *Journal of Infrastructure, Policy and Development*, 8(13), p.6388. doi:https://doi.org/10.24294/jipd6388.

Qaissi, A. (2024). Thematic Analysis in Qualitative Research: A Comprehensive Overview. The Second International Doctoral Conference —– Planning, Understanding, and Undertaking Research Projects: Tools and Methods. [online] doi:https://doi.org/10.6084/m9.figshare.26517346.

Quinn, S.C., Jamison, A., An, J., Freimuth, V.S., Hancock, G.R. and Musa, D. (2017). Breaking down the monolith: Understanding flu vaccine uptake among African Americans. *SSM - Population Health*, 4,

pp.25–36. doi:https://doi.org/10.1016/j.ssmph.2017.11.003.

Ramachandran, G. and Min, A.K.K. (2024). Why Effective Communication is Important in Management of Public Health Emergencies – A Viewpoint. *International Journal of Health Sciences*, 7(5), pp.26–30. doi:https://doi.org/10.47941/ijhs.2098.

Ramsey, N., Obeidallah, M. and Abraham, A. (2023). Impact of COVID-19 on adolescent health and use of social media. *Current Opinion in Pediatrics*, [online] 35(3). doi:https://doi.org/10.1097/mop.0000000000001248.

Randolph, H.E. and Barreiro, L.B. (2020). Herd Immunity: Understanding COVID-19. *Immunity*, [online] 52(5), pp.737–741. doi:https://doi.org/10.1016/j.immuni.2020.04.012.

Reddy, B.V. and Gupta, A. (2020). Importance of effective communication during COVID-19 infodemic. *Journal of Family Medicine and Primary Care*, [online] 9(8). doi:https://doi.org/10.4103/jfmpc.jfmpc_719_20.

Reddy, K.J. and Malu, B. (2025). *Multidisciplinary Perspectives in Social Cognition*. London: Routledge. doi:https://doi.org/10.4324/9781003499855.

Renn, O. (2020). Risk communication: Insights and requirements for designing successful communication programs on health and environmental hazards. *Handbook of Risk and Crisis Communication*, 3(1), 1-20.

Reno, C., Maietti, E., Fantini, M.P., Savoia, E., Manzoli, L., Montalti, M. and Gori, D. (2021). Enhancing COVID-19 Vaccines Acceptance: Results from a Survey on Vaccine Hesitancy in Northern Italy. *Vaccines*, 9(4), p.378. doi:https://doi.org/10.3390/vaccines9040378.

Reynolds, B. and Quinn, S.C. (2008). Effective Communication During an Influenza Pandemic: The Value of Using a Crisis and Emergency Risk Communication Framework. *Health Promotion Practice*, 9(4_suppl), pp.13S17S. doi:https://doi.org/10.1177/1524839908325267.

Rezaei, M., Gilan, N.R., Almasi, A., Khezeli, M., Nazar, F.J., Shushtari, Z.J., Salimi, Y., Najafi, F., Sarabi, N., Saeidi, S. and Saeidi, S. (2022). The role of risk perception, risk communication, and demographic factors in COVID-19 preventive behaviors: an online survey in Iran. *Osong Public Health and*

Research Perspectives, 13(4), pp.282–289. doi:https://doi.org/10.24171/j.phrp.2021.0345.

Rieh, S. Y. (2002). Judgment of information quality and cognitive authority in the Web. *Journal of the American Society for Information Science and Technology*, 53(2), 145- 161.

Robinson, R.S. (2024). Purposive Sampling. *Springer eBooks*, [online] 1(1), pp.5645– 5647. doi:https://doi.org/10.1007/978-3-031-17299-1_2337.

Roozenbeek, J., Schneider, C.R., Dryhurst, S., Kerr, J., Freeman, A.L.J., Recchia, G., van der Bles, A.M. and van der Linden, S. (2020). Susceptibility to misinformation about COVID-19 around the world. *Royal Society Open Science*, 7(10), p.201199. doi:https://doi.org/10.1098/rsos.201199.

Ruhrmann, G. and Guenther, L. (2014). *Risk Communication.* Oxford Bibliographies. doi:https://doi.org/10.1093/obo/9780199756841-0156.

Runciman, C., Roberts, B., Alexander, K. and Bohler-Muller, N. (2021). *UJ/HSRC Coronavirus Democracy Survey Round 2 UJ-HSRC COVID-19 DEMOCRACY SURVEY Willingness to take a Covid-19 vaccine: A research briefing*. [online] Available at: https://hsrc.ac.za/uploads/pageContent/1045085/2021-01-25%20Vaccine%20briefing%20(final).pdf [Accessed 2 Jul. 2025].

Sallam, M. (2021). COVID-19 vaccine hesitancy worldwide: A concise systematic review of vaccine acceptance rates. *Vaccines*, 9(2), p.160. doi:https://doi.org/10.3390/vaccines9020160.

SA Corona Virus Online Portal. (2022). *Vaccine Messaging Guidelines - SA Corona Virus Online Portal*. [online] Available at: https://sacoronavirus.co.za/vaccine- messaging-guidelines/.

Sallam, M., Al-Sanafi, M. and Sallam, M. (2022). A Global Map of COVID-19 Vaccine Acceptance Rates per Country: An Updated Concise Narrative Review. *Journal of Multidisciplinary Healthcare*, Volume 15, pp.21–45. doi:https://doi.org/10.2147/jmdh.s347669.

Saifullah, Md.K., Harun, M.Y. and Islam, E. (2023). Trust in Government,

Awareness and Attitude, and Influence of Social Media in the Context of Risk Perception During the COVID-19 Pandemic in Bangladesh. *International Journal of Research and Innovation in Social Science*, VII(V), pp.1249–1263. doi:https://doi.org/10.47772/ijriss.2023.70595.

Schwandt, T.A. (2015). *The SAGE dictionary of qualitative inquiry*. 4th ed. Los Angeles: Sage.

Seale, H., Harris-Roxas, B., Heywood, A., Abdi, I., Mahimbo, A., Chauhan, A. and Woodland, L. (2022). The role of community leaders and other information intermediaries during the COVID-19 pandemic: insights from the multicultural sector in Australia. *Humanities and Social Sciences Communications*, 9(1). doi:https://doi.org/10.1057/s41599-022-01196-3.

Sekalala, S., Forman, L., Hodgson, T., Mulumba, M., Namyalo-Ganafa, H. and Meier,

B.M. (2021). Decolonising human rights: how intellectual property laws result in unequal access to the COVID-19 vaccine. *BMJ Global Health*, [online] 6(7), p.e006169. doi:https://doi.org/10.1136/bmjgh-2021-006169.

Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L. and Amore, M. (2020). The Psychological Impact of COVID-19 on the Mental Health in the General Population. *QJM: an International Journal of Medicine*, 113(8), pp.531–537. doi:https://doi.org/10.1093/qjmed/hcaa201.

Sewpaul, R., Sifunda, S., Gaida, R., Mokhele, T., Naidoo, I. and Reddy, S.P. (2023). Vaccine hesitancy and related factors among South African adults in 2021: unpacking uncertainty versus unwillingness. *Frontiers in Public Health,* [online] 11. doi:https://doi.org/10.3389/fpubh.2023.1233031.

Shah, G.H. and Nguyen, T.H. (2025a). Vaccine Hesitancy Through a Global Lens: Cross-Cultural Evidence from a Special Issue. *Vaccines*, [online] 13(5), pp.529–529. doi:https://doi.org/10.3390/vaccines13050529.

Sheeran, P., Harris, P. R., & Epton, T. (2014). Does heightening risk appraisals change people's intentions and behavior? A meta-analysis of experimental studies. *Psychological Bulletin*, 140(2), 511-543

Sheppard, B., Janoske, M. and Liu, B. (2012). Understanding Risk Communication Theory: A Guide for Emergency Managers and

Communicators. *Report to Human Factors/Behavioral Sciences Division, Science and Technology Directorate*, U.S. Department of Homeland Security. College Park, MD: START, 2012.

Shrivastava, V.K., Balasubramanian, J., Katyal, A., Yadav, A. and Yogananthan, S. (2024). Understanding the significance of risk management in enterprise management dynamics. *Multidisciplinary Reviews*, [online] 6, pp.2023ss093– 2023ss093. doi:https://doi.org/10.31893/multirev.2023ss093.

Sichach, M. (2024). Risk Communication: An Overview. *Social Science Research Network.* doi:https://doi.org/10.2139/ssrn.4710164.

Siegrist, M., Connor, M., Keller, C., & Sonnberger, M. (2021). Trust, confidence, and vulnerability: An empirical analysis. *Risk Analysis*, 41(5), 837-848.

Sileyew, K.J. (2019). Research Design and Methodology. *Text Mining - Analysis, Programming and Application,* [online] pp.1–12. doi:https://doi.org/10.5772/intechopen.85731.

Șitoiu, A. and Panisoara, G. (2024). The Effects of Parenting on Perfectionism and Intolerance to Uncertainty in Youth and Adults. *ANTHROPOLOGICAL RESEARCHES AND STUDIES*, 14(1), pp.1–16. doi:https://doi.org/10.26758/14.1.1.

Slovic, P. (1987). Perception of Risk. *Science*, [online] 236(4799), pp.280–285. doi:https://doi.org/10.1126/science.3563507.

Sobowale, K., Hilliard, H., Ignaszewski, M.J. and Chokroverty, L. (2020). Real Time Communication: Creating a Path to COVID-19 Public Health Activism in Adolescents Using Social Media (Preprint). *Journal of Medical Internet Research*. doi:https://doi.org/10.2196/21886.

South African Government (2024). *COVID-19 Coronavirus vaccine* | South African Government. [online] www.gov.za. Available at: https://www.gov.za/covid- 19/vaccine/vaccine.

South African Regional Poverty Network (2020). *SARPN - South Africa*. [online] sarpn.org. Availableat: https://sarpn.org/CountryPovertyPapers/SouthAfrica/june2002/mkandawire/pa

ge3.ph p.

Staunton, C., Swanepoel, C. and Labuschagine, M. (2020). Between a rock and a hard place: COVID-19 and South Africa's response. *Journal of Law and the Biosciences*, [online] 7(1). doi:https://doi.org/10.1093/jlb/lsaa052.

Statistics South Africa (2024). *Unemployment in South Africa: A Youth Perspective*. [online] Statssa.gov.za. Available at: https://www.statssa.gov.za/?p=17266.

Stern, M. J., Cotten, S. R., & Drentea, P. (2020). The digital divide and trust in institutions during COVID-19: The paradox of the technological age. *Social Science Quarterly*, 101(3), 1155-1167.

Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In M. J. Metzger & A. J. Flanagin (Eds.), *Digital Media, Youth, and Credibility* (pp. 73-100). MIT Press

Termmee, S. and Wang, B. (2023). The Role of Risk Communication in Shaping Health-Protective Behavior Amid the COVID-19 Pandemic in Thailand. *Social Sciences*, 12(10), pp.551–551. doi:https://doi.org/10.3390/socsci12100551.

Tracy, S.K. (2020). *Qualitative Research Methods: Collecting Evidence, Crafting Analysis, Communicating Impact*. 2nd ed. Chichester: Wiley-Blackwell.

Trifiletti, E., Shamloo, S.E., Faccini, M. and Zaka, A. (2021). Psychological predictors of protective behaviours during the Covid-19 pandemic: Theory of planned behaviour and risk perception. *Journal of Community & Applied Social Psychology*, 32(3). doi:https://doi.org/10.1002/casp.2509.

Tsfati, Y., & Cappella, J. N. (2020). Why do people watch news they do not trust? The need for cognitive dissonance resolution and media effects. *Journal of Communication*, 70(1), 1-24.

Tseng, S., & Fogg, B. J. (1999). Credibility and computing technology.

Communications of the ACM, 42(5), 39-44.

UNICEF (2021). *Coronavirus disease (COVID-19)*. [online] www.unicef.org. Available at: https://www.unicef.org/coronavirus/covid-19.

United Nations (2013). *Youth: Definition of Youth*. [online] United Nations. Available at: https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf.

University of KwaZulu-Natal (2017). *Campuses – UKZN.* [online] Ukzn.ac.za. Available at: https://ukzn.ac.za/campuses/ [Accessed 5 Apr. 2025].

Ushe, T. and Prah, E. (2024a). *Understanding COVID-19 vaccine hesitancy in South Africa*. [online] Availableat: https://scholar.sun.ac.za/server/api/core/bitstreams/20cc077f-2395-4aad-991d-e98a9f201122/content.

Van den Broucke, S. (2020). Why Health Promotion Matters to the COVID-19 pandemic, and Vice Versa. *Health Promotion International*, [online] 35(2). doi:https://doi.org/10.1093/heapro/daaa042.

van der Linden, S. (2017). Determinants and measurement of climate change risk perception, worry, and concern. *Oxford Research Encyclopedia of Climate Science*.

van der Linden, S. (2015). The social-psychological determinants of climate change risk perceptions: Towards a comprehensive model. *Journal of Environmental Psychology*, [online] 41(41), pp.112–124. doi:https://doi.org/10.1016/j.jenvp.2014.11.012.

van der Linden, S. (2021). Communicating climate change risk: A roadmap for theory and practice. *Trends in Cognitive Sciences*, 25(10), 891-901.

Vasileiou, K., Barnett, J., Thorpe, S. and Young, T. (2018). Characterising and Justifying Sample Size Sufficiency in interview-based studies: Systematic Analysis of Qualitative Health Research over a 15-year Period. *BMC Medical Research Methodology*, [online] 18(1), pp.1–18. doi:https://doi.org/10.1186/s12874-018-0594-7.

Volkmer, I. et al. (2021) Social Media & Covid-19: A global study of digital crisis interaction among gen Z and millennials, World Health Organization. *World Health Organization*. Availableat: https://www.who.int/news-room/feature-stories/detail/social-media-covid-19-a-global-study-of-digital-crisis-interaction-among-gen-z-and-millennials (Accessed: April 17, 2023).

Vraga, E.K. and Bode, L. (2020). Defining Misinformation and Understanding its Bounded Nature: Using Expertise and Evidence for Describing Misinformation. *Political Communication*, 37(1), pp.136–144. doi:https://doi.org/10.1080/10584609.2020.1716500.

Wang, B., Andraweera, P., Elliott, S., Mohammed, H., Lassi, Z., Twigger, A., Borgas, C., Gunasekera, S., Ladhani, S. and Marshall, H.S. (2023). Asymptomatic SARS- CoV-2 Infection by Age: A Global Systematic Review and Meta-analysis. *The Pediatric Infectious Disease Journal,* [online] 42(3), p.232.

Wasserman, H. and Madrid-Morales, D. (2022). The Messenger, the Message, and the Receiver: South African Government Communication During the COVID-19 Pandemic. *Springer eBooks*, pp.319–333. doi:https://doi.org/10.1007/978-3-031- 09230-5_16.

Wei, D., Xu, A. and Wu, X. (2019). The mediating effect of trust on the relationship between doctor–patient communication and patients' risk perception during treatment. *PsyCh Journal,* 9(3), pp.383–391. doi:https://doi.org/10.1002/pchj.327.

Weinstein, N. D. (1987). Unrealistic optimism about susceptibility to health problems: Conclusions from a community-wide sample. *Journal of Behavioral Medicine*, 10(5), 481-500.

WHO (2018). *Communicating risk in public health emergencies*. [online] www.who.int. Available at: https://www.who.int/activities/communicating-risk-in-public-health- emergencies.

WHO (2020). WHO Director General's remarks Launch of Appeal: *Global Humanitarian Response Plan* - 25 March 2020. [online] www.who.int. Available at: https://www.who.int/director-general/speeches/detail/who-director-general-s- remarks-launch-of-appeal-global-humanitarian-response-plan---------- 25-march-2020
[Accessed 5 May 2024].

WHO (2020). *Communicating risk in public health emergencies*. [online] www.who.int. Available at: https://www.who.int/activities/communicating-risk-in-public-health- emergencies.

WHO (2021). *Behavioural, cultural insights: how the pandemic has left youth behind* | PreventionWeb.[online] www.preventionweb.net.Availableat: https://www.preventionweb.net/news/behavioural-and-cultural-insights-shed-light- how-pandemic-has-left-youth-behind [Accessed 16 Aug. 2023].

WHO (2023). *Risk communication*. [online] World Health Organization. Available at: https://www.who.int/emergencies/risk-communications.

WHO (2024). *Strategic Advisory Group of Experts on Immunization*. [online] www.who.int. Available at: https://www.who.int/groups/strategic-advisory-group-of- experts-on-immunization.

Williams, S., Dienes, K., Jaheed, J., Wardman, J.K. and Petts, J. (2023). Effectiveness of communications in enhancing adherence to public health behavioural interventions: a COVID-19 evidence review. *Philosophical Transactions of the Royal Society A*, 381(2257). doi:https://doi.org/10.1098/rsta.2023.0129.

Willis, D.E. et al. (2021) "Covid-19 vaccine hesitancy among youth," *Human Vaccines & Immunotherapeutics*, 17(12), pp. 5013–5015. Available at: https://doi.org/10.1080/21645515.2021.1989923.

Witte, K., & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behavior*, 27(5), 591-615.

Wiyeh, A.B., Cooper, S., Jaca, A., Mavundza, E., Ndwandwe, D. and Wiysonge, C.S. (2019). Social media and HPV vaccination: Unsolicited public comments on a Facebook post by the Western Cape Department of Health provide insights into determinants of vaccine hesitancy in South Africa. *Vaccine*, 37(43), pp.6317–6323. doi:https://doi.org/10.1016/j.vaccine.2019.09.019.

Wiysonge, C.S. *et al.* (2022) "Community-based case studies of vaccine hesitancy and the COVID-19 response in South Africa; the VaxScenes study." Available at: https://doi.org/10.1101/2022.02.21.22271272.

Wood, B.H., Gardner, J., Leask, J. and Ecker, U.K.H. (2021). Toward effective government communication strategies in the era of COVID-19. *Humanities and Social Sciences Communications*, [online] 8(1), pp.1–11.

doi:https://doi.org/10.1057/s41599- 020-00701-w.

Wood, D., Crapnell, T., Lau, L., Bennett, A., Lotstein, D., Ferris, M. and Kuo, A. (2017). Emerging adulthood as a critical stage in the life course. *Handbook of Life Course Health Development*, [online] 1(1), pp.123–143. doi:https://doi.org/10.1007/978-3- 319-47143-3_7.

World Health Organization (2019). *Ten threats to global health in 2019.* [online] World Health Organization. Available at: https://www.who.int/news-room/spotlight/ten- threats-to-global-health-in-2019

World Health Organization (2021). *Adolescent Health*. [online] Who.int. Available at: https://www.who.int/southeastasia/health-topics/adolescent-health.

World Health Organization (2024). *Adolescents: Health risks and solutions*. [online] Who.int. Available at: https://www.who.int/news-room/fact-sheets/detail/adolescents- health-risks-and-solutions.

Wray, R., Rivers, J., Whitworth, A., Jupka, K. and Clements, B. (2006). Public Perceptions about Trust in Emergency Risk Communication: Qualitative Research Findings. *International Journal of Mass Emergencies & Disasters*, 24(1), pp.45–75. doi:https://doi.org/10.1177/028072700602400102.

Xu, M. and DiClemente, R. (2025). Risk Communication: A Contemporary Perspective. *International Encyclopedia of Public Health*, pp.127–134. doi:https://doi.org/10.1016/b978-0-323-99967-0.00118-6.

Xu, W., Li, Q., Ma, J., Wang, J., Xu, Q., Wu, X., Dong, Y., Zhang, M. and Mao, F. (2025). Health emergency preparedness behavior and its influencing factors among elderly people in the community of Qiqihar. *Geriatric Nursing*, 61, pp.203–209. doi:https://doi.org/10.1016/j.gerinurse.2024.10.057.

Yang, X.Y. et al. (2020) *"Risk perception of COVID-19 infection and adherence to preventive measures among adolescents and young adults,"* Children, 7(12), p. 311. Available at: https://doi.org/10.3390/children7120311.

Yie, D.L., Mageswaran Sanmugam and Ahmad, W. (2024). Utilizing 'Immersuasive' Technology in the Context of Safety Education. *Advances in*

educational technologies and instructional design book series, pp.110–135. doi:https://doi.org/10.4018/979-8- 3693-6397-3.ch005.

Yin, R. (2016). Case Study Research Design and Methods (5th ed.). Thousand Oaks, CA: Sage. 282 pages. *The Canadian Journal of Program Evaluation*, [online] 30(1). doi:https://doi.org/10.3138/cjpe.30.1.108.

Zar, W.T., Lochard, J., Taira, Y., Takamura, N., Orita, M. and Matsunaga, H. (2022). Risk communication in the recovery phase after a nuclear accident: the contribution of the 'co-expertise process'. *Radioprotection*, [online] 57(4), pp.281–288. doi:https://doi.org/10.1051/radiopro/2022031.

Zhang, H., Li, Y., Peng, S., Jiang, Y., Jin, H. and Zhang, F. (2022). The effect of health literacy on COVID-19 vaccine hesitancy among community population in China: The moderating role of stress. *Vaccine*,40(32). doi:https://doi.org/10.1016/j.vaccine.2022.06.015.

Zobel, F., Amani, A., Achangwa, C., Ajong, B.N., Minkandi, C.A., Mathilde, M., Linda, L., Essomba, J.P., Jiogue, R.C., Olivier Ndagijimana, O., Nchanji, N.E. and Danwang,

C. (2025). COVID- 19 vaccine uptake and its determinants in Cameroon: a systematic review and meta-analysis (2021–2024). *BMC Infectious Diseases*, 25(1). doi:https://doi.org/10.1186/s12879-025-10946-y.

Zuma, K., Simbayi, L., Zungu, N., Moyo, S., Marinda, E., Jooste, S., North, A., Nadol, P., Aynalem, G., Igumbor, E., Dietrich, C., Sigida, S., Chibi, B., Makola, L., Kondlo, L., Porter, S. and Ramlagan, S. (2022). The HIV Epidemic in South Africa: Key Findings from 2017 National Population-Based Survey. *International Journal of Environmental Research and Public Health*, [online] 19(13), p.8125. doi:https://doi.org/10.3390/ijerph19138125.

Appendices

Appendix I: Informed Consent Forms

Information Sheet and Consent to Participate in Research

Date:

Dear Sir/ Ma'am.

My name is Nontokozo Gwala with student number 222085828. I am a Master's student at the Centre of Culture, Communication and Media and Society (CCMS) in the School of Applied Human Science, College of Humanities, University of KwaZulu-Natal, Howard College.

You are being invited to consider participating in a study titled "**Investigating a youth- focused communication strategy to address vaccine hesitancy: A case study of Coronavirus Disease 2019**." The aim and purpose of this research is to investigate youth-focused communication strategies to address vaccine hesitancy among South African Youth. Using COVID-19 as a case study, this study will explore the youth's perceptions of the COVID-19 vaccine to understand their communication needs during public health emergencies. The study is expected to enrol 20 participants from the University of KwaZulu-Natal, Howard College Campus. The 20 participants will be divided into 2 groups of 10 participants each. Each group will participate in focus group discussions, which is the data collection technique chosen for this study. The focus group discussions will be conducted at the Memorial Tower Building (MTB) and are expected to be between 45 minutes and an hour. Furthermore, 6 key informants from the University of KwaZulu-Natal, Howard College Campus will be interviewed individually outside of the focus group discussions.

The study does not involve any risks or discomfort for participants. We hope that the study will create the following benefits:

1. Providing knowledge on the importance of youth-focused

communication strategies to address vaccine hesitancy.

2. Shining light on the communication needs of South African youth during public health emergencies.
3. Determining the communication strategies that can be used to address the youth's communication needs during public health emergencies.

Please note that:

1. The information you provide will be used for scholarly research only.
2. Your participation is voluntary. You have a choice to participate, not to participate or to stop participating in the research.
3. Your views in the focus group discussion will be presented anonymously. Neither your name nor identity will be disclosed in any form during the course of the study.
4. The focus group discussion will take about 45 minutes to 1 hour.
5. Light refreshments will be provided at the end of the focus group discussion in appreciation for your time.
6. The information you provide will be stored securely in the researcher's working space. The information will only be available to the researcher and the supervisor to access.
7. After this study is completed, the data will be stored securely for a maximum of five years. It is a hold time if further investigation, publishing procedures, or verification are required. After five years, all information, including transcripts and recordings containing personal information, will be permanently erased and destroyed in a way that ensures your privacy.
8. The researcher will create a link to share where you can access the study information once it has been completed.
9. If you agree to participate, please sign the declaration attached to this statement.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee.

In the event of any problems or concerns/questions you may contact the researcher at:

Email:

222085828@stu.ukzn.ac.za

Phone: [redacted]

or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville

Campus Govan Mbeki Building

Private Bag X

54001 Durban

4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

CONSENT

I_____have been informed about the study entitled "Investigating a youth- focused communication strategy to address vaccine hesitancy: A case study of Coronavirus Disease 2019" by Nontokozo Gwala.

I understand the purpose and procedures of the study.
I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at 222085828@stu.ukzn.ac.za.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville

Campus Govan Mbeki Building

Private Bag X

54001 Durban

4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za
I hereby provide consent to:
Audio-record my interview/focus group discussion YES / NO

_____ _____

Signature of Participant **Date**

_____ _____

Signature of Witness **Date**

Appendix II: Research Instruments

Focus group discussion questions

Research question 1: What are the perceptions of UKZN students regarding vaccines, using the COVID-19 pandemic as an example?

1. What do you know about COVID-19 vaccines?
2. What are your thoughts about getting vaccinated for COVID-19?
3. What influenced your decision to vaccinate or not vaccinate against COVID- 19?
4. Can you share your experience after choosing to vaccinate or not vaccinate?
5. From your interactions with people your age, what are some common opinions about COVID-19 vaccination, and have those views shifted over time?

Research question 2: What are the communication needs of South African youth during public health emergencies, based on their experiences with COVID-19?

1. How did you access information on COVID-19 vaccines at the time of it being offered?
2. Which sources of information did you find most helpful? Why?
3. Were there any sources of information you didn't trust or found confusing?
4. How did you check if the information you found was true?
5. What is the best way to share health information with people your age?

Research question 3: What communication strategies can effectively address the communication needs of South African youth during future public health emergencies?

1. What are your preferred ways to receive important health information?
2. What should be included in health messages to make them clearer and more useful for young people?

Key Informant Interview Questions

Research question 1: What are the perceptions of UKZN students regarding vaccines, using the COVID-19 pandemic as an example?

1. Based on your interactions, what do UKZN students generally know about COVID-19 vaccines?
2. How do you think students get their information about COVID-19 vaccines?
3. What are the most common views students hold about COVID-19 vaccination?
4. What influences their decisions to vaccinate or not?
5. How do students discuss COVID-19 vaccines among themselves?

Research question 2: What are the communication needs of South African

youth during public health emergencies, based on their experiences with COVID-19?

6. What platforms have you used to share COVID-19 vaccine information with students?
7. Which of these platforms worked well, and which didn't?
8. What challenges did you face in getting students to engage with the information?
9. What kind of vaccine information do students respond to the most?
10. What improvements do you think should be made to communication strategies in future health crises?

Research question 3: What communication strategies can effectively address the communication needs of South African youth during future public health emergencies?

1. What are the best ways to share health information with students today?
2. What should be included in health messages to ensure they are engaging and effective?

Appendix III: Coding Table

Theme	Sub-theme	Codes/ Categories
1. Uncertainties and perceived risks regarding COVID-19 Vaccines	• Fear of vaccine side effects • Perspectives about vaccine effect on immunity • Low self-risk perception • Concern for older or vulnerable populations	○ Personal experiences with unpleasant side effects ○ Observed health deterioration in others post-vaccination ○ Vaccine-related illnesses or death ○ Perception that vaccines weaken immune system ○ Scepticism about long-term vaccine effects ○ Low perceived personal risk vs. high vaccine fear ○ Concern for older generation
2. Information access, trust and vaccine communication gaps	• Influence of different information sources • Passive vs proactive information seeking • Trust in channels of information	○ Social media, News outlets, Friends and family, University communication ○ Waiting for information ○ Actively researching vaccines

		○ Confusion or uncertainty due to mixed messaging ○ Trust/mistrust in government, media, and university sources
3. Youth communication needs in public health emergencies	○ Clarity and consistency in communication ○ Contextually relevant and engaging messaging	○ Contradictory messages ○ Information overload and fatigue ○ Addressing youth-specific concerns ○ Desire for relatable communication
4. Strategies for future public health communication	○ Trusted messengers and youth-focused messaging ○ Institutional role and student engagement ○ Building vaccine literacy and confidence	○ Social media campaigns ○ Influencer engagement ○ Importance of student-friendly language ○ Need for more proactive university campaigns ○ Educational gaps in vaccine science ○ Accompanying information with emotional reassurance

Appendix IV: Gatekeeper Letter

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

2 July 2024

Ms Nontokozo Gwala (SN 222085828)
School of Applied Human Sciences
College of Humanities
Howard College Campus UKZN
Email: 222085828@stu.ukzn.ac.za GumedeM3@ukzn.ac.za

Dear Ms Gwala

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN), towards your postgraduate degree, provided Ethical clearance has been obtained. We note the title of your research project is:

"Investigating a youth-focused communication strategy to address vaccine hesitancy: A case study of COVID-19."

It is noted that you will be constituting your sample by conducting interviews, and/or focus groups with students as well as SRC Campus Chairperson, SRC Campus Student Support Services office, SRC Campus Residence Affairs officer, Heads of the Campus Health Clinic and members of the UKZN Campus Health COVID-19 "War Room" (Zoom, Teams or telephone interviews recommended) on the Howard College campus.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using the 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

[redacted]

MR MA TUFTS
Director Governance & Administration

Appendix V: Ethics Approval Letter



UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

01 November 2024

Nontokozo Zandile Bridget Gwala (222085828)
School of Applied Human Sc
Howard College Campus

Dear NZB Gwala,

Protocol reference number: HSSREC/00007527/2024
Project title: Investigating a youth-focused communication strategy to address vaccine hesitancy: A case study of coronavirus disease 2019.
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 19 August 2024 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

Incidents of adverse events and serious adverse events (AEs and SAEs) should be reported in writing to HSSREC, the study sponsors, and any regulatory authority (where appropriate), within 7 working days of the occurrence for local sites and 14 days for all other South African sites.

This approval is valid until 01 November 2025.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,

[redacted]

Professor Dipane Hlalele (Chair)
/nng

Humanities and Social Sciences Research Ethics Committee
Postal Address: Private Bag X54001, Durban, 4000, South Africa
Telephone: +27 (0)31 260 8350/4557/3587 **Email:** hssrec@ukzn.ac.za **Website:** http://research.ukzn.ac.za/Research-Ethics
Founding Campuses: Edgewood | Howard College | Medical School | Pietermaritzburg | Westville

INSPIRING GREATNESS

Appendix VI: Turnitin Report

Nontokozo Gwala

Gwala Final

Gwala Submission

Document Details

Submission ID
trn:oid:::2945:295978105

Submission Date
Jul 17, 2025, 2:35 AM GMT+2

Download Date
Jul 17, 2025, 2:58 AM GMT+2

File Name
Combined Copy 7.15 2.docx

File Size
477.8 KB

159 Pages

44,529 Words

270,172 Characters

turnitin Page 1 of 177 - Cover Page Submission ID trn:oid:::2945:295978105

12% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Small Matches (less than 8 words)

Match Groups

265 Not Cited or Quoted 8%
Matches with neither in-text citation nor quotation marks

198 Missing Quotations 5%
Matches that are still very similar to source material

1 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

3 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

8% Internet sources
4% Publications
9% Submitted works (Student Papers)

turnitin Page 2 of 177 - Integrity Overview Submission ID trn:oid:::2945:295978105