THE INFLUENCE OF INTERPERSONAL COMMUNICATION ON THE ADOPTION OF COVID-19 PREVENTIVE HEALTH BEHAVIORS AMONG YOUTHS IN INFORMAL SETTLEMENTS: THE CASE OF MAJENGO SLUMS, NAIROBI

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DECLARATION

I hereby declare that this research project is my original work and has not been submitted in part or whole to any other university for a degree or any other award.

Sign: .... Date: ...... November 15 2022..................

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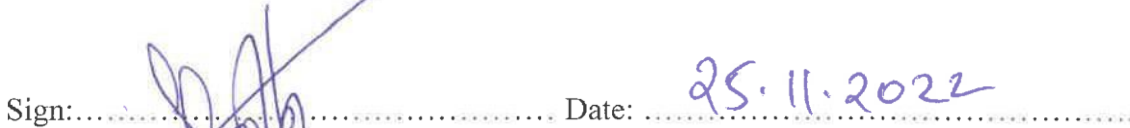
This research project has been submitted for examination purposes with my approval as the university supervisor.



Sign:... Date: 25.11.2022..

Prof. Hezron Mogambi

Supervisor

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DEDICATION

I dedicate this research project to my dad, Sebastian Njoka, for being passionate about education; My brother Justin Mwenda for his exceptional support; and to my son, Seth Murimi, for his love and unending support. May God bless you abundantly.

ABSTRACT

This study sought to analyze the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. Since the first case of Covid-19 was reported in the country in March 2020, over 5,600 people have died of the disease, another over 300,000 infected and billions of shillings worth of trade and jobs lost due to the pandemic. Despite efforts by the government and development agencies to get people to adhere to preventive measures many, especially in informal settlements did not. Literature suggests that social norms and other factors that determine behavior adoption can be influenced by interpersonal communication. This study, therefore sought to determine the factors which influenced interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements, analyze the relationship between interpersonal communication with family, friends, work colleagues, and community health volunteers and the adoption of Covid-19 preventive health behaviors among the youths, and analyze the relationship between the nature of interpersonal communication and the adoption of Covid-19 preventive behaviors among youths in informal settlements. Perceived own comprehension of the preventive behavior, perceived comprehension of the preventive behavior by others, among others, emerged as important factors influencing interpersonal communication on the adoption of Covid-19 preventive behaviors among the youths. Interpersonal communication with family, friends, work colleagues, and Community Health Volunteers was found to influence the adoption of preventive behaviors positively in that it increases the perception of the virus as a threat and makes the youths feel more susceptible to the virus. Threatening and rebuking the youths when discussing Covid-19 preventive behaviors was found to be counterproductive. The study recommends that interpersonal communication be utilized more in tackling Covid-19 in informal settlements.

Key words: Covid-19, Preventive health behavior, interpersonal communication

ABBREVIATIONS AND ACRONYMS

CHV	Community Health Volunteer
Covid-19	Coronavirus disease 2019
KEMRI	Kenya Medical Research Institute
MoH	Ministry of Health
SARS	Severe Acute Respiratory Syndrome
SCT	Social Cognitive Theory
SMS	Short Message Service
TTM	Transtheoretical Model
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.0 Overview

This chapter covers the background to the study, problem statement, research objectives as well as research questions. It also includes justification of the study, significance, scope and limitations of the study. Operational definition of terms has also been given in this section.

1.1 Background to the study

Studies show that interpersonal communication plays a big part in the formation of an individual's identity and behavior. It affects how people perceive risk and how they respond to preventive health behavior. It is one of the strategies recommended for impacting people's behavior response to health issues (Ndung'u et al., 2021). How effective interpersonal communication is in health programs varies based on the behavior being targeted as well as the individual's perception of risk. According to Melki et al. (2020), interpersonal communication is more effective in promoting the adoption of healthy habits compared to promoting the avoidance of unhealthy habits.

Over the years, interpersonal communication has been effectively used around the world to improve the effectiveness of health interventions. It is considered an important mediating factor in communication campaigns (Donne et al., 2017). Within Africa, a study carried out in Darfur, Sudan, by Adam et al. (2015) concluded that combining interpersonal communication with mass education campaigns resulted in more women using reproductive healthcare services. Locally, Ndung'u et al. (2021) observe that health programs by the Kenyan government underutilize interpersonal communication despite its proven usefulness, with health communication messages mostly passed via mass media.

When Covid-19 was declared a public health emergency of international concern in January 2020 and a pandemic two months later, many countries rushed to set up measures to combat the spread of the virus. For Kenya, the response involved urging people to observe preventive health behaviors such as washing hands, observing social distance, wearing face masks, and sanitizing hands. The effectiveness of this intervention was affected by, among other factors, interpersonal communication among the target audience.

While many scholars agree that interpersonal communication influences health behavior in individuals and communities, it is unclear how interpersonal communication influenced the

adoption of Covid-19 preventive behaviors among youths living in Kenya's informal settlements considering that the pandemic is so far the biggest health crisis of 21st century. There exists insufficient literature that explains how interpersonal communication influences the adoption of preventive health behavior in a health crisis of this magnitude. This study, therefore, focuses on the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements with a focus on Majengo slums, Nairobi.

1.2 Statement of the Problem

Since Covid-19 was first reported in the country in March 2020, over 323,000 Kenyans have contracted disease with more than 5,600 having succumbed to the virus (Ministry of Health, 2022). Billions of shillings worth of trade and jobs have been lost due to the pandemic. Preventive measures such as closure of schools, restrictions on movement, banning social gatherings, and placing a limitation on economic activities have affected the socioeconomic life of Kenyans. Many companies downsized their workforce resulting in loss of jobs and income (World Bank, 2021). The cost is even higher for more than 323,000 Kenyans who have contracted the virus so far. Barasa et al. (2021) estimates that the cost per day for an asymptomatic Covid-19 patient under homecare is Sh1,993.01. Daily unit cost for a patient with severe symptoms under the care of a general hospital is Sh13,137.07 while taking care of a critically ill patient admitted in an Intensive Care Unit in a similar hospital costs Sh63,243.11 daily. Additionally, the government has spent billions of taxpayer money putting up infrastructure such as isolation centers and oxygen plants to combat the virus.

Adherence to Covid-19 preventive health behaviors is key in combating the pandemic. However, there is evidence that many Kenyans are not adhering to preventive measures despite efforts by the government and development partners to encourage them to do so. Non-adherence to the preventive measures is especially rampant in Kenyan slums due to challenges such as overcrowding, abject poverty, and lack of basic amenities such as water and sanitation (Kibe et al., 2020; KEMRI, 2021; Jakubowski et al., 2021). Nairobi's Majengo slums, an informal settlement slum widely known for commercial sex work, was flagged as one of the estates in the city where youths flouted Covid-19 preventive measures to go about their normal economic activities, including sex work (Bhalla, 2020). Despite not being highly susceptible to Covid-19, youths too can spread the virus due their high mobility, low perceived susceptibility towards the

disease, and the fact that they are highly likely to be influenced by their social connections compared to older adults (Karijo et al., 2021).

Another challenge is that most top-down Covid-19 interventions by the government and its partners have ignored the robust social connections that exists in Kenya's informal settlements (Corburn et al., 2020). This is despite the fact that social connections heavily influence everyday decisions of people living in slums, hence, can influence adherence to Covid-19 preventive measures. Slum dwellers depend on their social connections to find day labor, access food on credit, and find trustworthy childcare, among others. They use these connections to share information, prevent themselves from exposure to diseases and improve their overall wellbeing.

From above, it is clear that the influence of social connections on the adoption of Covid-19 preventive health behavior is worth of further investigation. This study, therefore, sought to understand how interpersonal communication influenced the adoption of Covid-19 preventive health behaviors among youths living in Kenya's informal settlements before the mandatory wearing of facemasks was lifted in March 2022 with a focus on Majengo Slums.

1.3 Research Objectives

1.3.1 General Objective

To analyse the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths living in Kenya's informal settlements before the mandatory wearing of facemasks was lifted in March 2022.

1.3.2 Specific Objectives

The following specific objectives guided this study:

1. To determine the factors which influenced interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements before the mandatory wearing of facemasks was lifted in March 2022.

2. To analyze the relationship between interpersonal communication with family, friends, work colleagues, and community health volunteers and the adoption of Covid-19 preventive health behaviors among youths in informal settlements.

3. To analyze the relationship between the nature of interpersonal communication and the adoption of Covid-19 preventive health behaviors among youths in informal settlements.

1.4 Research Questions

1. What are the factors that influenced interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements before the mandatory wearing of facemasks was lifted in March 2022?

2. How did interpersonal communication with family, friends, work colleagues, and community health volunteers influence the adoption of Covid-19 preventive health behaviors among youths in informal settlements before the mandatory wearing of facemasks was lifted in March 2022?

3. How did the nature of interpersonal communication influence the adoption of Covid-19 preventive behaviors among youths in informal settlements before the mandatory wearing of facemasks was lifted in March 2022?

1.5 Justification of the Study

Covid-19 pandemic, the biggest health crisis of this century, has affected people both socially and economically. Many across the world have lost their lives as well as livelihoods. Figures from the Kenya National Bureau of Statistics (KNBS) show that over 1.7 million people lost employment in 2020 due to pandemic-related layoffs (Munda, 2020). People living in informal settlements have borne the blunt of the pandemic due to their disadvantaged socio-economic position and the fact that most of them work in the informal sector, a segment that was severely affected.

There is a need to understand better how to deal with a health crisis of this magnitude to prepare for the current and future pandemics. One way to attain this is by studying the influence interpersonal communication has on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. Interpersonal communication has significant impact on health outcomes. This is especially true in informal settlements where social connections play a huge role in decision-making among the slum communities.

Nairobi's Majengo slums, an informal settlement slum widely known for commercial sex work, has been flagged as one of the estates in the city where youths routinely flout Covid-19 preventive measures to go about their normal economic activities, including commercial sex work (Bhalla, 2020). Due to its proximity to the Central Business District and Gikomba Market where many of its residents eke out a living, the informal settlement is popular with youths, the target segment for this study. Youths were chosen for this study due to their high mobility and

perceived low susceptibility to Covid-19 which makes them potential spreaders of the virus. Additionally, youth have a high likelihood of being influenced by social connections. In light of this, Majengo Slums is a fertile ground for this kind of study.

1.6 Significance of the Study

By highlighting how influential family and friends in the adoption of health interventions, this study may help health sector policy makers to refine their health campaigns and utilize interpersonal communication more efficiently in health interventions. The findings of this study may help health communicators in Kenya gain a deeper understanding of how interpersonal communication can be utilized in dealing with a health crisis of the magnitude of the Covid-19 pandemic by revealing factors that influence interpersonal communication on the adoption of preventive health behaviors. By analyzing the influence of interpersonal communication among slum communities, this study may help development communicators implementing behavior change programs in informal settlements to come up with a more effective media mix for their programs.

1.7 Scope and Limitations of the Study

This inquiry centred on the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. The study considers theory contained in various literature and practice, through a survey and key informant interviews.

Data was collected from youths living in Majengo informal settlement in Nairobi who have lived within the slum for at least three months since the first Covid-19 case was reported in Kenya on March 13 2020. Youths were chosen as they are highly influenced by the opinions of family, friends and other significant people in their lives with whom they interact interpersonally. In this study, a youth is any person aged between 18 and 34 years.

This being an academic research project, the study limited itself to a maximum period of six months between May and October 2022. This period was selected as it falls within the 2-year period recommended by the University for a Master's degree program.

The study limited itself to a sample size of 71 participants. This number was informed by the recommended minimum sample sizes by Creswell (1998), Morse (1994), and Onwuegbuzie and Collins (2007), all as quoted in Onwuegbuzie and Collins (2007). Onwuegbuzie and Collins (2007) recommend a minimum sample size of 64 participants for a correlational design study while

Morse (1994) recommends a minimum of 6 participants for a phenomenological design. Creswell recommends 10 participants or less for a phenomenological design.

For the quantitative strand of this reserach, each of the five villages (strata) in Majengo slums produced 13 participants aged 18-34 years selected randomly, a total of 65 participants. Six key informants were purposively selected from within Majengo slums for the qualitative strand bringing the total sample size to 71. The six key informants were selected based on their immense knowledge on the subject matter. These included two youth group leaders (male and female), a community health volunteer, an administrator, a health professional, and a village elder. This sample size was chosen because it is an acceptable size for this kind of study and the researcher believed it was possible recruit the sample within the available time.

The researcher was guided by the philosophical assumptions of Pragmatism paradigm. He went for what the methodology he believed would work best for this particular study. Hence, this study limited itself to a mixed-methods design.

The researcher faced non-cooperation from some participants fearing that their confidentiality on the information they give will be breached. The researcher assured the respondents of confidentiality by assuring them that the work is strictly for academic purposes.

There was fear that the study would face interference from political activities considering that 2022 was an election year. The researcher avoided this by studying Majengo slums, an informal settlement that has a very low degree of political volatility.

1.8 Operational Definition of Terms

Covid-19: Coronavirus Disease 2019 (Covid-19) is a communicable respiratory disease caused by a new strain of coronavirus that causes illness in humans.

Education level: Education level refers to the highest extent of education one has attained such as primary school, high school, tertiary college graduate, university graduate, and advanced degree.

Gender: In this study gender refers to the two established social identities of male and female.

Informal settlement: A densely populated area without adequate sanitation, clean water, safe housing, and other basic services.

Interpersonal communication: The exchange of information, ideas and feelings between two or more people through verbal or non-verbal methods.

Preventive Health Behavior: This is any activity undertaken by an individual who believes himself to be healthy with the goal of preventing disease.

Youth: In this study, youth refers to a person aged between 18 and 34 years.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Overview

This section discusses literature relevant to the study. This includes: Covid-19 pandemic and its effects, Covid-19 messaging and the challenge of misinformation, Covid-19 in Kenya's urban informal settlements, Covid-19 Preventive Health Behaviors, factors that determine adoption of Preventive Health Behaviors, interpersonal communication and its use in behavior change, how interpersonal communication affects behavioral determinants, and factors that determine if a health message will trigger interpersonal conversations. It also includes theoretical review and conceptual framework.

2.1 Covid-19 Pandemic and its Effects

Coronavirus disease 2019 (Covid-19) is so far the most significant health crisis of this century. It is caused by the novel Severe Acute Respiratory Syndrome Coronavirus 2, SARS-COV-2, (Allegrante et al., 2020). Its most common symptoms are fever, fatigue, myalgia, dry cough, and dyspnea (Demirtas-Madran, 2021). The virus is highly transmissible and has a high morbidity and mortality rate. Due to these characteristics, the general public has shown higher levels of stress, anxiety, and depression associated with the pandemic (Yang et al., 2021). People have shown a higher level of worry and perceived risk towards Covid-19 compared to other infectious diseases such as swine flu. The disease affects individuals differently with older people above 58 years and those with intrinsic medical conditions more susceptible than the younger ones. While some people are able to survive an infection with little or no effects, others suffer serious complications including renal insufficiency and even stroke (Allegrante et al., 2020). Covid-19 survivors have reported long term sequela such as heart failure, kidney disease, pulmonary fibrosis, and psychological problems.

Announcement of the first case of Covid-19 in Kenya was followed by a rollout of various actions to contain the virus. Kenya's Risk Communication and Community Engagement (RCCE) strategy included strengthening the information management structures across various ministries, promoting public health campaigns, engaging all leaders to share dissseminate the right information, promoting participatory communication in the grassroots, developing the capacity of health workers, and ensuring tailor-made information on the virus for different target groups (Adebisi et al., 2021). Like other developing countries, Kenya's response to Covid-19 has faced several challenges. These include distrust in government among the people, weak

healthcare systems, widespread rumors and misinformation, resistance and inertia, as well as exclusion of some vulnerable groups.

2.2 Covid-19 Messaging and the Challenge of Misinformation

Communication can influence people's attitudes and behavior in response to a health problem hence the use of communication in combating Covid-19 (Ndung'u et al., 2021). To counter resistance to preventive behaviors, combat vaccine hesitancy and improve the adoption of preventive health behaviors, the government and various development agencies including the WHO and UNICEF developed communication targeting various audiences. Government Covid-19 messages were disseminated through a daily media briefing, media announcements, periodic presidential briefs, and community engagements conducted under the Kenya Covid-19 Health Emergency Response Project (C-HERP). Aswani (2021) identifies eight strategies Kenya used to rally the public to take up Covid-19 vaccines as well as adopt the recommended preventive behaviors. These are making available daily Covid-19 statistics and vaccination, leading by example, endorsing sentiments by experts, making use of influencers, and adopting an empathetic posture in its messages. Other strategies included reducing medical jargon and statistics in its communication, collaborating with the media to pass government messages and compelling some groups, such as civil servants, to seek the jab and abide by the work from home directive.

A pandemic causes massive uncertainty fear and anxiety, hence, there is need to reduce that panic and encourage preventive behavior through communication (Sauer et al., 2020). Effective risk communication enhances how well people comprehend health threats and the masses make informed decisions to mitigate the risks. Poor communication, on the other hand, often escalates public concern making groups polarized. According to Hanafiah et al., (2021), communication sets the scene for to the public to buy into health interventions and observe precautions over time. It helps increase acceptance for new tools targeted at the masses such as vaccines. Hence, strategies to combat a pandemic such as Covid-19 must involve communication. Communication should be rapid and accurate and one that builds credibility and trust while at the same time showing empathy. Effective Covid-19 communication should support people in conceptualizing risk and the reasons for behavior change (Hanafiah et al., 2021). It should help create acceptance for protective social norms striking a balance between urgency and anxiety as well as help the public to make appropriate choices.

According to Gantiva et al. (2021) both gain-framed and loss-framed messages were used in promoting the adoption of Covid-19 preventive health behaviors globally. Gain-framed information is better at motivating people to engage in preventive behaviors while loss-framed information is better at heightening risk awareness. Motta et al. (2021) identifies three messaging frames used on Covid-19 vaccination communication. These are messages underscoring the personal risk of not getting vaccinated, messages underscoring the collective effects of not getting vaccinated, and messages showing the economic perils of failing to get vaccinated. In handling communication of health issues, five frames are commonly used. These are disease detection, disease prevention, healthcare services, scientific advances and lifestyle risk factors. Other frames commonly used in communicating about Covid-19 and motivating individuals to adhere to preventive health behavior include framing the disease as a war and the virus a monster that needs to be eliminated (Wicke & Bolognesi, 2020).

One key challenge facing communication on Covid-19 and messages promoting the adoption of preventive health behaviors is rumors and misinformation. According to Tasnim et al. (2020), Covid-19 pandemic has seen a surge in rumors, hoaxes, and misinformation on things such as the etiology, outcomes, prevention, and cure of the disease. Misinformation has made it harder to promote healthy behaviors while at the same time promoting unhealthy practices which results in the spread of the virus and poorer outcomes for those affected. According to Tasnim et al. (2020), widespread misinformation on Covid-19 has served to confuse the general population, reduce the legitimacy of new scientific discoveries on the disease, and increase stigma resulting in reduced compliance with preventive measures such as quarantine and self-isolation. It has resulted in the erosion of public trust in government yet dealing with a pandemic requires that people comply with key public health measures such as quarantine and self-isolation. WHO has said that in addition to fighting the pandemic, it is also fighting another disease, an infodemic. An infodemic refers to the influx of information, both accurate and false, making it harder for individuals to access reliable information upon which to make a decision (Porat et al., 2020). An infodemic makes it harder for people to adhere to government recommendations, hence, it can increase distress and the risk of developing mental illnesses.

Thanks to social media, myths and misconceptions are spreading faster than the scientifically proven information. Worse still, influential people such as politicians, celebrities,

and the media are also propagating misinformation. According to Porat et al. (2020) the pandemic is rife with messaging that is inconsistent, ambiguous, and contradictory. Polarizing views on big pharma, conspiracy theories, high profile denouncements of vaccines, and other interventions have been shared widely on social media and the internet increasing resistance to interventions and hesitancy towards vaccines even in countries with a high disease burden (Hanafiah et al., 2021). Generally, there lacks messaging that is clear, actionable, credible and trustworthy leaving a void that some people fill with misinformation. Considering the huge role computer-mediated communication plays in interpersonal communication, misinformation from social media ends up getting shared from person to person.

2.3 Covid-19 in Kenya's Urban Informal Settlements

Kenya's urban informal settlements have a higher likelihood of Covid-19 infection because they lack amenities such as proper housing, clean water, and sanitation. The settlements are overcrowded making measures such as social distancing, quarantine, and isolation almost impossible (Austrian et al., 2020). The informal settlements are characterized by a high population density, small informal dwellings, and multi-generational households. Sanitation facilities are shared among several households. Open defection is not uncommon. The slums constantly experience poor health outcomes due to the unfavorable environmental conditions and the fact that most of residents cannot afford proper medical care.

Approximately 60 to 70 per cent of Nairobi's 4 million residents live in urban slums. Well known slums in Nairobi include Kibera, Mathare, Korogocho, Mukuru, Soweto, Kawangware, and Majengo. According to Austrian et al. (2020) slum dwellers in Nairobi have a higher mortality rate compared to other slums and are more susceptible to economic shocks as most of them rely on the volatile informal sector for income. There exists a correlation between health in the informal settlements and poverty, a situation worsened by the fact that the pandemic was both a health and economic crisis. Ordinarily, slum dwellers face higher viral infection rates than people who do not live in slums. Despite the poor conditions in the slums, a study by Quaife et al. (2020) found that the measures instituted reduced physical contact in Kenya's informal settlements by 62 per cent and non-physical contact by about 63 per cent. People in the lower socioeconomic segments reported more contact compared to slum dwellers in higher socioeconomic segments.

People living in Kenyan slums receive their information on Covid-19 from a wide range of sources. These include government communication via TV, SMS and radio advertisements, ordinary TV and radio programs, friends, acquaintances and neighbors, family, work colleagues, spouses and the church (Austrian et al., 2020). They also receive information from social media and internet sources such as Facebook, Twitter and snapchat. Other sources of information in the slums are health facilities, non-governmental organizations, community health workers, community meetings, print media, public announcers, and traditional healers.

Interpersonal communication plays a key role in how people in Kenya's informal settlements access information about Covid-19. In a study by Austrian et al. (2020) approximately 66 per cent of people living in Kenyan slums said they receive information on Covid-19 from friends while over 50 per cent of them said they receive it from acquaintances, neighbors, and family members. Over 40% of the respondents said they receive information on Covid-19 from social media and internet sources. Government advertisements (via radio, TV and SMS) emerged the main source of information on Covid in the slums followed by TV and radio programs. In terms of trust, government sources emerged the most trustworthy sources followed by radio and TV programs. Friends and neighbors ranked low in trust with family ranking slightly than better than the two but still lower than government sources, media, NGOs and heath service providers. These interpersonal sources of information, however, are used by over 60 per cent of slum dwellers compared to health professionals who are used as a source of information by only about 20 per cent of the slum dwellers.

2.4 Covid-19 Preventive Health Behaviors

Preventive health behavior is any activity undertaken by an individual who believes himself to be healthy with the goal of preventing disease. Preventive behaviors combine beliefs, attitudes, and experiences that encourage individuals to take action to maintain or better their health status (Surina et al., 2021). These behaviors are essential to curbing the spread of an infectious disease, from both individual and public perspective (Li & Liu, 2020). Adherence to preventive measures by individuals is a key component of effective disease management, hence, enactment of these measures by the government is necessary and justified.

To stem the spread of Covid-19 in the country, the government announced several precautions individuals should take. These included washing hands with soap frequently,

sanitizing hands, wearing a face mask when going outside, avoiding crowded places, and maintaining a distance of 1.5 meters from other people (social distancing). Other measures included avoiding touching the mouth, eyes, and nose and staying at home to avoid unnecessary contact with other people (Quaife et al., 2020). People were encouraged to constantly disinfect surfaces and cough into their elbows to reduce chances of transmission. Social gatherings, religious gatherings, and even schools were temporarily banned to stem the rate of transmission. Entertainment joints were closed, and weddings and funerals limited to a few people to limit contact between individuals. Inter-county travel was banned for counties that posted high rates of infection such as Nairobi and Mombasa. All people were encouraged to work from home except for essential workers such as health professionals and police officers. International flights were banned to reduce chances of outsiders bringing in the virus. Asnakew et al. (2020) identify three categories of Covid-19 preventive behaviors. These are hygiene practices and using personal protective equipment, travel avoidance, and social distancing. Despite the important role played by these measures, many people, especially in low-income urban areas, routinely flouted them forcing the government to take enforcement measures such as arresting those who do not wear facemasks, those found in social gatherings, and those found flouting cessation of movement orders.

The introduction of preventive control measures, although helpful, affected slum dwellers' way of life in a significant way. Quaife et al. (2020) found that Covid-19 preventive control measures in Kenyan informal settlements, reduced social contact by between 62 and 67 per cent. While they reduced disease transmission, they also caused considerable food and economic insecurity with 86 per cent of respondents in the study reporting either partial or total income loss due to the measures. Quaife et al. (2020) concluded that measures which constrain the ability of slum dwellers to eke a living are impractical in the long term unless other social protection measures are introduced.

2.5 Factors that Determine Adoption of Preventive Health Behaviors

Perceived efficacy, perceived norms, and perceived threats have been identified as key determinants of preventive health behavior (Friemel & Geber, 2021: Werle, 2011: Rozendaal et al., 2021). There are two types of efficacies, response efficacy and self-efficacy. Response efficacy refers to the perceived ability of a health behavior to reduce the targeted health risk while self-efficacy concerns one's perceptions about his capacity to perform the preventive

behavior. Perceived norms can be either descriptive or injunctive. Perceived descriptive norm refers to the perception of how prevalent a behavior is within a social group (what is done) while perceived injunctive norm refers to the perception of how acceptable a behavior is by others within the social group (what ought to be done). Threat has two aspects, severity and susceptibility. Severity is concerned with the gravity of a negative health outcome such as a disease while perceived susceptibility has to do with one's perception of the probability that he might be affected by a negative heath outcome such as a disease.

Individuals engage in preventive behavior after analyzing the consequences of so doing, assessing the perceived risk of the disease being prevented and evaluating their own self-efficacy – the ability to develop the targeted behavior. The impact of efficacy on preventive behavior is influenced by other factors such as emotions related to having a previous experience with the targeted preventive behavior. For example, an obese person who unsuccessfully used dieting to reduce weight may doubt her ability to diet again. Individual characteristics such as temporal orientation and future time perspective also influence an individual's decision to engage in a preventive health behavior (Werle, 2011). Future-oriented people have a higher probability of adhering to preventive health behavior as they are forward looking, always looking for change and opportunities for personal development. This can be contrasted with past-oriented individuals who are reactive and more resistant to external stimuli.

Werle (2011) gleaned four theories that explain preventive health behaviors and came up with six key determinants of preventive behavior. These are perceived vulnerability, perceived severity, perceived benefits, perceived barriers, self-efficacy, and subjective norms. The theories Werle (2011) gleaned are Health Belief Model, Protective Motivational Theory, Theory of Reasoned Action and Theory of Planned Behavior. Health Belief Model posits that health behavior is influenced by six factors (Werle, 2011). These are (1) perceived susceptibility- how likely an individual believes he is to contract a disease, (2) Perceived severity – perception of how serious the disease is likely to be if one catches it, (3) Perceived benefits – perception about potency of the preventive behaviors in lessening the threat of the disease, (4) perceived barriers – perceived adverse aspects of a preventive behavior e.g., time consuming, (5) Cues to action – internal (e.g. breathlessness) and external reminders (e.g. advice by friends) about the existence of a disease and (6) Self efficacy – an individual's confidence in his ability to carry out a

behavior. The model is based on the idea that individuals critically analyze the benefits and effects of a preventive health behavior before deciding whether to engage in it or not. Protection Motivation Theory posits that one conducts both threat appraisal and coping appraisal before deciding on whether to perform a preventive behavior or not. The current version of the theory has seven sub-constructs organized into two appraisal pathways, threat and coping appraisal pathways (MacDonnel et al., 2013). The threat appraisal pathway consists perceived threats (comprising severity and vulnerability), and perceived rewards (comprising intrinsic and extrinsic rewards). Coping appraisal pathway, on the other hand consists perceived efficacy (comprising self-efficacy and response efficacy) and perceived costs (comprising response costs). Theory of Planned Behavior, developed from the Theory of Reasoned Action, has six constructs that can be used to explain behavior change (Werle, 2011). These are (1) behavioral intention – if one has strong intentions to perform a behavior the more likely he is to perform it (2) attitude towards the behavior, (3) subjective norm- pressure from the society to either perform or not perform a behavior (4) Perceived behavioral control – an individual's perception of ease of performing a behavior (5) Social norms-customary codes of behavior (normative) in a social group (6) perceived presence of factors that may impeded or facilitate carrying out a behavior.

According to Rozendaal et al. (2021) perceived threat involves what an individual perceives the magnitude and immediacy of the danger to be and includes both perceived severity and perceived susceptibility. For instance, a youth who does not believe that the virus is a significant problem (threat) is unlikely to observe social distancing. If he believes that he is unlikely to catch the virus even if it is a serious disease (susceptibility) he is again unlikely to observe social distancing. In terms of perceived efficacy, an individual will not engage in a preventive behavior unless he believes that engaging in that behavior, say social distancing, will result in a reduction of health threat (response efficacy) and that he has the ability to carry out the recommended behavior (self-efficacy). The behavior of an individual is also influenced by the social norms practiced within his environment. An individual's behavior, hence, is influenced by his perception of what others in his social environment are doing (descriptive norm) and what he thinks others approve of (injunctive norm). Rozendaal et al. (2021) observe that young people are especially respect the opinions of their peers and friends, hence, are likely to be influenced by

social norms. For instance, a young person whose peers and friends do not wear face masks is likely to also not wear them.

Gender and trust in government authorities have also been identified as some of the factors influencing adoption of Covid-19 preventive health behaviors. According to Bronfman et al., (2020), men are less likely to adopt preventive behavior compared to women. They have shown lower rates of handwashing, using facemasks, and social distancing. The two genders are different in how they perceive risk, worry and fear with women generally having a higher risk perception than men. This is mostly due to socially constructed gender differences such as the woman's societal role as a care giver. Bronfman et al., (2020), observe that despite the fact that women generally have a lower trust in government authorities compared to men, they have a higher adoption rate for preventive behaviors.

Surina et al. (2021) identifies Covid-19 threat appraisal, trust in one's sources of information, fear of the disease, belief in conspiracy theories, and sociodemographic variables as important predictors of an individual's Covid-19 preventive behavior. Sociodemographic variables include gender, age, education level, and employment status. Of these variables, threat appraisal was found to be the biggest factor. While fear appeals, such as perception of severity and susceptibility, are widely used in behavior change their use could result in negative outcomes such as distrust in government authorities, skepticism about preventive behavior messaging and even refusal to take up recommended behaviors (Stolow et al., 2020). Other consequences of using fear appeals include target individuals developing the feelings of denial, anxiety, helplessness, defensiveness and even an increase in risk behavior. Hence, there is need to balance between threat and efficacy in messaging about preventive behaviors.

2.6 Interpersonal Communication and its Use in Behavior Change

Interpersonal communication can be defined as the process by which individuals exchange ideas, feelings and meaning verbally and non-verbally either face to face or in a mediated form (Lotulya et al., 2018). It involves a dialogue that is personal, direct, and intimate between two people conducted either face to face or via information and communications technology. Interpersonal communication is a fundamental skill in life, one which humans require to thrive. According to Lotulya et al. (2018) it is one of the oldest and most used health interventions. It is inescapable, irreversible, complicated, and contextual. In everyday life, people communicate

with one another via words, tone of the voice, gestures, posture, as well as facial expressions. It helps people to convey messages, come to a mutual understanding, and work towards a common goal. While it sounds simple, interpersonal communication is complicated by the fact that words and nonverbal cues may have different meanings to many people. While most people learn new ideas from mass media, they turn to interpersonal communication to progress from just knowing to trying and practicing the new behavior. Interpersonal communication influences social norms, one of the main determinants of preventive health behaviors.

Some common barriers to interpersonal communication include time constraints, cultural factors, differences in age and gender, language difference, education difference and the environment in which the interaction is taking place (Otteng et al., 2020). Effectiveness of interpersonal communication is also affected by the various contexts in which it is carried out, according to Lotulya et al. (2018). These include psychological context- the mood and emotions of the sender, relational context- the familiarity between the sender and the receiver, situational context – where the event is happening public or private, and cultural context- norms and cultures of different people.

Interpersonal communication is used in many and varied health interventions. It is used in creating health awareness, knowledge, promoting behavior change, encouraging adoption of preventive behavior, encouraging adherence to treatment, and lessening stigma (Melki et al., 2020). It is commonly used in behavior change programs, a key component in health promotion and disease prevention (Ndung'u et al., 2021). Most behavior change programs employ participatory communication, hence interpersonal communication is a good fit because it is interactive and can be used to unpack technical information to develop behavioral skills and increase the intention to act. Interpersonal communication is commonly employed in maternal and child survival programs, HIV AIDS prevention, family planning, encouraging prostate cancer screening, nutrition programs as well as in hygiene and sanitation projects. For example, Halperin et al. (2011) attributes the reduction of HIV cases in Zimbabwe primarily to interpersonal communication about the disease. In patient-provider interactions, interpersonal communication is used to promote health awareness, increase knowledge, stimulate behavior change, adopt preventive measures, reduce stigma and encourage patients to adhere to treatment (Melki et al., 2022). Interpersonal communication campaigns have proven effective in engaging

targeted communities and patients to tackle diseases such as Malaria. However, an intervention's effectiveness may vary depending on the behavior being targeted and how an individual perceives risk (Melki et al., 2020).

During the Covid-19 pandemic, interpersonal communication has been taking place through interaction between peers, interaction between health service providers and clients, text messages, phone calls, and information shared to individuals via social networks. It takes place in various settings such as in home, in health facilities, as well as in small groups such as a family. According to Melki et al. (2020) interaction between mass media and interpersonal communication has played a key role in fighting the virus with the interpersonal conversations that emerge from mass media messages helping make media campaigns a success. Interpersonal communication about health issues raised in the media have helped reduce uncertainty, provide emotional support to individuals, and encouraged them to seek more information about the pandemic. Interpersonal conversations have given individuals an opportunity to digest the complicated health information and reach decisions that are in line with their social contexts and expert opinions. Discussing Covid-19 messages shared via mass media in interpersonal conversations has enabled individuals to create personal relevance of the information. One major advantage of interpersonal communication over say mass media is that information can be targeted at individual receiver. According to Ezeah et al. (2020) interpersonal communication can play a major role in improving awareness levels and inculcating behavior change, hence, should form the bedrock of health promotion media mix. However, biased interpersonal communication can influence an individual's preventive behavior negatively resulting in poor health outcomes.

Advancements in technology have seen interpersonal communication increasingly take place via information and communication technologies in addition to face-to-face. Covid-19 preventive measures such as movement restrictions, restrictions on gatherings, working from home, and curfews have seen more people depend on computer mediated communication for their interpersonal interaction. Interpersonal communication is increasingly taking place through platforms such as Short Message Service (SMS), and social media platforms such as Facebook, Twitter, and WhatsApp. Other technologies used for interpersonal communication especially after the onset of Covid-19 include videoconferencing facilities such as Cisco Webex, Zoom, and

Google Meet. According to Kibe & Kamunyu (2014) computer mediated communication can be viewed as another way in which people are broadening relationships without the traditional limitations of time and space. Internet has made broader ways in which people can create relationships.

Even prior to Covid-19 public health officials have been using information and communication technologies to reach out to individuals and the general public. SMS, for instance, is used to increase user attendance in health appointments, tackle misinformation, offer psychological support remotely, and improve therapeutic compliance. How one makes decisions about their health is strongly influenced by what they read online (Arghittu et al., 2021). This in turn influences what they share with their own friends and family. According to Deglise et al. (2012) the use of SMS in heath interventions has significant implication for diseases prevention especially in developing countries. Mobile phones are now easy to acquire and can be maintained affordably making use of SMS in interpersonal communication convenient especially in areas with slow internet connection. Most of the information shared via ICT platforms eventually ended up being shared at an interpersonal level either via the same medium or face to face.

Social media plays a crucial role in how people perceive risk, the decisions they make afterwards, and what they share in their interpersonal conversations. It is widely used to share opinions and perceptions regarding public health events, policies, and interventions (Tsao et al., 2021). Social media has immense influence on human behavior, it influences human attitudes as well as decision making (Wong et al., 2017). People normally use it to connect with family and friends, an influential group in personal decision making. Governments, organizations use these platforms to disseminate information about Covid-19 which individuals then pick up and discuss amongst themselves in interpersonal contexts. The pandemic has resulted in an increased consumption of all media forms. However, information on social media is user generated, hence, can be subjective, inaccurate, and misleading. Often times information on social media is about misinformation and conspiracy theories. Messages shared via these platforms can be deceitful and dishonest. While many are attracted to computer mediated interpersonal communication due to its convenience, ease of use, and cost-effectiveness, the downside is that it has been found to reduce face-to-face communication (Kamal et al., 2022). Additionally, computer-mediated

interpersonal communication lacks non-verbal cues such as gestures and posture and this can jeopardize the quality of communication. Immediate feedback is not guaranteed, unlike in face-to-face communication. While social media has facilitated communication, it has made frequent users desire face-to-face communication less, according to Kamal et al. (2022).

2.7 How Interpersonal Communication Affects Behavioral Determinants

Interpersonal communication can directly trigger a person to perform a preventive behavior but can also do so by changing the determinants of behavior change i.e perceived threat, efficacy and social norms (Rozendaal et al., 2021). Interacting with Covid-19 information through communication, including interpersonal communication, can inform individuals what others in their social environment are doing, hence, what others in the society approve or disapprove so far as Covid-19 containment is concerned. Through communication, one may get to know the tally of Covid-19 deaths which influences his perception of how severe the virus is and how susceptible he is to it. Through communication, an individual may get to hear of effective a measure such as sanitizing is against Covid-19 which changes his perception of the efficacy of the intervention resulting in him deciding to perform it.

Having an informal chat with family and friends about health issues can influence behavior determinants in well beyond mere information acquisition (Donne et al., 2017). It can culminate in heightened risk perception, influence one's attitude towards health behavior, as well as help one to discover norms that are dominant within his social environment. Additionally, interpersonal communication provides individuals with social support and helps reduce stigma and taboo by loosening normative constraints. Donne et al. (2017) observe that many health messages passed via mass media are consumed in an interpersonal communication media context. Hence, interpersonal communication serves to link health campaigns to actual health behavior. Based on this, there is need for public health campaigns to seek to trigger interpersonal conversations.

2.8 Factors that Determine if a Public Health Message Will Trigger Interpersonal Conversations

According to Jansen & Janssen (2010), one of the factors that determine if a public health message will trigger interpersonal conversation is the individual's perceived comprehension of the message. They argue that interpersonal dialogue about a public message occurs when an individual assumes that he understood the public message and that others in his social group do

not. By giving others what he believes is the right interpretation, one hopes to demonstrate intelligence and impress peers. Perceived comprehension is different from actual comprehension. Perceived comprehension refers to the extent to which one thinks he understands the message while actual comprehension refers to the extent to which one understands the message as intended by the communicating entity.

An individual is also likely to start a conversation about a public campaign message if he feels it will strengthen the mutual group identity (Jansen & Janssen, 2010). This occurs if members in a group agree on what is a hot topic and what is not. Strengthening of the mutual group feeling occurs if the individual introducing the topic feels that members of his group, himself included, understand the public message and that others outside the group do not.

According to Lubinga et al. (2014), some of the factors that predict whether one is willing to discuss a public health message with friends include perceived comprehension of the message by friends, perceived personal relevance, and perceived own comprehension. Perceived personal relevance refers to the extent to which one feels that the message relates to his personal circumstances. Lubinga et al. (2014) found that people want to discuss public health messages which their partners understand and messages that are relevant to their own situation. They found that people are more likely to have a dialogue about a health message if they perceived both themselves and their dialogue partners to have a high comprehension of the message.

Donne et al. (2017) carried out an exploratory study to establish factors which influence interpersonal health communication without a prior trigger from public campaign messaging. They identified six categories of factors. These are (1) The type of communication behavior, (2) Communication objective, (3) Health theme, (4) Conversation partner, (5) participant characteristics, and (6) conversation context. How the last five factors above influence a health interpersonal communication varies depending on the first factor i.e the type of communication behavior being used. The communication behaviors people employ in health conversations include: admonishing the conversation partner regarding his health behavior, casual talk about a health issue, educating a conversation partner about a health issue, and negotiating about a health issue to reach an agreement about a behavior (Donne et al., 2017). For instance, if one is admonishing an individual for smoking, the factors he might consider in this interpersonal health conversation are health theme, characteristics of the partner, and who the conversation partner is.

If one is engaging in a casual conversation about a health issue with his conversation partner, factors that will influence this interpersonal conversation are communication objective, health theme, conversational partner, and the conversational context.

2.9 Theoretical Review

This study was guided two theories: Transtheoretical Model and Social Cognitive Theory. Transtheoretical Model identifies and explains the stages and processes an individual goes through during behavior change. It views behavior change as a process as opposed to an event. Social Cognitive Theory, on the other hand, explains how behavioral, personal, and social determinants interact to influence the behavior of an individual. The two are widely used in health programs that involve behavior change.

The two theories were chosen because they both are concerned with adoption and maintenance of new behavior. According to literature, many residents of informal settlements are not adhering to Covid-19 preventive health behaviors despite the fact that so doing is crucial in combating the pandemic. Worse still, many government interventions have ignored the robust social connections that slum communities rely upon for survival. Hence, the influence of social connections on the adoption of Covid-19 preventive health behavior is worthy of further investigation. These two theories are well placed to guide this study which sought to analyze the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths living in Kenya’s informal settlements. Social Cognitive Theory helped the study to establish a link between social norms and the adoption of Covid-19 preventive behaviors. Transtheoretical Model, on the other hand, helped the study to establish a link between the level of Covid-19 preventive behavior awareness and individuals’ adherence to recommended preventive behaviors.

The two theories complement each other with Transtheoretical Model breaking down the behavior change process into stages while Social Cognitive Theory gives a heavy focus on the influence of social factors on behavior change. The two theories combined give a more complete picture of the issue under study than a single theory would.

2.9.1 Transtheoretical Model

Transtheoretical Model (TTM) is a model of intentional change that explains how people modify their behaviors. It focuses on an individual’s decision-making ability as opposed to how social

and biological factors influence behavior change (Lenio, 2006). The model was developed by Prochaska and DiClemente in the late 1970s and integrates constructs from other behavior change and psychotherapy theories. It posits that behavior change occurs over time unlike most other theories which view behavior change as happening in one instance. The main constructs of the theory are: the stages of change, the process of change, self-efficacy and decisional balance.

According to the theory, one goes through six stages when changing behavior, the sixth stage was added later. The first stage is called precontemplation. At this stage, an individual has no intention of taking any action to modify his behavior in the next six months. At this stage one is unaware of the negative effects of his bad behavior or may have tried changing behavior and failed and has no intention of trying again. People in this stage are resistant to recognizing or altering their problem behavior (Lenio, 2006). To move from this stage, one needs to first experience cognitive dissonance and acknowledge that he has a problem. The second stage is called contemplation. People in this stage are those who intend to make a change in their behavior within the next six months. In this stage individuals usually weigh the advantages and disadvantages of making the change, a fact that makes many remain in this stage for long periods of time a phenomenon called chronic contemplation. Here one still practices the bad behavior but acknowledges that it is causing him problems (Lenio, 2006). At this point one is considering changing behavior. The third stage is called preparation. At this point, one is planning to alter behavior in the next one month. He might have taken some action within the last one year but still practices the risky behavior. He may not know how to move on to effect the changes and is could be uncertain about his ability to effect those changes. One only moves to the next stage once he has chosen a plan of action he feels will work and follows through with it (Brug et al., 2005). The fourth stage is called Action. At this stage, one has made some efforts to alter his behavior within the last six months. This stage requires a lot of commitment. The efforts one is making are visible at this stage. However, this should not be confused with actual behavior change. The fifth stage is called maintenance. Here, an individual works, to secure the gains made in the previous stage and prevent a relapse of the risky behavior (Lenio, 2006). At this point one is less tempted to relapse and is quite confident about his ability to participate in the new behavior for more than six months. The sixth stage, called termination, was not part of the original model but was added later. It is rarely used in the application of the model in behavior change programs. At this stage, an individual has no desire to return to the risky behavior and is

sure he will not relapse. Very few people reach this stage with most remaining in maintenance stage.

According to the Transtheoretical Model, the process of change involves 10 processes. The first five stages are involved in the early stages of behavior change (experiential) while the other five stages are involved in the later stages of change (behavioral). The first five are: consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-reevaluation. The other five are: stimulus control, helping relationship, counter conditioning, reinforcement management, and self-liberation (Lenio, 2006).

In consciousness raising, one needs to increase his awareness of the negative effects and solutions to the problem behavior. It is possible to increase awareness through educating the individual, giving him feedback, confronting him, interpreting information for him and carrying out media campaigns (Brug et al., 2005). In the second process, dramatic relief, one needs to experience and make known his feelings about the problem behavior as happens when a loved one dies of the said behavior. An individual can be moved emotionally through the use of psycho-drama, role playing, personal testimonies and media campaigns. The third process, called self-reevaluation, involves an individual assessing the way he feels about the risky behavior. It is most important when one is transitioning from contemplation to preparation stage. Self-reevaluation can be attained by having role models, clarification of values and having a corrective emotional experience (Brug et al., 2005). In the fourth process, environmental reevaluation, one considers how presence of the risky behavior affects his social environment. One can assist an individual go through this process by training him on empathy, family intervention and use of documentaries. The fifth process, self-liberation, involves the individual believing that he can change the risky behavior and committing to take action. Techniques to achieve this include making new year resolutions and offering him multiple choices as opposed to one. The sixth process, social liberation, refers to the need to increase opportunities for non-risky behaviors. This can be attained through empowerment and policy interventions. Counterconditioning, the seventh process, requires that one learns to substitute risky behaviors with healthy ones. One can enhance counterconditioning by relaxing, becoming more assertive, and making positive self-statements among others (Brug et al., 2005). Stimulus control, the eighth process, involves removing stimuli that encourage risky behavior and replacing it with

those that encourage healthy behavior. One can support this process by avoiding triggers, joining a self-help group and restructuring his environment. The ninth process, contingency management, involves providing punishment and rewards for engaging in risky and healthy behaviors respectively. However, reward is more emphasized than punishment. These include things like self-reward and group recognition. The tenth process, helping relationships, involves helping one to open up and trust those helping him to change the risky behavior. Such help can be found from support groups, counsellors, and other social support systems.

Self-efficacy refers to how one perceives his ability to act on a risky behavior. It affects behavior change and is important for one to move through the upper stages of change (Brug et al., 2005). One's self efficacy determines how he copes with stress, how he strives to achieve goals, and how he handles tempting situations. Decisional balance, another construct of Transtheoretical model, refers to one weighing the costs and benefits of changing behavior. How one judges the costs and benefits varies throughout the change process. One is more likely to view the benefits as outweighing the costs during the precontemplation stage and the opposite during the action and maintenance stages.

2.9.2 Social Cognitive Theory

Social Cognitive Theory (SCT) was started by Albert Bandura as Social Learning Theory in the 1960s and developed into Social Cognitive Theory in 1986. According to the theory, an individual's behavior is a product of the interaction between personal, environmental, and behavioral factors (Govindaraju, 2021). Personal factors include knowledge, expectations, attitudes and so on while behavioral factors include skills, practice and self-efficacy. Environmental factors include social norms and influence on others. Human thoughts and behavior can be influenced by the environment and people can modify their environment to facilitate behavior change. It posits that by observing the behavior of others (modelling), an individual can gain a wide range of thoughts emotions and behaviors (Govindaraju, 2021). Unlike most other theories that explain behavior change, SCT emphasizes on external influence and the need for both internal and external social reinforcement. According to the theory, past experience influences an individual's expectations and reinforcements, influencing how one engages in a behavior. Social Cognitive Theory assumes that the process of learning a new behavior requires the individual to have both cognitive processing and decision-making skills.

Learning may or may not result in behavior change. Additionally, on can also learn without necessarily changing behavior.

Social Cognitive Theory has six constructs, with the sixth added when it evolved from Social Learning Theory to SCT in the 1980s. These are reciprocal determinism, behavioral capability, observational learning, reinforcement, expectations and self-efficacy. Reciprocal determinism refers to the dynamic and reciprocal interaction between person, the environment and behavior. The interaction between these three factors differs depending on the individual, the behavior question and the specific environment he is in (Nabavi, 2012). Behavioral capability refers to an individual's actual capability to carry out a behavior. To perform a behavior well, one needs to have essential knowledge and skills. Individuals learn from the effects of their past behavior and this affects the environment within which they live. The third construct, observational learning, posits that individuals have the ability to observed a behavior performed by others and reproduce the same. Hence, if one sees a behavior demonstrated he can also reproduce the same successfully (Nabavi, 2012). Reinforcement, the fourth construct, refers to internal and external responses that affect the likelihood that an individual will continue or discontinue behavior. They can either positive or negative and can be self-initiated or received from the environment. The fifth construct is expectations. According to Social Cognitive Theory, an individual expects some consequences before beginning a behavior. This expectation can influence how well he completes the behavior. Expectations are to a large extent affected by one's previous experience (Govindaraju, 2021). Self-efficacy, the sixth construct, refers to an individual's confidence in his ability to perform the desired behavior. It is influenced by one's capabilities as well as environmental factors such as barriers and facilitators. From this theory, it is evident that people can learn a lot just by watching what others are doing and reproducing it. However, they have considerable control over what behaviors they learn.

2.10 Application of the Theories

Transtheoretical Model and Social Cognitive Theory will be crucial in this study as they will guide the researcher in understanding the process of behavior change, the determinants of preventive health behavior adoption and what one needs to consider in his messaging to increase the chances preventive behaviors being adopted by the public. The theories break down the process of behavior change and link interpersonal communication to adoption of preventive health behaviors. The two theories, therefore, were helpful in this study and helped guide the

researcher in answering the research questions as well as in the analysis and interpretation of the data gathered.

2.11 Conceptual Framework

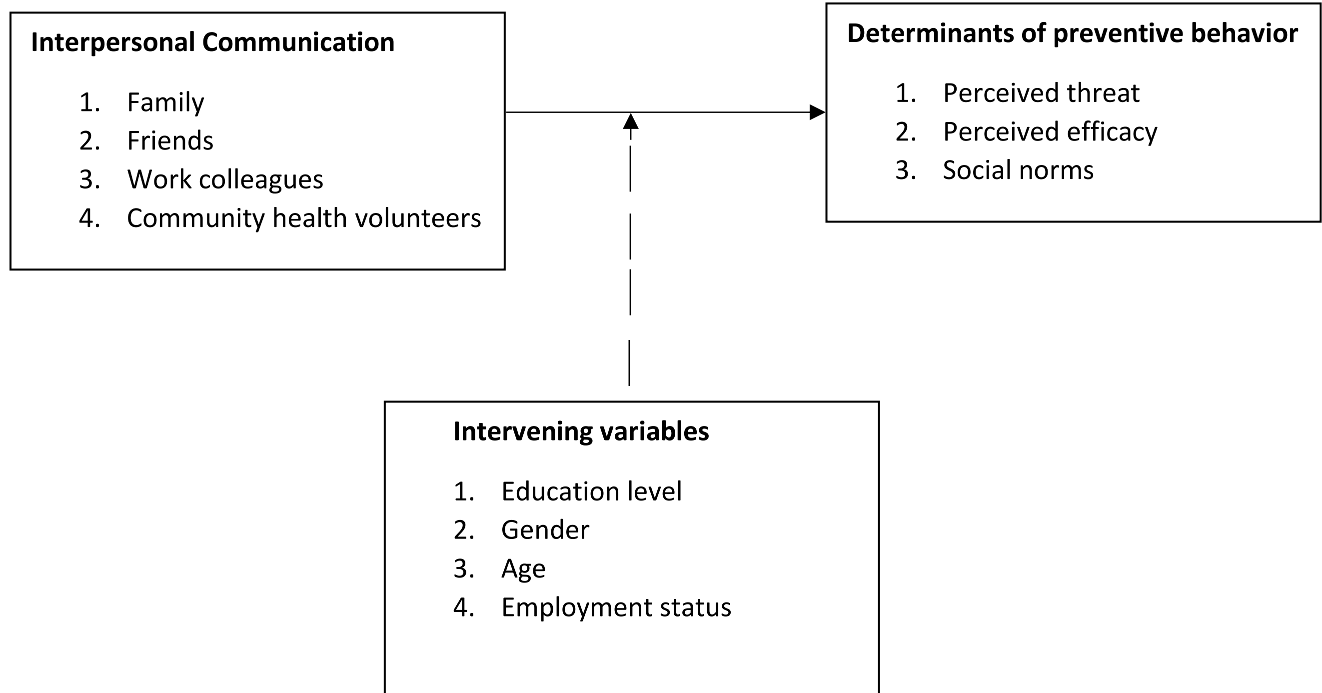


Figure 2.1 Conceptual framework adopted from Nejad et al., (2005)

2.11.1 Interpersonal Communication

Interpersonal communication is the process by which people exchange ideas, feelings and meaning verbally and non-verbally either face to face or in a mediated form (Lotulya et al., 2018). Youths in Kenya's informal settlements engage in interpersonal communication with family members, friends, work colleagues, and community health volunteers. This interaction influences how an individual perceives and adopts Covid-19 preventive behaviors.

2.11.2 Determinants of Preventive Behavior

Literature identifies an individual's perception of threat, perception of efficacy, and social norms as factors that determine if one will engage in a health protective behavior. As a cue to action, interpersonal communication with friends, family etc can influence one's perception as well as his understanding of social norms, and by so doing influence his adoption of preventive behaviors.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Overview

This chapter looks at the methods and procedures that were used by the researcher to collect data during the study. It discusses the research approach, research design, research method, site of study and sampling procedure. It also discusses data collection and analysis, data presentation, research credibility, and ethical considerations.

3.1 Research Approach

A mixed-methods approach was used in this study where both quantitative and qualitative methods were employed. According to Dawadi et al. (2021) Mixed-methods approach interweaves both qualitative and quantitative data so that the issues under study are meaningfully explained. It allows flexibility and an in-depth understanding of the issue under study allowing the researcher to appreciate the issue with both depth and breadth. Additionally, it enables a researcher to generalize the findings of the study to an entire population. This is because while the quantitative approach enables the researcher gather data from a large number of participants, qualitative approach on the other hand, enables him to have a deep comprehension of the issue under investigation.

Mixed-methods approach allows for triangulation where quantitative results are triangulated with the findings from the qualitative study resulting in a more comprehensive understanding of the issue under study (Dawadi et al., 2021). Hence, using the mixed-methods approach helped this study to obtain a more rigorous conclusion as it allows the researcher to take advantage of the strengths of both quantitative and qualitative approaches and at the same time cancel out the weaknesses of the two.

Mixed-methods approach is relevant to this study in that it aligns well with the Convergent Parallel Mixed-methods design which was used in this study (Asenahabi, 2019). Guided by pragmatism paradigm theoretical assumptions, the method enabled the researcher to analyze the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements from multiple points of view; both subjective and objective. In this approach quantitative and qualitative approaches are complementary providing greater certainty about the findings.

3.2 Research Design

This study used Convergent Parallel Mixed-methods design, a popular and efficient design in Mixed-methods approach. In this design, which follows pragmatism theoretical assumptions, quantitative and qualitative methods are mixed to end up with triangulated findings (Dawadi et al., 2021). Quantitative data was collected using a cross-sectional descriptive survey while qualitative data was collected using key informant interviews. The two sets of data were collected concurrently and analyzed independently using quantitative and qualitative approaches. The two set of findings were then integrated after data analysis to provide a full picture of the issue under study. The researcher compared the two results to see if they confirm or disconfirm one another. This is because the study aimed to gather different but complementary data.

In terms of sequence, both quantitative and qualitative data were collected at the same time. In terms of priority, both quantitative and qualitative findings carried equal weight (QUAN + QUAL). This is because both have equal value in understanding the issue under study.

This method is appropriate because it can be used when the researcher has limited time, as was the case in this study, and when one needs both qualitive and quantitative data from participants (Dawadi et al., 2021). By triangulating the results of the two approaches, one gets a more complete picture of the issue under study than if one used quantitative or qualitative alone. Additionally, results from one approach were used to corroborate those from the other approach. Another reason why this design was chosen is that in convergent Parallel Mixed-methods design, there is no chance that one approach will influence the other, unlike in sequential design.

3.3 Data Collection Tools

In this study, data was collected using two different tools. Quantitative data was collected using a questionnaire while an interview guide was used to collect qualitative data. According to Mathers et al., (2009) questionnaires are less costly compared to other methods of data collection such as personal interviews. They are especially convenient when the participants are many and widely dispersed. Additionally, questionnaires make it easier to collect information such as age, and education level which are important during analysis. In this study, the participants were dispersed across all the five villages of Majengo slums (Mashimoni, Sofia, Kitui, Digo, and Katanga) hence questionnaires were convenient for the study. According to Mathers et al., (2009), hand delivered questionnaires have a higher response rate than posted ones. Hence, this study hand-delivered questionnaires to participants. The questionnaire used in this study were

devised by the researcher as opposed to using those pre-existing online so as to ensure it captures fully information that answer the research questions.

For qualitative data, an interview guide was used to gather in-depth information from the key informants. The guide helped to ensure that all respondents are given almost similar questions and that the questions are relevant to the objectives of this study. Hence, the interview guide is relevant to this study in that it helped to standardize the study while at the same time allowing the researcher to probe deep into the issue under study. The interview guide is prepared before the actual interview hence, helps the researcher to save time during the interviews as well as be more comprehensive. It guides the researcher to investigate an issue fully before moving to the next one.

3.4 Target Population

A target population refers to all members who meet the set criteria for a research study (Alvi, 2016). It can be homogenous or heterogenous. A homogenous population is one where all individual members of the population (elements) have similar aspects while a heterogeneous population is where members have different aspects. These can be aspects such as age, gender, employment status and ethnicity among others.

The target population for this study was all youths aged 18 to 34 years living in Majengo Slums, Nairobi. The person must have lived in Majengo slums for at least three months since the first case of Covid-19 was declared in the country in March 12 2020. This study is of the view that three months is enough time for an individual's behavioral response to the virus to have been influenced by the people he interacts with interpersonally such as friends and family. According to the 2019 census, youths in Kamukunji Sub-County where Majengo is located make up 42.7 percent of the total population. Slum Dwellers International Kenya (2018) Kenya estimates the entire population of Majengo slums to be 68,124 people. Based on these figures, this study estimates that the population of youths in Majengo Slums is 29,089 people.

3.5 Site of the Study

The study was carried out in Majengo Slums, Nairobi County. The slum is located near Gikomba Market and Nairobi's Central Business District where many of its residents eke out a living doing menial jobs. Due to its location and ease of access, the slum is popular with youths from all across the country and is widely known for commercial sex work. Bhalla (2020) observes that

the informal settlement is one of the places where people routinely flouted Covid-19 preventive directives by the government with some commercial sex workers arrested for flouting curfew. The site was selected due to its popularity among youths and reports that people living in the slum routinely flouted preventive directives. Majengo has five villages namely Mashimoni, Sofia, Kitui, Digo and Katanga.

3.6 Sampling Procedure

Sampling refers to the process of selecting a portion to represent whole. This study used concurrent mixed methods sampling to identify the sample respondents in the study. Probability sampling techniques were used to come up with a sample for the quantitative strand while purposive sampling techniques were used to come up with a sample for the qualitative strand. The two sampling procedures took place independently (Teddlie & Yu, 2007). This procedure was selected because it fits well with Convergent Parallel Mixed-methods design selected for the study.

For the quantitative strand, this study used stratified random sampling technique. Each of the five Majengo villages of Mashimoni, Sofia, Kitui, Digo and Katanga formed a stratum and a random sample picked from each. In random sampling every member of the population has an equal chance of being selected as part of the sample (Teddlie & Yu, 2007). For the qualitative strand, this study used non-probability purposive sampling technique. Non-probability sampling involves selecting samples for a specific purpose as opposed to doing it randomly. Non-probability sampling in this case aimed to achieve comparability with the quantitative data. This study used informant-interviews to get information from people within the Majengo community deemed to be well knowledgeable about the issue under study. Key informant interviews allow a researcher to gain candid and in-depth knowledge about the issue under study. Information rich key-informants comprising health officers, youth group leaders, and community health volunteers were sampled and interviewed. Due to the nature of their work and the positions of authority they hold, the sample members are deemed to have deep knowledge on the issue under study hence the reason why they were selected.

Since there is a parallel relationship between quantitative and qualitative strands in this study, elements of the qualitative sample were different from those of the quantitative sample but drawn from the same population (Onwuegbuzie & Collins, 2007).

3.7 Sample size

According to Onwuegbuzie and Collins (2007), the size of a sample in a mixed methods study should be guided by the objective of the research, the research questions, and the research design.

The sample size for this study was determined by following minimum sample size recommendations by Creswell (1998), Morse (1994), and Onwuegbuzie and Collins (2007). Creswell (1998) as quoted in Onwuegbuzie and Collins recommends a sample size of 10 or less participants for a phenomenological design. Similarly, Morse (1994) is quoted in the same text recommending a sample of six or more participants for a phenomenological design study. Onwuegbuzie and Collins (2007) recommend a minimum of 64 participants in a correlational design study.

Based on these minimum sample size recommendations, this study had a sample size of 71 participants comprising 65 for the quantitative strand and six for the qualitative strand. For the quantitative strand, 13 participants were selected from each of the five villages (strata) in Majengo bringing the total to 65. For the qualitative strand, 6 key informants were selected, all from within Majengo Slums. These included two youth leaders (male and female), a community health volunteer, an administrator and a health professional, and a village elder. This sample size was informed by the minimum sample size recommendations by Onwuegbuzie and Collins (2007), Creswell (1998), and Morse (1994) explained above.

This sample size fits the study as it is in line with the pragmatism paradigm where a researcher goes for techniques which he believes are most likely to work for that particular study. Additionally, the choice of sample size was guided by the objectives, research questions, and research design of this study.

3.8 Data Collection Procedure

In this study primary data was obtained from the 71 participants by both quantitative and qualitative means. All respondents have lived in Majengo slums for at least three months after the first case of Covid-19 was reported in March 2020. For quantitative data, the researcher distributed by hand questionnaires for self-administration by the respondents. Self-administered questionnaires were chosen because it enables the researcher reach a huge number of respondents within a short period of time.

For qualitative data, an interview guide was used to guide six key informants through a semi-structured interview. A semi-structured interview enables a researcher to consider new ideas that come up during the interview and at the same time helps the researcher to not deviate from the issue under study. Prior to the interviews, the researcher identified the key informants, contacted them via phone and briefed them of the intended interview. Once they agreed, an interview was set up at a venue convenient to each of them. In all cases respondents were requested for their consent to participate in the study and were informed that the research is purely for academic purposes only. Responses were recorded on a voice recorder and transcribed later. As the interview progressed the researcher was taking notes noting key points and themes.

3.9 Data Analysis

Two methods were used to analyze data in this study. Descriptive statistics was used to analyze quantitative data while thematic analysis was used to analyze qualitative data. Descriptive analysis describes a sample hence is appropriate for this study as it uses stratified random sampling. Qualitative data was analyzed by identifying themes and concepts relevant to this study and those that could help answer the research questions. Thematic analysis seeks to identify patterns in meaning within a data set. It was chosen for this study because it is flexible allowing a detailed analysis of narrative data. The researcher identified categories and patterns in the responses given by the participants. Responses that fell in similar categories and themes were grouped together for analysis.

3.10 Data Presentation

Quantitative data in this study is presented in tabular and graphical and numerical forms. Tables and graphs are used to summarize data. These include frequency distribution tables and bar graphs. This being categorical data, numerical representation of data will take the form of mode, a measure of central tendency. Qualitative data is presented in narrative form. Statements and themes were examined comparing them to the objectives spelt out in the interview guide to come up with relevant findings.

3.11 Validity and Reliability of Research Instruments

3.11.1 Validity of research instruments

Validity refers to the degree to which a concept is correctly measured in a study (Heale &Twycross, 2015). It has to do with ensuring that a study is believable and true and that the instrument evaluated what it was supposed to evaluate. A measuring instrument should be able to

measure the behavior or quality it is intended to measure. Hence, the inferences a researcher makes should be meaningful, useful, and appropriate for them to be termed as valid.

This study uses content validity. Content validity considers whether a study instrument adequately covers all it is supposed to cover in relation to a variable (Heale &Twycross, 2015). Both face validity – a subjective measure of the extent to which the instrument measures what it is supposed to measure – and sampling validity – the degree to which an instrument adequately samples the subject matter – were considered. Methodological errors such as errors in selection of participants were identified and corrected. For qualitative data, respondent validation, and triangulating multiple sources of data were used to ensure credibility of the study. Any themes that were unclear were revised, and all items that were deemed too complex re-worded. Detailed descriptions were used to make findings richer and operational definitions used to make concepts well understood.

3.11.2 Reliability of Research Instruments

Reliability refers to how precise the measuring instrument is. It refers to the extent to which an instrument produces the same result when in the same situation over and over again (Heale & Twycross, 2015). It has to do with consistency and replicability over time. Hence, a reliable study needs to be free of measurement errors.

In this study, quantitative data was in numeric form while qualitative data was in narrative form. For quantitative data, reliability was achieved by ensuring internal consistency which checks for the degree of homogeneity among items in an instrument. The study used Cronbach's alpha to check reliability of the data collection instrument. A pilot study was carried out involving eight respondents which translates to 12.3% of the total respondents. The responses collected were then used to compute Cronbach's alpha using SPSS version 20. A Cronbach's alpha reading of 0.898 was recorded as shown in table 3.1 below. A reading above 0.7 is considered acceptable reliability meaning the instrument used in this study was reliable.

Table 3.1 Cronbach's alpha

Case Processing Summary

		N	%
Cases	Valid	8	100.0
	Excluded[a]	0	.0
	Total	8	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.898	35

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
129.6250	454.268	21.31356	35

Source: Fieldwork, 2022

For qualitative data, audit trail and error-free transcribing were used to ensure dependability. The research her sought to improve the dependability of the study by explaining clearly the processes and phases used in reaching the findings of the study as well as the researcher checking his own attitudes and biases (Noble & Smith, 2015). Rich, verbatim accounts from participants were used to support findings. Additionally, records were kept meticulously to show a clear decision-making trail.

3.12 Ethical considerations

The study was conducted in a professional academic manner. Prior to embarking on fieldwork, the researcher sought an introductory letter from the university to facilitate the research. The researcher also sought verbal consent from administrative authorities (assistant chief) prior to beginning the fieldwork.

Respondents in the study were assured of their confidentiality, anonymity and assured that any information they gave would be used strictly for academic purposes only (Fleming & Zegwaard, 2018). The researcher sought informed consent from the respondents before conducting research.

The study did not expose the respondents to any harm. The process of collecting and analyzing data observed high levels of integrity. Participation by the respondents was voluntary devoid of coercion. If a respondent wished to withdraw from the study, he was allowed to do so without any repercussions.

3.13 Reflexivity

This being a mixed-methods research that uses both quantitative and qualitative methods, the researcher acknowledges that he too was a tool in the qualitative strand of the study. The researcher not being a resident of an informal settlement himself strived to set aside any personal, social views and biases he may have about people who live in slums and remain objective. The researcher tried to remain neutral for the entire period of study.

The researcher strived capture the perspective of the respondents being interviewed even when he thought he understands the subject matter better than the respondents. Similarly, the perspectives of the faculty, to whom the findings of the research will be reported, towards the respondents were set aside. These measures helped to ensure that the findings are rigorous and generally acceptable.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Overview

In this chapter, the results and findings of the study are presented and interpreted in line with the research objectives and questions. This study sought to investigate the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements and was carried out in Majengo Slums, Nairobi.

The chapter is organized into sections based on the objectives of the study. Tables and charts have been used for ease of presentation. It includes the response rate, demographic information of respondents as well as a summary of findings in each research question. For the qualitative strand, themes and categories were identified from the data collected through interviews with key informants. It was then transcribed and presented in the form of narratives.

4.1 Response Rate

For the quantitative strand, the researcher administered a total of 65 questionnaires to respondents drawn from Majengo Slums, Nairobi. All the 65 questionnaires were filled in the presence of the researcher and his assistant and handed back. For the qualitative strand, the researcher held interviews with six key informants drawn from the informal settlement. In total, 71 respondents participated in the study translating to 100% response rate. According to Edward et al. (2002) a response rate above 60% is considered adequate while one above 80% is excellent. The response rate in this study was thus excellent. (See table 4.1 below).

Table 4.1 Response Rate

	Frequency	**Percent**
Questionnaires completed	65	100
Questionnaires not completed	0	0
Key informant interviews	6	100
Total	**71**	**100**

Source: *Fieldwork, 2022*

4.2 Demographic Information

In this section, the demographic distribution of the 65 respondents from the quantitative strand is analyzed based on their gender, age, education level and employment status.

Table 4.2 Gender of the respondents

Gender	Frequency	Percent
Male	36	55.4
Female	29	44.6
Total	**65**	**100**

Source: Fieldwork 2022

As shown in Table 4.2 above, majority of the respondents (55.4%) were male while the remaining respondents (44.6%) were female. This implies that there are more male youths than females in Majengo slums, Nairobi. Gender composition of the respondents in this study was important to establish if people of different genders were influenced differently by interpersonal communication towards the adoption of Covid-19 preventive behaviors.

Table 4.3 Age of the respondents

Age	Frequency	Percent
18-21	15	23.1
22-25	25	38.4
26-29	15	23.1
30-34	10	15.4
Total	**65**	**100**

Source: *Fieldwork 2022*

As shown in table 4.3 above, 38.4% of the respondents in this study were aged between 22 and 25 years. Those aged between 18 and 21 years comprised 23.1%, same as those aged between 26 and 29 years. Only 15.4 percent of the respondents in this study were aged between 30 and 34 years. Age was important in this study because people of different ages tend to be influenced differently by interpersonal interactions.

Table 4.4 Education level of the respondents

Highest level attained	Frequency	Percent
KCPE	19	29.2
KCSE	31	47.7
College certificate	11	16.9

College diploma	2	3.1
Bachelor’s degree	2	3.1
Total	**65**	**100**

Source: Fieldwork 2022

A vast majority of the respondents in the study (76.9%) lack post-secondary education as shown in Table 4.4 above. This seems to confirm the assertion by Austrian et al. (2020) that informal settlements generally have a low level of literacy. Close to half of the respondents (47.7%) mentioned KCSE as their highest education qualification attained. Those who named KCPE as the highest level of education attained made up 29.2% of the respondents while 16.9% said they have college certificate as the highest education level. Only 3.1% of the respondents said they have a college diploma. A similar percentage of respondents (3.1%) named a bachelor’s degree as their highest level of education attained.

Table 4.5 Respondents’ employment status

Employment status	Frequency	Percent
Unemployed	31	47.7
Casual laborer	8	12.3
Self-employed	23	35.4
Employed	3	4.6
Total	**65**	**100**

Source: Fieldwork 2022

In terms of employment status, almost half of the respondents (47.7 percent) said they are unemployed. Another 12.3% identified themselves as casual laborers while 35.4% said they were self-employed. Only three respondents (4.6%) said they were employed (Table 4.5). This implies that over 60% of Majengo residents (i.e both unemployed and casuals) have low and unstable incomes. This result seems to confirm the assertion by Austrian et al. (2020) that many residents of informal settlements have low levels of income which makes it harder for them to comply with the government’s Covid-19 prevention directives.

4.3 Factors Influencing Interpersonal Communication on the Adoption of Covid-19 Preventive Health Behaviors

This section sought to find out how familiar the respondents were with Covid-19 preventive behaviors, how frequently they performed these behaviors, and how frequently they discussed them with family, friends, work colleagues and Community Health Volunteers. Additionally, the section sought to understand how important respondents deemed each of the factors considered in deciding whether or not to discuss Covid-19 preventive behaviors with a conversation partner. Lastly, it sought to find out whether there are other factors respondents considered in deciding whether or not to discuss Covid-19 preventive behaviors with a conversation partner.

Table 4.6 How familiar respondents are with Covid-19 preventive behaviors

Familiarity level	Frequency	Percent
Not familiar	2	3.1
Slightly familiar	11	16.9
Somewhat familiar	8	12.3
Moderately familiar	22	33.8
Extremely familiar	22	33.8
Total	**65**	**100**

Source: Fieldwork 2022

From the findings shown in table 4.6 above, only 3.1% of the respondents said they were not familiar with Covid-19 preventive measures such as wearing a facemask, washing hands, sanitizing and maintaining social distance. The rest said they are at various level of awareness with 67.6% of the respondents saying they were moderately familiar or beyond. This implies that by the time the study was carried out, a vast majority of Majengo residents (96.9%) were aware of the negative effects posed by failing to adhere to Covid-19 preventive behaviors. Hence, they were beyond the precontemplation stage of the Transtheoretical Model (Lenio, 2006). According to TTM, an individual in precontemplation stage is unaware of the negative effects of his bad behavior and has no intention of taking any action to modify his behavior in the next six months, which was not the case in this study. In terms of gender, 100% of females said they had varying levels of familiarity about the preventive behaviors compared to 94.4% in males. All the respondents who said they were unfamiliar with the preventive measures were unemployed and lacked post-secondary education. This implies that better educated people have more knowledge of the preventive measures. It also implies that those with more stable incomes have better access to knowledge on Covid-19 preventive behaviors.

All key informants said the youths residing in Majengo are now significantly familiar with Covid-19 Preventive measures.

Key informant 1 says:

"Youth in Majengo are very familiar with Covid-19 preventive behaviors. When Covid-19 came, the government through various agencies and administrators like us came in and trained people on these measures and many began adhering to them."

Table 4.7 How frequently respondents perform Covid-19 preventive behaviors

How frequently one performs behavior	Frequency	Percent
Never	7	1.5
Rarely	2	3.1
Sometimes	26	40
Often	20	30.8
Always	16	24.6
Total	**65**	**100**

Source: Fieldwork, 2022

As shown in table 4.7 above, 40% of the respondents said they perform the preventive measures sometimes while another 3.1% perform them rarely. 1.5% of the respondents said they never perform them at all. Some 30.8% of the respondents said they perform preventive behaviors often. Only 24.6% of the respondents said they performed the preventive behaviors always. This implies that a majority of Majengo residents (75.4%) are not adhering fully to the Covid-19 preventive measures. This is despite a vast majority of them (96.9%) saying they had varying levels of familiarity with these preventive behaviors. This seems to confirm that awareness that a problem exists alone is not enough to create behavior change, there could be other hindering factors, such as poverty, myths and misconceptions, which need to be addressed.

Key informant 3 says:

"*Youths in the area are quite familiar with Covid-19 preventive behaviors but many of us do not adhere to them. This is because most of us do not know anyone who has been seriously affected by the disease, we only hear of them. Most of us only wear masks when going outside Majengo, for instance when going to town."*

Among those who said they always observed preventive behaviors, 56.3% were female while 43.7% were male. This implies that more women than men are likely to adhere to preventive behaviors among Majengo residents. It seems to confirm the assertion by Bronfman et al. (2020) that men have lower rates of preventive behavior adoption compared to women. Over half of the respondents (62.5%) who said they always observed the preventive behaviors were

aged between 26 and 34 years implying that older youths in Majengo are more likely to observe preventive behaviors than younger ones. However, the always category was still dominated by people who lack post-secondary education (93.6%) and are unemployed (62.5%) which reflects the general state of the slum community.

4.3.1 Myths and Misconceptions

From the key informant interviews, myths and misconceptions emerged a key theme in the study. It emerged as one of the main reasons why many youths in Majengo Slums are not adhering to Covid-19 preventive measures despite 96.9% of them saying they have some level of familiarity with the preventive measures. This shows that, as explained in the Social Cognitive Theory, external influence (environmental factors) has a lot of influence on behavior adoption. According to the theory, reciprocal determinism i.e dynamic and reciprocal interaction between person, the environment and behavior serves to inform change in an individual's behavior. Additionally, it confirms the assertion by Porat et al. (2020) that fight against Covid-19 was rife with myths and misconceptions that are impeding attainment of the desired behavior. Common myths and misconceptions about Covid-19 among youths in Majengo slums include: Smoking bhang prevents Covid-19, vaccination against the virus reduces fertility, washing hands lowers intoxication (which is undesirable among drug users), taking alcohol is tantamount to sanitizing one's body, and that Covid-19 is a white man's disease which is not a threat to Africans. Another common misconception is that Covid-19 does not exist in Kenya, it is just a ploy by the government to make money from donor agencies. This shows that the mixed methods approach used for this study was appropriate as key informant interviews unearthed other details not captured by the survey.

Key informant 2 says:

"There are those who say once you take alcohol you cannot catch Covid-19 because it is equal to sanitizing yourself."

Key informant 6 says:

"Youths here are quite familiar with Covid-19 preventive measures but they still ignore them. They believe that Covid-19 is a white man's disease and is not a threat to us Africans."

Key informant 4 says:

"Most of them like seeing practically, when it's not practical then to them it does not exist. They will ask you how come we know people who have died of Cholera but we don't know anyone who has died of Covid-19?"

Table 4.8 How frequently respondents discuss Covid-19 Preventive behaviors with family, friends, work colleagues, and Community Health Volunteers (CHV's).

Frequentness of discussion with family	Frequency	Percent
Never	7	10.8

Rarely	4	6.1
Sometimes	20	30.8
Often	13	20
Always	21	32.3
Total	**65**	**100**

Frequentness of discussion with friends	Frequency	Percent
Never	4	6.2
Rarely	10	15.4
Sometimes	29	44.6
Often	13	20
Always	9	13.8
Total	**65**	**100**

Frequentness of discussion with work colleagues	Frequency	Percent
Never	7	10.8
Rarely	10	15.4
Sometimes	19	29.2
Often	22	33.8
Always	7	10.8
Total	**65**	**100**

Frequentness of discussion with CHV's	Frequency	Percent
Never	7	10.8
Rarely	18	27.7
Sometimes	10	15.4

Often	13	20
Always	17	26.1
Total	**65**	**100**

Source: Fieldwork, 2022

From table 4.8 above, 52.3% of the respondents said they discuss Covid-19 preventive behaviors with family members regularly (32.3% always and 20% often). This implies that over half of youths in Majengo slums discuss Covid-19 preventive behaviors with their families regularly. 33.8% of the respondents said they discuss Covid-19 preventive behaviors with friends regularly (20% often and 13.8% always). This implies that a third of the youths in Majengo slums discuss Covid-19 preventive behaviors with their friends regularly. For work colleagues, 44.6% of respondents said they discuss Covid-19 preventive behaviors with work colleagues regularly (33.8% often and10.8% always). However, as noted in table 4.5 earlier 60% of Majengo youths are either unemployed or do casual labour meaning they don't have steady work colleagues. This can be interpreted to mean they meet their colleagues in a work setting rarely. On Community Health Volunteers, 46.1% of the respondents said they regularly discuss Covid-19 preventive behaviors with them (always 26.1% and often 20%).

From the above results (Table 4.8) it emerged that over half of the youths living in Majengo (53.2%) discuss Covid-19 Preventive behaviors regularly with their family members, followed by CHV's (46.1%), work colleagues (44.6%) and friends 33.8%. This implies that family members have a significant influence on the youth in informal settlements on matters Covid-19 preventive behaviors. It also implies that while youths discuss Covid-19 with their friends, it is not something they do regularly. Additionally, these findings imply that the household unit can be effective in promoting adoption of Covid-19 preventive behaviors and should be considered in Covid-19 prevention campaigns. One can deduce that friends and CHV's also have significant influence on the youth on matters combating Covid-19 as earlier identified by Austrian et al. (2020). These findings confirm the assertion by Social Cognitive Theory that one's social environment has a lot of influence on his behavior.

Key informant interviews also support that youths discuss Covid-19 preventive behaviors with family, friends, and CHV's.

Key informant 2 says:

"Youths prefer discussing Covid-19 with their fellow youths. They are not very comfortable discussing it with people who are older than them. They also discuss with their families what they saw in the media or were taught in school about Covid-19,"

Key informant 5 says:

"Youths speak mostly to their close family members about Covid-19. They also discuss it amongst themselves out here when they meet,"

Key informant 4 says:

"They especially interact with the CHV's about Covid-19 and preventive measures. When the CHVs are passing around, you can see that they have that interest of wanting to know more about Covid-19. Some also discuss it amongst themselves,"

Of the respondents who said they discuss Covid-19 preventive measures with their families regularly (both often and always) 58.8% were male while 41.2% were female meaning that a significant percentage of both genders do discuss preventive behaviors with their families. A significant proportion of the respondents with post-secondary education (46.7%) said they discuss Covid-19 preventive behaviors regularly with their families. A bigger percentage, however, (53.3%) was distributed among those whose discuss the behaviors with family sometimes, rarely, and never. This implies that education may not be a major factor in determining whether one discusses Covid-19 preventive behaviors with his family or not.

4.4 Importance of Factors Considered in Deciding Whether or not to Discuss Covid-19 Preventive Behavior with a Conversation Partner

In this section, the respondents were asked to say how important they thought each of the factors considered in deciding whether to discuss Covid-19 with a conversation partner was. The factors are: How well one thinks he understands the preventive behavior (perceived own comprehension), how well one thinks his conversation partner understands the preventive behavior (perceived comprehension by others), how relevant one thinks the preventive behavior is to his own situation (perceived personal relevance), and if the preventive behavior is a hot topic at the time. Other factors are the context of the conversation, and the relationship one has with his conversation partner. The choices to pick from ranged from not important to very important as shown in the table 4.9 below.

Table 4.9 How important these factors are in deciding whether or not to discuss Covid-19 preventive behavior with a conversation partner

How well I think I understand the preventive behavior	Frequency	Percent
Not important	2	3.1
Slightly important	7	10.8
Moderately important	3	4.6
Important	29	44.6
Very important	24	36.9
Total	**65**	**100**

How well I think my conversation partner understands the preventive behavior	Frequency	Percent
Not important	6	9.2

Slightly important	3	4.6
Moderately important	16	24.6
Important	22	33.9
Very important	18	27.7
Total	**65**	**100**

How relevant I think the preventive behavior is to my own situation	**Frequency**	**Percent**
Not important	2	3.1
Slightly important	5	7.7
Moderately important	6	9.2
Important	26	40
Very important	26	40
Total	**65**	**100**

If the preventive behavior is a hot topic that my conversation partner would find interesting	**Frequency**	**Percent**
Not important	6	9.2
Slightly important	12	18.5
Moderately important	15	23.1
Important	21	32.3
Very important	11	16.9
Total	**65**	**100**

The circumstances under which we are having the discussion i.e context	**Frequency**	**Percent**
Not important	5	7.7

Slightly important	13	20
Moderately important	12	18.5
Important	25	38.4
Very important	10	15.4
Total	**65**	**100**

The kind of relationship I have with the conversation partner	**Frequency**	**Percent**
Not important	5	7.7
Slightly important	13	20
Moderately important	12	18.5
Important	25	38.4
Very important	10	15.4
Total	**65**	**100**

As shown in table 4.9 above, 81.5% of the respondents said they consider how well they think they understand the Covid-19 preventive behavior as being either important or very important when deciding whether or not to discuss the behavior with a conversation partner. This implies that a vast majority of youths in Majengo slums consider perceived own comprehension of the preventive behavior as being significantly important when deciding if to discuss Covid-19 preventive behaviors with a conversation partner or not. This seems to confirm the assertion by Jansen & Janssen (2010), that perceived own comprehension is a key factor that influences interpersonal communication about public health messages. It confirms that self-efficacy, a key construct in both Transtheoretical Model and Social Cognitive Theory, has influence on how people adhere to preventive behavior as well as how they discuss the behaviors with their dialogue partners.

Similarly, 61.6% of the respondents said they consider how well they think their conversation partner understands the preventive behavior an important or very important factor in determining whether or not to discuss the behavior with them. This implies that a majority of youths in Majengo slums consider perceived comprehension of the behavior by others an important factor in deciding whether to hold an interpersonal conversation with them about the said preventive behavior. This seems to confirm the assertion by Lubinga et al. (2014) that

perceived comprehension by others is a major factor that determines whether one is willing to discuss a public health message with other people or not.

As show on table 4.9 above, 80% of the respondents said they consider how relevant they think the preventive behavior is to their own situation as an important or very important factor when deciding whether or not to discuss a Covid-19 behavior with a conversation partner. This implies that to a vast majority of Majengo residents perceived personal relevance (Lubinga et al., 2014) is considered an important factor in determining whether or not to discuss Covid-19 behavior with a conversation partner.

49.2% of the responds said they consider 'if the preventive behavior is a hot topic' as an important or very important factor when deciding whether or not to discuss a Covid-19 preventive behavior with other people. This speaks to the concept of observational learning in Social Cognitive Theory where people watch what other are doing or discussing and try to replicate it themselves. Another 41.6% said they considered it slightly or moderately important, while 9.2% said they consider it as not important. This implies that while a majority of the youths (90.8%) in the informal settlement consider the factor to have varying levels of importance, less than half the population ascribe much importance to it when deciding whether or not to discuss a preventive behavior with another person.

53.8% of the respondents in the study said they consider the circumstances under which a conversation is taking place to be either important or very important when deciding whether or not to discuss Covid-19 preventive behaviors with other people. This implies that that a majority of Majengo youths consider the context of a conversation to be important in deciding whether to or not to discuss Covid-19 preventive behaviors with a conversation partner.

53.8% of the respondents said they consider the kind of relationship they have with the conversation partner an important or very important factor when deciding whether to discuss Covid-19 preventive behaviors with them or not. This implies that most youths in Majengo want to discuss Covid-19 preventive behaviors with people they are accustomed to and have some relationship with. This seems to confirm the assertion by Donne et al. (2017) that the relationship one has with a conversation partner as one of the key factors that influence an individual's conversation behavior on health issues.

4.5 Other Factors Respondents Consider when Deciding Whether or not to Discuss Covid-19 With a Conversation Partner

This section was an open question where respondents who felt there were factors other than those mentioned above could mention them. Only three respondents (5.6%) gave additional factors. One respondent (male) said he would consider the mood of the conversation partner when deciding whether or not to discuss Covid-19 preventive behaviors with them. The other two respondents (male and female) said they would consider the traditional and religious beliefs of a conversation partner before deciding whether or not to discuss Covid-19 preventive behaviors with them.

4.6 How Interpersonal Communication with Family, Friends, Work Colleagues and CHV's has Influenced the Adoption of Covid-19 Preventive Health Behaviors

This section sought to know how interacting with the four categories of people above (Family, Friends, Work Colleagues and CHV's) has influenced adoption of Covid-preventive measures. It sought to understand how interacting with them has affected respondents' perception of Covid-19's severity, susceptibility to the disease, the efficacy of the recommended response measures, and how it has affected their perception of self-efficacy towards the recommended Covid-19 preventive behaviors. The study also sought to understand how interacting with the four categories of people above has influenced respondents perceived norms as well as their trust in the government's ability to handle the pandemic. The section involved statements for which the respondents were required to state their level of agreement with.

On family, 87.7% of the respondents said that discussing Covid-19 with family made them feel that the disease was more serious than they initially thought (this includes those who chose agree and strongly agree). 52.3% of the respondents said that discussing Covid-19 with family made them feel that they were more likely to catch Covid-19 than they initially thought. 80% of the respondents said that that discussing Covid-19 with family made them feel that the preventive measures were more likely to work than they initially thought. 64.6% of the respondents said that discussing the disease with family increased their trust in the government's ability to handle the pandemic. 78.5% of the respondents agreed with the statement that discussing Covid-19 with family made them feel that people in the community were taking Covid-19 preventive behaviors seriously. 81.5% said that discussing the disease with family made them feel more confident about their ability to perform Covid-19 preventive measures.

On friends, 84.6% of the respondents said discussing Covid-19 with friends made them feel that the disease was more serious than they initially thought (this includes those who chose true of me and somewhat true of me). 60% of the respondents said discussing the disease with friends made them feel they were more likely to catch the virus than they initially thought. 80% of the respondents said discussing Covid-19 with friends made them feel that the preventive measures were more likely to work than they initially thought. 58.5% of the respondents said discussing Covid-19 with friends increased their trust in the government's ability to handle the pandemic. 67.7% of the respondents said discussing Covid-19 with friends made them feel that other people in the community were taking Covid-19 prevention behaviors positively. 78.5% of the respondents said discussing Covid 19 with friends made them more confident about their ability to perform preventive measures.

Concerning work colleagues, 87.7% of the respondents said that discussing Covid-19 with their work colleagues made them feel that the disease was more serious than they initially thought (this includes agree and strongly agree). 70.8% of the respondents said that discussing the disease with work colleagues made them feel that they were more likely to catch the disease than they initially thought. 78.5% of the respondents said that discussing Covid-19 with work colleagues made them feel that the preventive measures were more likely to work than they initially thought. 64.6% of the respondents said discussing Covid-19 with their work colleagues increased their trust in the government's ability to deal with the pandemic. 76.9 percent of the

respondents said discussing Covid-19 with work colleagues made them feel that other people in the community were taking Covid-19 preventive measures seriously. 87.7% of the respondents said discussing Covid-19 with work colleagues increased their confidence in their own ability to perform the preventive measures.

Concerning Community Health Volunteers, 87.7% of the respondents said discussing Covid-19 with CHV's made them feel the disease was more serious than they initially thought (True and somewhat true combined). 67.7% of the respondents said discussing the disease with the CHV's made them feel they were more likely to catch the disease than they initially thought. 76.9% of the respondents said discussing Covid-19 with CHV's made them feel that the preventive measures were more likely to work than they initially thought. 70.8% of the respondents said discussing the disease with the CHV's increased their trust in the government's ability to deal with the pandemic. Similarly, 70.8 percent of the residents said discussing Covid-19 with CHV's made them feel like other people in the community were taking Covid-19 preventive measures seriously. 76.9 % of the respondents said discussing Covid-19 with the CHV's made them feel more confident about their own ability to perform the preventive measures.

The above results imply that that for the majority of Majengo youths, interpersonal communication with family, friends, work colleagues and CHV's increased their perception of the disease as a threat and made them perceive themselves as being more susceptible to the disease. The interactions positively impacted on their perception of the disease response's efficacy. Additionally, it increased their trust in the government's ability to handle the pandemic and impacted positively on their perception of social norms related to Covid-19. Lastly it improved their perception of self-efficacy to perform the required preventive behaviors. Boosting all these perceptions among individuals is crucial in attaining adherence to Covid-19 preventive behaviors (Werle, 2011). The results imply that interpersonal communication with all the four categories of conversation partners studied (family, friends, work colleagues and CHV's) is highly effective in increasing the perception of Covid-19 as a serious threat. Over 80% of the respondents said discussing Covid-19 with any of the four made them feel that the disease was more serious than they thought. From the results, one gathers that interpersonal communication with family, friends and work colleagues is also highly effective in increasing the perception that the responses to the disease are effective as well as making individuals feel confident in their ability to effectively perform the required preventive behaviors. These findings seem to confirm Social Cognitive Theory that one's social environment has a lot of influence on one's behavior.

Key informants similarly said that interpersonal discussions between youths and their families, friends, co-workers and CHV's has largely boosted adherence to preventive measures. However, they also pointed out that myths and misconceptions which impede adherence are mostly spread through interpersonal communication. This shows that the mixed methods approach used for this study was appropriate as key informant interviews captured details that would have been lost had the study relied on survey alone.

Key informant 4 says:

"It adds value because through discussion, some new ideas emerge. Through discussions, some are challenged with facts and come to realize that yes, the disease is real. Some youths buy these new ideas while others don't."

Key informant 6 says:

"Through interpersonal communication, people get to hear of others who have gotten infected and start taking the preventive measures seriously. Nobody wants to die."

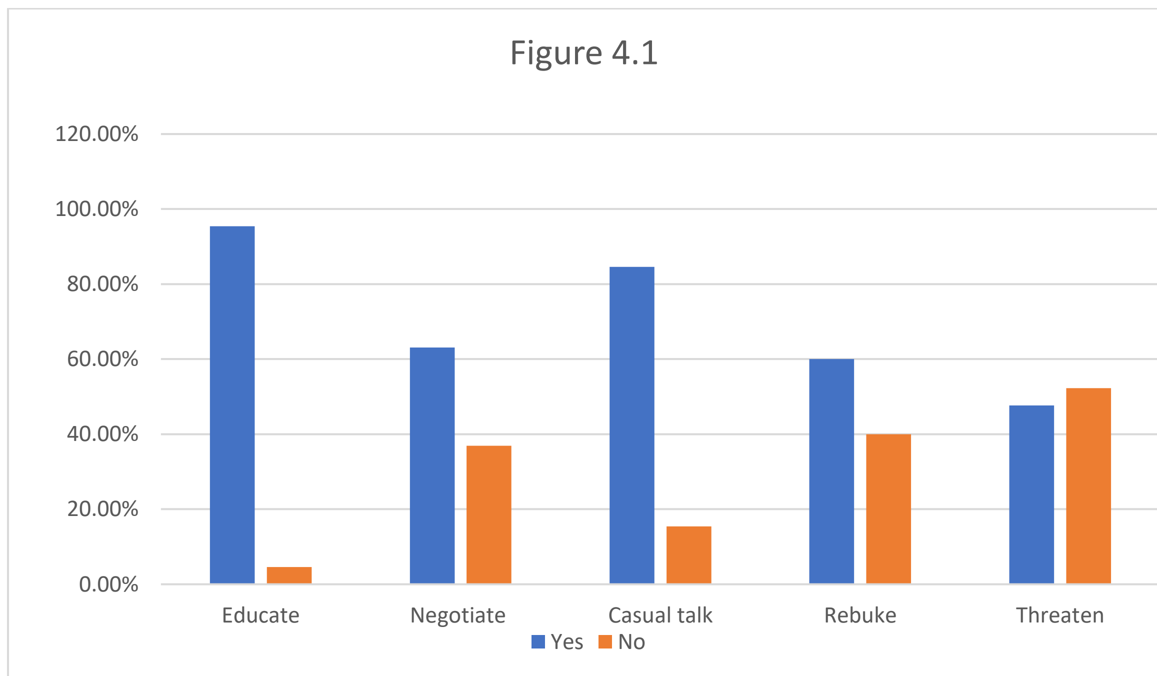
Key informant 1 says:

"In Majengo, news spreads very fast. When we are calling a Chief's baraza we only inform about two people. The message is then spread from person to person and reaches everyone. When we call a baraza we tell those present to pass the messages about Covid-19 to those who did not manage to attend. And it works very well."

4.7 How the Nature of Interpersonal Communication Influenced Interpersonal Communication

In this section, the study looked at five forms of interpersonal communication commonly used when discussing Covid-19 with a conversation partner and sought to know how each of them influences the adoption of Covid-19 preventive behaviors among youths in informal settlements. These are educating, rebuking, casual talk, negotiation and threatening.

Figure 4.1 If the respondent has ever experienced the following types of interpersonal communication when discussing Covid-19 preventive behaviors with a conversation partner



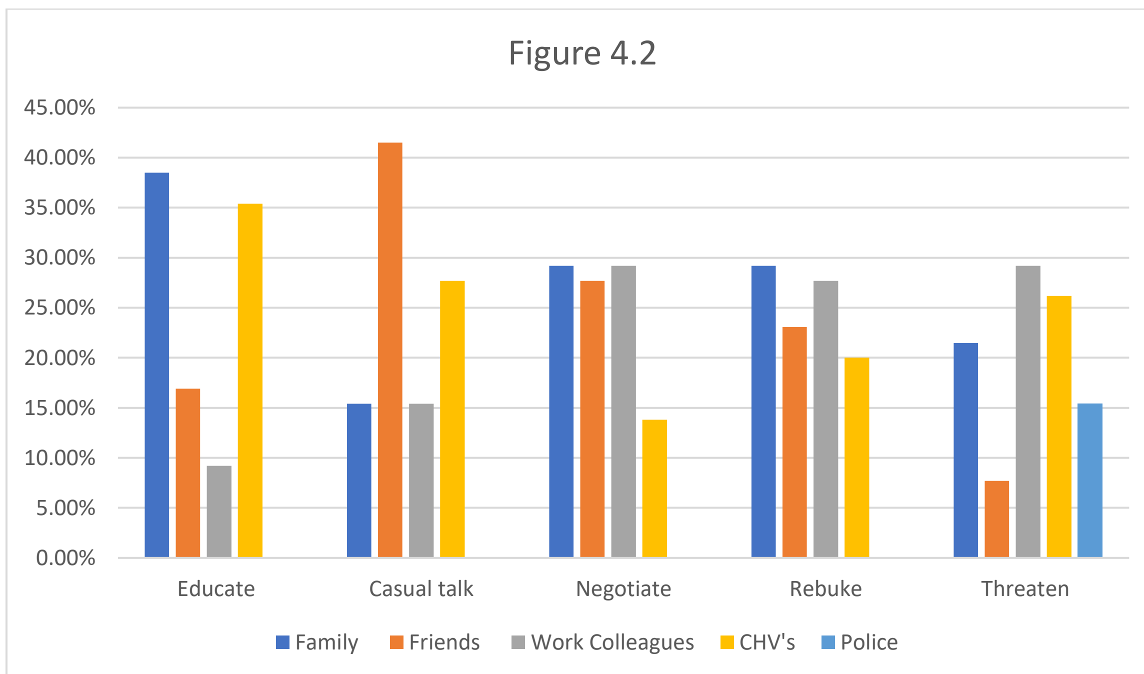
Source: Fieldwork, 2022

As shown in figure 4.1 above, 95.4% of the respondents said they have been spoken to in a manner to educate them when discussing Covid-19 preventive behaviors with a conversation partner. 60% of the respondents said they have ever been spoken to in a manner to rebuke them while 84.6% said they have held a casual talk about Covid-19 preventive behaviors with a conversation partner. 63.1% of the respondents said a conversation partner has ever tried to negotiate with them about Covid-19 preventive behaviors while 47.7% of the respondents said they have ever been spoken to in a threatening manner by a conversation partner while discussing Covid-19 preventive behaviors. These results imply that educating is the most common form interpersonal communication used by individuals in Majengo Slums when discussing Covid-19 preventive behaviors with youths followed by casual talk, negotiation, and rebuking respectively. Threatening is the least used form of interpersonal communication used by individuals when discussing Covid-19 preventive behaviors with youths in Majengo slums.

4.8 Who among family, friends, work colleagues and CHV's engages Majengo youths the most in the manner of Educating, rebuking, casual talk, negotiation, and threats when discussing Covid-19 preventive behaviors

This section involved respondents selecting from a table whom they thought engaged them the most in each of the five forms of interpersonal communication identified above.

Figure 4.2 who engages youths the most in each type of interpersonal communication



Source: Fieldwork 2022

As sown in table figure 4.2 above, 38.5% of the respondents said family is the one that has engages them the most in an educating manner when discussing Covid-19 preventive behaviors. 35.4% said it was the CHV's, 16.9% said it was friends, while 9.2% of the respondents said it is

work colleagues who had engaged them the most about Covid-preventive behaviors in an educating manner.

On rebuking, 29.2% of the respondents said family is the one that has engaged them the most in that manner when discussing Covid-19 preventive behaviors. 23.1% of the respondents said it was friends, 27.7% said it was work colleagues, while 20% of the respondents said it was CHVs who had engaged them the most in a rebuking manner.

Concerning casual talk, 41.5% of the respondents said friends are the ones who have engaged them the most in this manner when discussing Covid-19 preventive behaviors. 15.4% said it is family, 15.4% said it was work colleagues, while 27.7% said it was CHV's who have engaged them the most in the manner of casual talks.

Key informant 2 says:

"Youths mostly discuss Covid-19 preventive behaviors casually in their meeting joints. They mostly meet in these 'bases' to smoke bhang. They also discuss them when they meet for work in bodaboda sheds, carwash, and in women groups,"

On negotiation, 29.2% of the respondents said it is family that has engaged them the most in this manner when discussing Covid-19 preventive behaviors. 27.7% said it is friends, 29.2% said it was work colleagues, while 13.8% said it was CHV's who had engaged them the most in a negotiating manner.

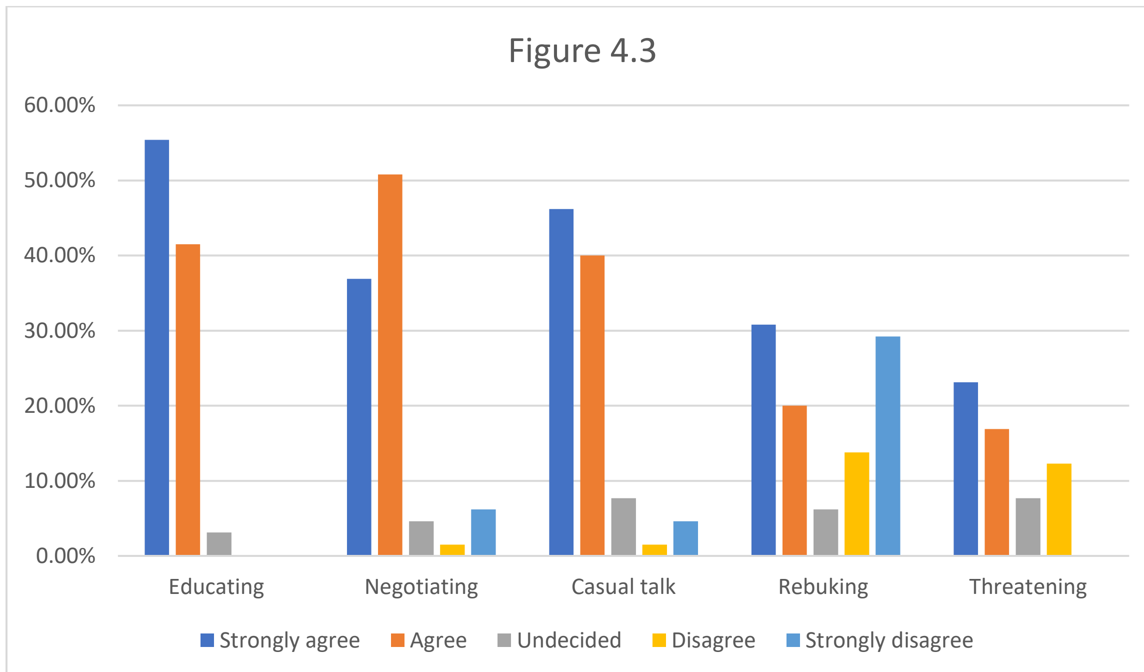
Concerning the use of threats, 21.5% of the respondents said family had engaged them the most in this manner when discussing Covid-19 preventive behaviors. 7.7% said it was friends, 29.2% said it was work colleagues while 26.2% said it was CHV's who engaged them the most using threats when discussing Covid-19 preventive behaviors. 15.4% of the respondents said police had engaged them using threats the most when discussing Covid-19 preventive behaviors. This is despite the fact that police were not among the four categories of people being studied. Of the respondents who said family had engaged them the most using threats, 78.6% were female while 21.4% were male. Of those who said police had engaged them the most using threats, 70% were male while 30% were female.

The above results imply that family members are the most likely to speak to Majengo youths in an educating manner when discussing Covid-19 preventive behaviors. They are also the most likely to rebuke them and negotiate with them. Friends are the most likely to hold a casual talk with the youth about the preventive measures while work colleagues are the ones most likely to threaten them. Work colleagues are also the most likely to negotiate with the youths about Covid-19 preventive behaviors, alongside family. The results also imply that police do threaten the youths residing in Majengo slums about Covid-19 preventive behaviors to a significant extent.

4.9 How Effective Each of the Five Types of Interpersonal Communication (Educating, Rebuking, Casual Talk, Negotiation, and Threats) is in Encouraging Youths to Adhere to Covid-19 Preventive Measures

This section sought to find out how effective the respondents feel the five types of interpersonal communication are in increasing their willingness to perform Covid-19 prevention measures. Respondents were required to pick from options ranging from strongly agree to strongly disagree.

Figure 4.3 Youths' level of agreement with various types of interpersonal communication



Source: Fieldwork, 2022

A vast majority of the respondents (96.9%) said that educating them increases their willingness to perform Covid-19 preventive measures (all who chose either agree or strongly agree) About half of the respondents (50.8%) said rebuking them increases their willingness to perform Covid-19 preventive measures (*See Figure 4.3*). The remaining 49.2% either disagreed with the idea of rebuke increasing their willingness to perform Covid-19 behaviors (43.1%) or was undecided (6.1%). Concerning casual talk, 86.2% of the respondents said engaging in a casual talk about Covid-19 increases their willingness to perform preventive behaviors. 86.7% of the respondents said negotiating with them increasing their willingness to perform Covid-19 preventive behaviors. Concerning the use of threats, over half of the respondents (52.3%) disagreed (both strongly disagree and disagree) with the idea that threatening them with consequences increases their willingness to perform Covid-19 preventing behaviors 40% of whom disagreed strongly. More women than men said threatening them increases their willingness to perform Covid-19 preventive behaviors (23.1% of total respondents compared to men's16.9%).

The above results imply that for most youths residing in Majengo Slums, using threats when engaging them about Covid-19 does not increase their willingness to perform Covid-19 preventive behaviors. Rebuking them may not be very effective either because about half of the youths (49.2%) said so doing does not increase their willingness to perform Covid-19 preventive behaviors. This is in line with the warning by Surina et al. (2021) that fear appeals could result in negative outcomes including refusal to up the recommended preventive behaviors. On the other hand, educating the youths, engaging them in casual talks about the disease, and negotiating with them about the preventive behaviors seems effective in promoting adoption and adherence to Covid-19 preventive behaviors.

From the key informant interviews, negotiation emerged an effective form of interpersonal communication with many key informants saying youths in the area prefer someone who gives them something in return.

Key informant 3 says:

"Here in the slum, casual talk is the most preferable when discussing Covid-19 preventive behaviors with the youth. If you try rebuking someone, it could easily end up in a fist-fight. Already people are angry about losing their jobs so rebuking them will only make them angrier."

Key informant 2 says:

"We used to tell them during Kazi Mtaani (a government manual labor program), you can see there are many of us here. If you don't wear facemasks, we'll all get infected and lose this job. You will also end up infecting our families."

Key informant 4 says:

"The best results will come from telling them that if you follow the protocols, you will be offered a job. They prefer someone who is promising them something in return."

Key informant 6 says:

"With the levels of poverty here, youths put all their concentration on making money, not Covid-19. We fear the disease but we fear hunger even more."

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section provides the summary of the findings, the conclusion and recommendations of the study. Additionally, the section makes suggestions for further research.

5.2 Summary of the findings

This study sought to analyze the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. It was guided by two theories: Transtheoretical Model and Social Cognitive Theory. To obtain data, the study employed a Convergent Parallel Mixed-methods design where quantitative data was collected using a cross-sectional descriptive survey while qualitative data was collected using key informant interviews. Respondents were youths aged between 18 and 34 years who have resided in Majengo slums for at least three months since the first case of Covid-19 was announced in the country. Key informants comprised six Majengo residents who were considered to be information-rich on the subject matter. These are: two youth leaders (male and female), an administrator, a village elder, a Community Health Volunteer, and a health worker. Survey respondents and the key informants provided the information analyzed in this study.

The study had three objectives: First, it sought to determine the factors that influenced interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements before the mandatory wearing of facemasks was lifted in March 2022. Secondly, it sought to establish how interpersonal communication with family, friends, work colleagues, and community health volunteers has influenced the adoption of Covid-19 preventive health behaviors. Lastly, it sought to establish how the nature of interpersonal communication has influenced the adoption of Covid-19 preventive behaviors.

5.2.1 Factors that influence interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements

This study established that most of the youths in Majengo slums, Nairobi, are familiar with the Covid-19 preventive measures. Hence, their decision of whether to adhere to Covid-19 preventive measures or not is influenced by factors other than total ignorance of the measures. From the findings, it was established that a vast majority of youths residing in Majengo slums (96.9%) have varying levels of familiarity with Covid-19 preventive behaviors. Hence, most of the youths living in Majengo are beyond the precontemplation stage of the Transtheoretical Model. They have some knowledge of the negative effects of the disease and how prevent themselves from catching it.

The study affirmed that awareness alone is not enough to establish and sustain preventive behavior, communicators need to go beyond just creating awareness. This confirms a key tenet of the Transtheoretical Model that change is a process and not a single instance. Despite a vast majority of the youths in Majengo being familiar with Covid-19 preventive measures, 75.4% of the youths are not adhering fully to the preventive measures. Myths and misconceptions, poverty, overcrowding, and lack of basic amenities such as water and sanitation also emerged as a hindrance to observing the preventive measures.

The research suggests that family members have a significant influence on youths on matters adoption of Covid-19 preventive behaviors, a position supported by both literature and Social Cognitive Theory. Hence, the household can serve as an important unit for promoting the adoption of Covid-19 preventive behaviors. Findings revealed that over half of the youths living in Majengo slums (53.2%) discuss Covid-19 Preventive behaviors regularly with their family members, followed by CHV's (46.1%), work colleagues (44.6%) and friends 33.8%. Similarly, CHVs friends, and work colleagues too have significant influence on youths that can be tapped to promote adoption of preventive behaviors. This agrees with both literature and Social Cognitive Theory that one's external environment has a lot of influence on behavior change.

The study findings revealed that for youths residing in Majengo slums, how well one thinks he understand the preventive behavior (perceived own comprehension) is the most important factor when deciding whether or not to discuss Covid-19 preventive behaviors with a conversation partner. It affirms the place of self-efficacy in behavior change and adoption, a concept found in both Social Cognitive theory and Transtheoretical Model. This is followed by how relevant one thinks the preventive behavior is to his personal situation. From the findings, how well one thinks he understands preventive behaviors was rated significantly important by 81.5% of the respondents while how relevant the preventive behavior is to an individual's own situation was rated significantly important by 80%. How well one thinks the conversation partner understands the preventive behavior (perceived comprehension by others), the context in which the conversation about preventive behavior is taking place, and the kind of relationship one has with the conversation partner also are considered fairly important by more than 50% of the youths. Whether the preventive behavior is a hot topic or not emerged the least important factor considered important by 49.2% of the respondents. Other than the six, other factors include the mood of the conversation partner at that particular time as well as traditional and religious beliefs of the partner.

5.2.2 How interpersonal communication with family, friends, work colleagues and Community Health Volunteers has influenced the adoption of Covid-19 preventive health behaviors

The researcher established that interpersonal communication with family, friends, work colleagues and CHV's to a large extent promotes the adoption of Covid-19 preventive behaviors among youths residing in Majengo slums. From the findings, it emerged that discussing Covid-19 with all the four categories of people above positively impacts the determinants of behavior change which determine the adoption of Covid-19 preventive behaviors. These are perceived severity, perceived susceptibility, response efficacy, trust in the government's ability to deal with the disease, perceived norms, and perceived self-efficacy. However, myths and misconceptions are also passed via interpersonal communication, including with the same categories of people discussed here, and this impedes adoption of Covid-19 preventive behaviors.

The study further established that interpersonal communication with the above categories of people increases youth's perception of Covid-19 as a threat and makes them perceive themselves as being more susceptible to the disease. It makes them perceive the proposed responses to the disease as being more likely to work and has increased their trust in the

government's ability to handle the pandemic. For instance, 87.7% of the respondents said that discussing Covid-19 with family made them feel that the disease was more serious than they initially thought while 84.6% of the respondents said discussing Covid-19 with friends made them feel that the disease was more serious than they initially thought. Additionally, discussing preventive behaviors with family, friends, work colleagues and CHV's makes the youth feel that other people in their community are taking the preventive measures seriously. Lastly, it has improved how they perceive their ability to effectively perform the required preventive behaviors. The positive influence of discussing Covid-19 with the five categories of people above on the adoption of preventive behaviors was also confirmed by key informant interviews. This agrees with Social Cognitive Theory which posits that one's external environment has a lot of influence on behavior change.

5.2.3 How the nature of interpersonal communication influenced the adoption of Covid-19 preventive behaviors.

Findings indicated that of the five forms of interpersonal communication considered in this research i.e educating, rebuking, casual talk, negotiation, and threatening, educating is the most commonly used by individuals when discussing Covid-19 with youths residing in Majengo slums. It is followed by casual talk, negotiation, and rebuking respectively. From the findings, 95.4% of Majengo residents said someone has ever spoken to them in a manner to educate them while 84.6% said they have been spoken to in the manner of casual talk. Threatening is the least used form of interpersonal communication when discussing Covid-19 preventive behaviors with youths residing in Majengo slums with only 47.7% of the respondents saying they have been spoken to in that manner when discussing Covid-19 preventive behaviors.

The study revealed that family members are the most likely to speak to Majengo youths in an educating manner when discussing Covid-19 preventive behaviors. They are also the most likely to rebuke them and negotiate with them. Friends are the most likely to hold a casual talk with the youth about the preventive measures while work colleagues are the ones most likely to threaten them. Work colleagues are also the most likely to negotiate with the youths about Covid-19 preventive behaviors, alongside family. Further, the study found that Police do threaten the youths residing in Majengo slums to a significant extent over Covid-19 preventive behaviors.

This study established that educating, negotiating, and holding casual talks with Majengo youths is an effective way of getting them to adopt Covid-19 preventive behaviors. From the findings, (96.9%) of the respondents said that educating them increases their willingness to perform Covid-19 preventive measures while 86.2% of the respondents said engaging in a casual talk about Covid-19 increases their willingness to perform preventive behaviors. 86.7% of the respondents said negotiating with them attains the same desirable effect. The study, on the other hand, established that using threats is not an effective way of getting more youths to adopt Covid-19 preventive measures. From the findings, over half of the respondents (52.3%) disagreed with the idea that threatening them with consequences increases their willingness to perform Covid-19 preventing behaviors. Similarly, rebuking is not a very effective type of interpersonal communication to use in promoting the adoption of Covid-19. Opinion on its effectiveness was divided into almost two equal halves with 50.2% saying it increases their

willingness to perform Covid-19 preventive measures while 49.8% said it does not. Both the survey and the key informant interviews agree on this, an indication that the convergent parallel mixed methods design used in this study was appropriate for checking whether quantitative and qualitative data confirm or disconfirm one another.

5.3 Conclusion

This study aimed to analyze the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. The researcher drew the following conclusions based on the findings of the study:

On factors that influence interpersonal communication on the adoption of Covid-19 preventive behaviors, this study concludes that perceived own comprehension, perceived comprehension of the preventive behavior by others, and how relevant one thinks the behavior is to his own situation are the factors considered by youths residing in Majengo slums in deciding whether to discuss the preventive behaviors or not with a conversation partner. Other factors are context under which the interpersonal communication is taking place, the kind of relationship one has with the conversation partner and if the preventive behavior to be discussed is a hot topic at the moment. For youths residing in Majengo slums, perceived own comprehension is the most important factor.

Further this study concludes that interpersonal communication with family, friends, work colleagues and Community Health Volunteers increases the adoption of Covid-19 preventive measures. The research established that interpersonal communication with the four categories of people increases the perception of Covid-19 severity, makes one feel more susceptible to the virus, and increases and individual’s perception of response efficacy. It also increases one’s trust in government’s ability to handle the virus, increases one’s perception of self-efficacy and made individuals feels that other people in the community were taking the disease seriously. All this serves to encourage individuals to adopt and adhere to the preventive behaviors. Family emerged to be very influential on how youths perceive these determinants of behavior change.

On how the nature of interpersonal communication influences the adoption of Covid-19 preventive behaviors, this study concludes that educating, negotiating and holding casual talks about the disease with youths increases their willingness to perform Covid-19 preventive behaviors. However, threatening them does not increase willingness. Rebuking youths while discussing Covid-19 preventive behaviors has contested influence with one half saying it increases their willingness to perform the preventive behaviors while the other half says it does not. Family emerged as one that plays a key role in educating the youth about preventive behaviors while casual talk happens mostly with colleagues. The study affirmed that police do use threats against the youths and this can be counterproductive.

5.4 Recommendations

Based on the above findings, this study recommends that the government, development agencies and all stakeholders involved in the fight against Covid-19 should seek to utilize interpersonal communication more in combating Covid-19 because it is effective in promoting the adoption of preventive behaviors among youths living in informal settlements. Secondly, there is a need to

target the household unit more in promoting adoption of Covid-19 preventive measures because it is very influential in promoting the adoption of Covid-19 preventive behaviors among youths living in informal settlements. Stakeholders in the fight against Covid-19 should seek to influence the determinants of behavior change as a way of promoting adoption and adherence to Covid-19 preventive behaviors among youths living in informal settlements. These include: Perceived severity, perceived susceptibility, perceived response efficacy, trust in governments ability to handle the disease, perceived social norms, and perceived self-efficacy. Additionally, stakeholders involved in the fight against Covid-19 should work to improve youth's comprehension of the preventive behaviors. Perceived own comprehension has influence on how individuals gauge their own ability to perform the behaviors and whether they discuss the preventive behaviors with others. There is a need to step up efforts in educating, holding casual talks, negotiating with youths residing in Majengo slums about Covid-19 as this seems to have a positive influence on the adoption of preventive behaviors. However, they should refrain from threatening and rebuking the youths. Those involved in the fight against Covid-19 should step up efforts to address myths and misconceptions about the disease because they are impeding adoption and adherence to preventive behaviors.

5.5 Suggestions for further studies

Based on the findings and the limitations of this study, the researcher recommends that a similar study be carried in other informal settlements in Nairobi to see how the results compare with those of Majengo slums. It also recommends that a study focusing on the same variables but using a different approach and design be carried out in Majengo to compare the findings. Lastly, this study recommends that a similar study be carried out in medium and low-density segments of Nairobi to see how it compares with informal settlements.

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APPENDICES

Questionnaire

My name is Lewis Njoka, a graduate student at the University of Nairobi pursuing Master's degree in Communication Studies. I am conducting a study on the influence of interpersonal communication on the adoption of Covid-19 preventive health behaviors among youths in informal settlements. The information you give will be used in this study for academic purposes only.

SECTION A: General information (Tick one ✓)

1. State your gender

(a). Male (b). Female

2. How old are you?

(a). 18-21 (b). 22-25 (c). 26-29 (d). 30-34

3. What is your employment status?

(a). Unemployed (b). Self-employed (c). Employed

4. What is the highest level of education you have attained?

(a). KCPE

(b). KCSE

(c). College certificate

(d). College Diploma

(e). Bachelor's degree

(f). Master's degree

(g). Others (specify)________________________

SECTION B: Factors which influenced interpersonal communication on the adoption of Covid-19 preventive health behaviors before the mandatory wearing of facemasks was lifted in March 2022.

1. How familiar are you with Covid-19 preventive behaviors such as wearing a facemask, washing hands, sanitizing, and maintaining social distance? (**Tick one**)

(a). Not familiar (b). Slightly familiar (c). Somewhat familiar (d). Moderately familiar

(e). Extremely familiar

2. How frequently did you perform Covid-19 preventive behaviors such as wearing a facemask, washing hands, sanitizing, and maintaining social distance before March 2022 when mandatory wearing of facemasks was lifted? **(Tick one)**

(a). Never (b). Rarely (c). Sometimes (d). Often (e). Always

3. How frequently did you discuss Covid-19 preventive behaviors with the following people before the mandatory wearing of facemasks was lifted in March 2022? (**Tick one for each of the four categories of people**)

		Never	**Rarely**	**Sometimes**	**Often**	**Always**
(a).	Family					
(b).	Friends					
(c).	Work colleagues					
(d).	Community health volunteers					

4. In your opinion, how important are the below factors in deciding whether to discuss Covid-19 preventive behaviors with other people or not **(Tick one for each of the six factors below)**

		Not important	**Slightly important**	**Moderately important**	**Important**	**Very important**
(a).	How well I think I understand the preventive behavior e.g. wearing a facemask					
(b).	How well I think my conversation partner understands the preventive behavior					
(c).	How relevant I think the preventive behavior is to my own situation					
(d).	If the preventive behavior is a hot topic that my conversation partners will find interesting					
(e).	The circumstances under which we are having the discussion i.e context					

(f).	The kind of relationship I have with the conversation partner					

5. Are there other factors you consider in deciding whether to discuss Covid-19 preventive behaviors with a conversation partner or not? **(Tick one)**

(a). Yes (b). No

If yes, please explain ……………………………………………………………………………

……………………………………………………………………………………………………….

SECTION C: How interpersonal communication with family, friends, work colleagues, and community health volunteers influenced the adoption of Covid-19 preventive health behaviors.

(1). Choose your level of agreement with the following statements which pertain to discussing Covid-19 with family **(Tick one level of agreement for each of the six categories below)**

		Strongly agree	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
(a).	Discussing Covid-19 with family made me feel the disease was more serious than I initially thought					
(b).	Discussing Covid-19 with family made me feel that I was more likely to catch Covid-19 than I initially thought					
(c).	Discussing Covid-19 with family made me feel that the preventive measures were more likely to work than I initially thought					
(d).	Discussing Covid-19 with family increased my trust in the government's ability to deal with the pandemic					
(e).	Discussing Covid-19 with family made me feel like other people in the community were taking Covid-19 preventive behaviors seriously					

(f).	Discussing Covid-19 with family made me feel more confident about my ability to perform the Covid-19 preventive measures e.g. wearing a facemask,					

(2). To what extent do the following statements reflect you? **(Tick one for each of the six categories below)**

		True of me	**Somewhat true of me**	**Neutral**	**Somewhat untrue of me**	**Untrue of me**
(a).	Discussing Covid-19 with friends made me feel the disease was more serious than I initially thought					
(b).	Discussing Covid-19 with friends made me feel that I was more likely to catch Covid-19 than I initially thought					
(c).	Discussing Covid-19 with friends made me feel that the preventive measures were more likely to work than I initially thought					
(d).	Discussing Covid-19 with friends increased my trust in the government's ability to deal with the pandemic					
(e).	Discussing Covid-19 with friends made me feel like other people in the community were taking Covid-19 preventive behaviors seriously					
(f).	Discussing Covid-19 with friends made me feel more confident about my ability to perform the Covid-19 preventive measures e.g. wearing a facemask,					

(3). Choose your level of agreement with the following statements which pertain to discussing Covid-19 with work colleagues **(Tick one level of agreement for each of the six categories below)**

		Strongly agree	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
(a).	Discussing Covid-19 with work colleagues made me feel the disease was more serious than I initially thought					
(b).	Discussing Covid-19 with work colleagues made me feel that I was more likely to catch Covid-19 than I initially thought					
(c).	Discussing Covid-19 with work colleagues made me feel that the preventive measures were more likely to work than I initially thought					
(d).	Discussing Covid-19 with work colleagues increased my trust in the government's ability to deal with the pandemic					
(e).	Discussing Covid-19 with work colleagues made me feel like other people in the community were taking Covid-19 preventive behaviors seriously					
(f).	Discussing Covid-19 with work colleagues made me feel more confident about my ability to perform the Covid-19 preventive measures e.g. wearing a facemask,					

(4). To what extent do the following statements reflect you? **(Tick one for each of the six categories below)**

		True of me	Somewhat true of me	Neutral	Somewhat untrue of me	Untrue of me
(a).	Discussing Covid-19 with community health volunteers made me feel the disease was more serious than I initially thought					
(b).	Discussing Covid-19 with community health volunteers made me feel that I was more likely to catch Covid-19 than I initially thought					
(c).	Discussing Covid-19 with community health volunteers made me feel that the preventive measures were more likely to work than I initially thought					
(d).	Discussing Covid-19 with community health volunteers increased my trust in the government's ability to deal with the pandemic					
(e).	Discussing Covid-19 with community health volunteers made me feel like other people in the community were taking Covid-19 preventive behaviors seriously					
(f).	Discussing Covid-19 with community health volunteers made me feel more confident about my ability to perform the Covid-19 preventive measures e.g. wearing a facemask,					

SECTION D: How the nature of interpersonal communication influenced the adoption of Covid-19 preventive behaviors

1. Has any of your conversation partners ever spoken to you in the manner listed below when discussing Covid-19 preventive behaviors? (**Tick either yes or no)**

	Nature of communication	**Yes**	**No**
(a).	Educated you- Provided you with information to prevent you from catching Covid-19		
(b).	Rebuked you – A friendly warning to stop doing things that might make you catch Covid-19		
(c).	Held a casual talk with you about Covid-19 preventive behaviors		
(d).	Negotiated with you – Reached an agreement with you about Covid-19 preventive behaviors for the benefit of both of you. E.g. If you wear a facemask, I will let you into my house.		
(e).	Threatened you – Promised you harm if you don't practice Covid-19 preventive behavior. E.g. If you don't wear a mask, I will fire you.		

2. Among family, friends, work colleagues, and community health volunteers, who would you say has engaged you the **MOST** in each of the following types of conversations? **(Tick one for each of the 5 categories of conversations**)

	Nature of conversation	**Family**	**Friends**	**Work colleagues**	**Community Health Volunteers**
(a).	Educating you about Covid-19				
(b).	Rebuking you about your Covid-19 behavior				
(c).	Holding casual talks with you about Covid-19				
(d).	Negotiating with you about Covid-19				
(e).	Threatened you with consequences for your Covid-19 behavior				

3. What is your level of agreement with the following statements? **(Tick one for each statement)**

	Statement	**Strongly agree**	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
(a).	Educating me increases my willingness to perform Covid-19 preventive measures e.g. wearing a facemask					

(b).	Rebuking me increases my willingness to perform Covid-19 preventive measures e.g. wearing a facemask					
(c).	Engaging in a casual talk about Covid-19 increases my willingness to perform Covid-19 preventive measures e.g. wearing a facemask					
(d).	Negotiating with me increases my willingness to perform Covid-19 preventive measures e.g. wearing a facemask					
(e).	Threatening me with consequences increases my willingness to perform Covid-19 preventive measures e.g. wearing a facemask					

Thank you for finding time to respond to this questionnaire.

Interview Guide

1. In your view, how familiar are youths from Majengo with Covid-19 preventive health behaviors such as wearing a facemask, washing hands, sanitizing, and maintaining social distance?
2. In your opinion, do youths from Majengo talk to family, friends, work colleagues and community health volunteers about Covid-19 preventive measures? If yes, whom do they talk to mostly and why?
3. Why are some youths comfortable talking about these preventive behaviors while others are not?
4. Do you think discussing Covid-19 preventive behaviors with friends, family, work colleagues, and community health volunteers has any influence on how one adopts and adheres to the preventive measures? Explain.
5. Between educating youths about Covid-19, rebuking them, engaging them in a casual talk about the disease, negotiating with them to perform preventive behaviors, and threatening them with punishment, which one do you think will result in youths adhering better to Covid-19 preventive measures? Why?