

UNIVERSITI TEKNOLOGI MARA

**LINGUISTIC FEATURES IN
THE MINISTRY OF HEALTH'S
IMMUNISATION BROCHURE:
PERCEPTIONS AND VACCINATION
INTENTION AMONG UNIVERSITY
STUDENTS**

**NISA NUR ARISYIA BINTI
MAWARDI**

MA

May 2026

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STUDENTS**

NISA NUR ARISYIA BINTI MAWARDI

Thesis submitted in fulfilment
of the requirements for the degree of
Master in Applied Language Studies

Academy of Language Studies

May 2026

CONFIRMATION BY PANEL OF EXAMINERS

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I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Postgraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

This study investigates how linguistic features in the National COVID-19 Immunisation Programme brochure influence university students' comprehension and intention to vaccinate. University students were chosen as they represent an influential demographic that remains vulnerable to health misinformation. Adopting a qualitative case study design, the study combined content analysis with semi-structured interviews of students with varying English proficiency. Findings reveal that the brochure's impact is heavily mediated by language proficiency. While linguistic features such as jargon, headings, and quotations construct scientific authority, they simultaneously create comprehension barriers for lower-proficiency students. Synthesis of the data indicates that authority and social norm frames fostered trust, though political endorsements triggered scepticism in some academic readers. The study concludes that effective health communication in Malaysia requires balancing technical accuracy with linguistic accessibility. Theoretical contributions include the integrated application of SFL and Framing Theory, while practical insights emphasize audience-sensitive design to strengthen public trust and future health messaging for young adult audiences.

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LIST OF ABBREVIATIONS

Abbreviations

MoH	Ministry of Health
SFL	Systemic Functional Linguistic
UiTM	Universiti Teknologi MARA
WHO	World Health Organization
EUA	Emergency Use Authorization
KLN	Ministry of Foreign Affairs
MOSTI	Ministry of Science, Technology and Innovation
ICH	International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use
FAQ	Frequently Asked Questions
JKJAV	Special Committee for Ensuring Access to COVID-19 Vaccine Supply

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter provides a structured overview of the study. It begins with an examination of the COVID-19 outbreak and the development of vaccines to mitigate its impact within the current endemic phase. The role of public health communication in shaping vaccine perceptions, particularly among university students, is highlighted.

The research problem focuses on vaccine intention among university students, influenced by linguistic features, accessibility of information, and trust in official sources. This study examines how specific linguistic features in the National COVID-19 Immunisation Programme brochure shape students' perceptions and vaccination intentions across diverse English proficiency levels. The research questions and objectives are outlined to establish the study's direction, identifying linguistic features in the brochure, analysing students' perceptions, and assessing the impact on vaccination decisions.

Additionally, the significance of the study is discussed, emphasizing its contributions to linguistics, health communication, and public health policymaking. By analysing Malaysia's official vaccination materials, this research provides insights into optimizing linguistic features for vaccine acceptance.

The scope and limitations also define the study's boundaries, focusing on university students from multiple faculties and the brochure as the primary text for analysis. The key terms used throughout the research are also defined to ensure clarity.

This chapter lays the foundation for the study, guiding the subsequent discussions and analyses on how linguistic features in health communication influence vaccine intention among university students.

1.2 Background of the Study

The outbreak of the viral pathogen, SARS-CoV-2, or COVID-19 in Wuhan, China, in late 2019, has caused a global health emergency due to its rapid spreading (Jeyanathan et al., 2020). While the initial years of the outbreak were defined by a

worldwide pandemic, the current situation has transitioned into an endemic phase, due to increased population immunity and improved management strategies despite the virus's persistent presence within the community (Chung et al., 2024). While vaccination campaigns are essential tools in controlling the early pandemic phase, vaccine intention remains a persistent and complex issue globally. Despite the availability of vaccines, addressing public willingness to vaccinate continues to be a critical obstacle in maintaining population-level immunity in this endemic era.

In response to the initial pandemic phase, an emergency global lockdown was declared, and a team of scientists was assembled by the World Health Organization (WHO) to develop vaccines that could offer protection against the virus (Thanh Le et al., 2020). Moreover, this concerted global effort led to the rapid development and distribution of multiple COVID-19 vaccines by early 2021. As these vaccines were proven safe and effective by regulatory authorities, they were rolled out globally in phases to achieve widespread immunity. However, concerns regarding vaccine safety and efficacy have occasionally hindered vaccine intention, exacerbated by the accelerated timeline for vaccine development. According to Kashte et al. (2021), the usual timeframe for vaccine development, which is 10 to 15 years, was significantly reduced to approximately 12 to 16 months only, due to the global collaboration, new vaccine technologies, and streamlined regulatory processes such as Emergency Use Authorization (EUA). While this expedited process was necessary to address the urgency of the crisis, it has contributed to lingering scepticism among certain populations.

Hence, the role of health communication in addressing vaccine intention cannot be overstated. Effective health communication is vital in public health campaigns, especially during pandemics, as it shapes public perceptions and influences behaviours (Ratzen et al., 2020). Linguistic features such as vocabulary, structure, tone, and framing play a significant role in determining the effectiveness of health communication materials. Another study also suggests that clarity, accessibility, and emotional appeal of messages significantly impact public trust and engagement (Yu & Zhao, 2025). During the transition to endemic state, these linguistic features became even more critical as governments and health organizations sought to counter misinformation and encourage vaccination uptake among the population. Given that effective communication depends not only on content but also on audience characteristics, it is

important to examine how specific groups, such as university students, respond to health communication messages.

University students, as a demographic group, represent a key population for vaccination campaigns. They are often at a higher risk of contracting infectious diseases due to their social interactions and communal living arrangements (Hossian et al., 2022). Furthermore, university students are influential in shaping public opinion, particularly through their active presence on social media platforms. However, this exposure also makes them vulnerable to the misinformation about vaccines. In a study conducted in India, Jain et al., (2021) found that students who were hesitant about vaccines often relied on unverified social media sources rather than official health websites. Similarly, in Malaysia, Chee Yin Wong et al. (2023) highlight that the prevalence of misinformation has led to selective trust in information sources, which significantly impacts students' vaccination intentions.

The relevance of this research becomes evident in the current context in Malaysia. Malaysia's diverse linguistic and cultural landscape adds another layer of complexity to health communication efforts. With its multilingual population, public health messages must cater to varying levels of language proficiency and cultural sensitivities. The National COVID-19 Immunisation Programme brochure represents one such effort to convey critical information about vaccination. However, the effectiveness of this brochure in addressing vaccine intention among university students remains underexplored. As highlighted by Feinberg et al. (2021), the cultural and linguistic nuances of health communication materials play a crucial role in shaping the public perception, influencing engagement, and ultimately determining the effectiveness of vaccination campaigns.

This study aims to address this gap by analysing the linguistic features of the National Immunisation COVID-19 Immunisation Programme brochure by using Halliday's Systemic Functional Linguistics (SFL) framework. This theoretical approach examines how linguistic features fulfil specific functions such as ideational, interpersonal, and textual to achieve communicative goals (Halliday & Matthiessen, 2014). By focusing on university students in Malaysia, the study seeks to understand how these linguistics features influence their vaccination intentions and address vaccine hesitancy.

Given the global challenges of vaccine intention and the local context of Malaysia, this research holds significant relevance. It contributes to the broader field of

health communication by providing insights into how language can be strategically used to combat misinformation and promote public health initiatives. Additionally, by examining the specific case of the National COVID-19 Immunisation Programme brochure, this study also offers practical implications for designing more effective communication materials tailored to diverse audiences, ultimately supporting efforts to increase vaccination rates and control the ongoing endemic.

1.3 Problem Statement

Ideally, public health communication materials should be linguistically accessible, clear, and persuasive to empower university students to make an informed health decision. For communication to be effective, it must bridge the gap between complex medical jargon and the audience's comprehension levels, thereby fostering a high level of vaccination intention and public trust in healthcare initiatives.

However, the reality presents significant challenges. The transition of COVID-19 from a global pandemic to an endemic state has established a “new norm” where high vaccination rates are essential for long-term public health stability (World Health Organisation, 2023). In response to the initial crisis, the Malaysian government launched the National COVID-19 Immunisation Programme (PICK), a strategy to achieve herd immunity through the rapid rollout of vaccines. Despite these extensive initiatives to promote the safety and efficacy of the vaccines, there is still notable lack of studies investigating how specific linguistic features can influence the vaccination intention of university students in relation to their English proficiency levels, particularly within the localised Malaysian context.

The urgency of this issue is reflected in the significant number of individuals who failed to attend the scheduled vaccination appointments during the PICK rollout. National statistics showed that 57% of COVID-19 vaccination appointments via the MySejahtera app and SMS were not confirmed; out of 31,776 people, 18,215 did not confirm the dates offered, while 13,218 confirmed and 343 declined to get vaccinated against COVID-19 (Jafar et al., 2022; “COVID-19 Vaccination Appointments”, 2021). This lack of vaccination intention is often exacerbated by public concerns regarding the rapid 12 to 16 months development timeline of the vaccine compared to the traditional 10 to 15 years process (Jeyanathan et al., 2020; Kashte et al., 2021). (Jain et al., 2021).

Addressing the vaccination intention among university students is particularly critical as this demographic group plays a central role in shaping public opinion, yet they remain highly vulnerable to misinformation (Jain et al., 2021). A study by Chee Yin Wong et al., (2023) found that 35% of Malaysian university students expressed reluctance toward the vaccine due to concerns about the side effects and conflicting reports. Furthermore, the effectiveness of health communication is intricately tied to English proficiency levels (Santos et al., 2017). Specifically, students with a high English proficiency may find it easier to understand complex jargon and references, while those with lower proficiency may struggle with technical terms, leading to misunderstanding that diminish their vaccination intention (Xie et al., 2021).

While there are previous studies that have investigated linguistic features in health advertisements (see for instance Amalina, 2023; Liu et al., 2021; Ornia, 2015), there is a limited number of studies specifically focused on COVID-19 vaccination brochures (see for instance Yu et al., 2022; Putri & Andriyani, 2022). Understanding the linguistic features employed in health advertisements is of paramount importance, as these features play a pivotal role in shaping the perception and responses of the readers. Language, with its power to evoke emotions, convey information, and create a sense of trust or urgency, can significantly influence the reader's attitude and behaviour towards the advertised health interventions. Hence, for the context of this study, it becomes crucial to analyse how linguistic features of the National COVID-19 Immunisation Programme brochure by the Ministry of Health (MoH) in Malaysia can influence the university students' intention regarding the COVID-19 vaccination based on their English language proficiency.

To address this, Halliday's Systemic Functional Linguistics (SFL) provides a structured approach to examine the linguistic choices in health communication materials. Halliday's SFL enables researcher to analyse how language functions to construct meaning across three metafunctions which are ideational, interpersonal, and textual (Halliday & Matthiessen, 2014). This framework is particularly relevant for this study as it allows for an in-depth analysis of how linguistic features in the National COVID-19 Immunisation Programme brochure shape meanings, influence the public trust, and impact the vaccination intention. Prior research has also demonstrated that health messages employing persuasive linguistic strategies, strategic modality choices, and emotionally engaging vocabulary are more likely to enhance compliance with public health recommendations (Peng et al., 2024). Framing Theory (Entman, 1993),

also complements the analysis of the linguistic features by explaining how these features foreground specific interpretations of vaccination, such as risk and benefit, thereby influencing the university students' intentions.

The consequences of ineffective health communication are far-reaching. Misinterpretations of vaccine-related information can lead to increased susceptibility to misinformation, and ultimately, lower vaccination rates (Borges do Nascimento et al., 2022). A poorly framed health message may fail to address public concerns, leaving key questions unanswered and allowing misinformation to persist. In the context of university students, ineffective health communication could lead to vaccine refusal, which in turn increases the risk of disease outbreaks in campus settings (Machingaidze & Wiysonge, 2021). Furthermore, ineffective messaging may undermine public trust in governmental and health institutions, resulting in long-term resistance to future public health campaigns (Betsch et al., 2018). As such, a thorough examination of the linguistic features in health communication materials is critical to ensuring clarity, credibility, and engagement with target audiences.

By narrowing the focus from a global perspective to Malaysia context, the research gains localized relevance, aims to bridge the gap in understanding how language, perceptions, and vaccination intentions intersect to influence decision-making among the university students.

1.4 Research Objectives

The main objectives of this research are:

1. To identify the linguistic features utilised in the National COVID-19 Immunisation Programme brochure.
2. To examine the perceptions of high and low English proficiency university students regarding the linguistic features of the National COVID-19 Immunisation Programme brochure.
3. To analyse how linguistic features of the National COVID-19 Immunisation Programme brochure influence university students' vaccination intention.

1.5 Research Questions

The research questions that need to be answered for this research are:

1. What linguistic features are utilised in the National COVID-19 Immunisation Programme brochure?
2. What are the perceptions of high and low English proficiency students regarding the linguistic features of the National COVID-19 Immunisation Programme brochure?
3. How do the linguistic features of the National COVID-19 Immunisation Programme brochure influence students' vaccination intention?

1.6 Significance of the Study

The study aims to identify the linguistic features embedded within the brochure, recognising that language nuances can play a pivotal role in shaping individuals' interpretations. By pinpointing these linguistic traits, the research can better understand how the brochure communicates with its audience. Second, the investigation intends to delve into students' perceptions of these linguistic features, providing valuable insights into how well the communication strategy resonates with this specific demographic. This understanding will enable the refinement of communication efforts to align with students' preferences. Lastly, the study seeks to explore how these linguistic features impact students' intentions regarding COVID-19 vaccination. By uncovering the relationship between language and intention, the research can guide the development of more effective communication strategies.

This research holds paramount importance for students pursuing linguistic studies, offering them valuable insights into the intricate relationship between language styles and effective communication. By analysing the linguistic features employed in COVID-19 vaccination brochures, linguistic students can gain a deeper understanding of how language influences comprehension and persuasion. This knowledge equips them with the skills to create well-crafted and impactful brochures in the future, enhancing their ability to convey complex information clearly and persuasively. As language is a fundamental tool of communication, these students can apply their insights to various domains beyond health communication, fostering better communication strategies in diverse contexts.

Moving on, the significance of this study extends to faculties specialising in art and design. For instance, in an art faculty, understanding how linguistic features shape the design of brochures and advertisements is crucial. The research offers valuable guidance on harmonising linguistic features with visual aesthetics, ensuring that the message is not only effectively communicated but also visually engaging. This synergy between language and design can lead to the creation of visually appealing materials that capture the audience's attention while maintaining the clarity and impact of the information conveyed. Ultimately, this interdisciplinary approach enriches the artistic skills of students, enabling them to craft compelling communication materials in their future careers.

The significance of this research also extends beyond academia and directly benefits Ministries of Communication, Digital, and Media. By delving into the interplay between linguistic features and effective communication, the findings of this study can offer these entities invaluable insights into crafting more impactful and resonant messaging. Ministries responsible for communication strategies can benefit from a deeper understanding of how linguistic choices influence comprehension, engagement, and persuasion. Armed with this knowledge, they can shape their communication campaigns with greater precision and effectiveness. By incorporating the linguistic features identified in the research, these ministries can enhance the clarity, persuasiveness, and trustworthiness of their public messages.

Finally, the Ministry of Health (MoH) stands to gain substantial benefits from the outcomes of this research. The findings can serve as a guiding resource for the Ministry of Health (MoH) in developing more effective health communication materials, specifically related to vaccination campaigns. By incorporating linguistically informed strategies, the Ministry of Health (MoH) can tailor its brochures and advertisements to resonate with the target audience, thereby enhancing the public's understanding of vaccinations and increasing their willingness to get vaccinated. Moreover, the research can shed light on language nuances that can dispel misinformation, address hesitancy, and promote informed decision-making regarding vaccines. As a result, the Ministry of Health (MoH) can bolster its efforts to ensure public health by effectively conveying critical information through linguistic techniques that foster trust and understanding.

In conclusion, this study's significance is multifaceted, with implications that span educational disciplines, artistic realms, and public health institutions. By delving

into the interplay between language features and effective communication, the research not only empowers students and faculties but also offers tangible benefits to health authorities striving to improve vaccination uptake and public health outcomes in Malaysia.

1.7 Scope and Limitations of the Study

The scope of this study revolves around a focused examination of university students' perceptions regarding the linguistic features of the National COVID-19 Immunisation Programme brochure. The study involves participants from various faculties at Universiti Teknologi MARA, Shah Alam (UiTM Shah Alam), including English, Engineering, and Bahasa Melayu. University students were selected as the primary demographic because they represent a critical demographic that is highly influential in shaping public opinion, yet they remain vulnerable to vaccine-related misinformation (Jain et al., 2021; Chee Yin Wong et al., 2023). Furthermore, this group provides an ideal context for analysing how linguistic features such as jargons and references impact health literacy across diverse English proficiency levels, as measured by MUET Bands 3 to 5.

Within this focused scope, the study aims to unravel the nuanced linguistic features embedded in the National COVID-19 Immunisation Programme brochure, such as jargons and headings, and understand how these features interact with students' perceptions to influence their intentions regarding COVID-19 vaccination. By involving students from both language-related and technical disciplines, the study captures a broad spectrum of perspectives, from those who are highly language-conscious to those reading the brochure from a general audience perspective.

However, certain boundaries, constraints and limitations are inherent to the study. Primarily, the research is confined to the evaluation of a singular health brochure originating from Malaysia. While this limitation enhances the study's depth, it simultaneously narrows the perspective to a single context. A secondary limitation pertains to the genre of the data, which is limited to English-language healthcare brochure. While this focus guarantees consistency and clarity in analysis, it restricts the study's insights to a particular linguistic medium.

In essence, this study's scope centres on a targeted examination of students' perceptions in a specific academic context, offering valuable insights into the influence

of linguistic features on vaccination intention. While the limitations encompass a narrow focus on a single Malaysian brochure and a linguistic boundary, they also illuminate avenues for future research to expand and enrich the understanding of the interplay between linguistic features and vaccination intentions on a broader scale.

1.8 Operational Definition of Key Terms

Several key terms can be regularly found throughout the study. For the purpose of ensuring clarity and consistency in interpretation, each term is operationally defined within the specific scope of the research. These definitions also draw upon existing scholarly literature to strengthen the conceptual foundation of the study. The key terms are explained as follow.

1.8.1 Brochure

In this study, the term brochure refers to a type of informational and promotional material designed for public communication (Kotler & Armstrong, 2018). Specifically, it refers to the National COVID-19 Immunisation Programme brochure published by the Ministry of Health (MoH) in Malaysia. This document serves as an official informational material disseminated to the public during the pandemic to raise awareness about the vaccination programme. While brochures, in general, are a type of printed or digital media designed for public communication, the brochure examined here is a government-issued resource containing both textual and visual elements aimed at persuading the public to participate in the COVID-19 vaccination programme. Within the context of this study, the linguistic features of the brochure such as jargons and headings are subjected to detailed analysis. This analysis seeks to uncover how these features may shape readers' perceptions and, ultimately, influence the vaccination intentions of university students. By narrowing the operational definition to a single, identifiable document, the study ensures consistency in data collection and interpretation.

1.8.2 Linguistic Features

In this study, linguistic features refer to the specific language elements and structures, including syntactic, semantic, and pragmatic components used to construct

and decode within a text (Manar, 2022). Drawing on Halliday's Systemic Functional Linguistics (SFL), these features are examined through their functional roles in communication. Specifically, this study focuses on four types of linguistic features found in the National COVID-19 Immunisation Programme brochure: jargons, headings, references, and quotations by key individuals. These features are analysed to determine how they represent (ideational), establish authority and trust (interpersonal), and organise information (textual).

1.8.3 Vaccination Intention

In the present study, vaccination intention is defined as a form of behavioural intention, referring to an individual's conscious decision or plan to engage in a specific behaviour. Morwitz and Munz (2020) describe behavioural intention as the degree to which a person is committed to performing a certain action, often viewed as a reliable predictor of actual behaviour. Within this research, vaccination intention pertains to the decision-making process surrounding the uptake of the COVID-19 vaccine. The study measures the intention to receive vaccination in relation to the linguistic features and persuasive appeals embedded in the brochure. This operational definition allows for a targeted examination of whether exposure to specific linguistic features such as quotations by key individuals and reference can meaningfully shape an individual's readiness to be vaccinated.

1.9 Chapter Summary

In summary, this chapter serves as an introductory foundation for the study, strategically framing the background against the backdrop of COVID-19 vaccination intention. By contextualising the research within the transition to an endemic state, the chapter sets the stage for a comprehensive investigation. This gap is effectively articulated in the problem statement, which underscores the urgency of understanding the dynamics of vaccine intention, particularly among university students whose English proficiency levels may affect their interpretation of linguistic features. The chapter's structure also encompasses a systematic arrangement of objectives and corresponding research questions.

The significance of the study is also highlighted within the scope of this chapter. Delving into the distinctive focus on students from various faculties and the linguistic

features within the National COVID-19 Immunisation Programme brochure, the study lays the groundwork for generating insights that can have far-reaching implications for public health communication strategies. The chapter addresses the scope's boundaries, focusing primarily on a specific Malaysian brochure and a framework integrating Halliday's SFL and Framing Theory. Lastly, the chapter extends its support to readers through a clear exposition of key terms and their definitions.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, a comprehensive review of existing scholarly work that forms the foundation of the present study. The discussion begins with an exploration of linguistic features in general, before narrowing down to communication materials, particularly brochures, to understand their communicative functions in public health messaging. The analysis follows a structured approach, moving from global perspectives to a specific focus on Malaysia, ensuring a contextualized understanding of how language is employed in vaccination campaigns during the current endemic state.

A key aspect of this chapter is an in-depth examination of the Ministry of Health (MoH) Malaysia's role in health communication. Special attention is given to the National COVID-19 Immunisation Programme brochure, which serves as the focal text for analysis in this study. Additionally, the historical and ongoing relevance of brochures in Malaysia's healthcare system will be scrutinized to highlight their role in disseminating health-related information.

The chapter also includes a review of previous studies on COVID-19 vaccination intentions, identifying key factors that influence public perceptions and decision-making regarding vaccine uptake. These studies provide critical insights into the intersection of linguistic features, health communication, and vaccine intention.

Finally, this chapter outlines the theoretical framework grounded in Halliday's Systemic Functional Linguistics (SFL) and Framing Theory.

This integrated framework is used to examine how specific linguistic features such as jargons, headings, references, and quotations by key individuals, shape university students' vaccination intention.

2.2 Linguistic Features in Covid-19 Vaccination Health Communication Materials

Linguistic features are the various aspects of language that define the process of creating and decoding meaning within communication. Linguistic features could encompass the syntactic and semantic structures of language, as well as the pragmatic features of language and the influence they have on the interpretation of the message within a given context (Manar, 2022). Within the context of public health communication, the concept of linguistic features represents the overarching idea that includes the various subtypes of linguistic features, devices, and techniques employed to create the message within the communication process (Harvey & Koteyko, 2012). Linguistic features are particularly important within the context of COVID-19 vaccination communication due to the significance of the process and the need to create an influential message within the communication process to promote the vaccine and influence the attitudes and behaviours of the target audience (Vilar-Lluch et al., 2023). The endemic situation emphasized the need to develop influential linguistic features to promote the vaccine and create the desired attitudes within the target audience.

In the context of vaccination programs, health communication materials such as brochures, advertisements, and public health announcements may use different linguistic techniques to communicate information to the public. For example, Bara et al. (2021) noted that vaccination advertisements for COVID-19 vaccination programs may use a combination of information and persuasive language to urge the public to participate in vaccination programs. Furthermore, existing research indicates that the use of linguistic strategies for health communication is largely dependent on the structure of the information (Harvey & Koteyko, 2012). Some research has indicated that the use of simple language is effective for health communication, whereas technical language may act as a barrier for the public (Kreienbrinck et al., 2025).

Beyond linguistic strategies, researchers have also investigated the impact of linguistic features in general in vaccination communication. One of these elements is discourse framing, which refers to "the ways in which information is arranged and depicted in a manner that affects how people think about a health concern." According to the theory of framing, as proposed by Entman (1993), communication messages are framed in a way that presents a particular perspective on a health concern while ignoring others. In vaccination communication, these linguistic frames are risk framing and

benefit framing, where risk framing refers to presenting the risks of COVID-19 infection and its potential outcomes if not vaccinated, while benefit framing refers to presenting the advantages of getting vaccinated against COVID-19. Prakash et al. (2022) found that these linguistic features significantly impact public perception by influencing their evaluation of risks and benefits.

Health communication materials often make use of positive reinforcement techniques in their approach to vaccine advocacy. Rather than purely relying on the use of fear-based approaches in their communication of vaccine advocacy, many health communication campaigns focus on the use of collective protection, as well as the importance of the individual's well-being (Gagnon et al., 2010). This is because of the recognised importance of language in shaping emotional responses. Although the use of fear-based approaches is effective in capturing the audience's attention, the use of positive reinforcement techniques is often necessary to counter the creation of anxiety in the target audience.



Figure 2.1 Positive Reinforcement (“Kita Jaga Kita”) on the COVID-19 Poster by the Government

When narrowing the scope to Malaysia, it becomes evident that linguistic choices are intricately tied to cultural norms and societal attitudes. In Malaysia, the

Ministry of Health (MoH) has actively engaged in vaccination campaigns, utilising brochures as one of the primary means of communication (Domingo et al., 2008). In these brochures, several linguistic features are deliberately chosen to resonate with a Malaysian audience. These may include the use of colloquial terms that align with local dialects such as using Orang Asli dialect in COVID-19 infographic, and quotations from authoritative figures in Malaysian society, to provide a sense of familiarity and trustworthiness to the reader. Moreover, the use of medical jargon is often minimised or carefully explained, aiming for accessibility without sacrificing factual accuracy.



Figure 2.2 Official Infographic on COVID-19 by Using Orang Asli Dialect

These linguistic features serve multiple functions; not only do they communicate essential information, but they also act as persuasive tools designed to foster vaccine uptake (French et al., 2020). Thus, understanding the choice and impact of these features is crucial, forming a critical part of the analytical lens through which this study will examine the linguistic features of the National COVID-19 Immunisation Programme brochure distributed by the Ministry of Health (MoH) in Malaysia.

Nevertheless, while extensive research has examined vaccine advertisements in the media, the brochures remain underexplored. Unlike digital advertisement, which are primarily designed for persuasive mass communication, brochures function as structured informational and educational materials intended to enhance understanding and support informed decision-making (Houts et al., 2006). As such, brochures require more precise and carefully constructed linguistic choices to effectively convey health-related information. The current study bridges this gap by analysing the linguistic features in the National COVID-19 Immunisation Programme brochure and assessing their impact on university students' vaccination intention.

In summary, the linguistic features used in COVID-19 vaccination advertisements and brochures are far from arbitrary; they are carefully selected and tailored to meet the informational and persuasive needs of the target audience, making their analysis vital for evaluating the effectiveness of such public health campaigns.

2.3 The Role of Ministry of Health in Malaysia (MoH) in Health Communication

The Ministry of Health in Malaysia, commonly referred to as MoH, constitutes a critical governmental body vested with the responsibility for overseeing public health policy, healthcare services, and medical research in the country (Park, Yi & Kwon, 2022). This institutional mandate extends to formulating strategies, regulating healthcare systems, and coordinating responses to health emergencies.

In the context of the COVID-19 pandemic, the Ministry of Health (MoH) in Malaysia has been at the vanguard of efforts aimed at curbing the spread of the virus. These efforts have encompassed a range of strategies, from the enforcement of public health measures like social distancing and quarantine protocols to more nuanced approaches such as data collection and analysis (Aziz et al., 2020). Rigorous testing and contact tracing have been implemented, often in partnership with other governmental and non-governmental entities. These methods collectively reflect an evidence-based approach to health crisis management, aligned with global best practices but also tailored to the local socio-cultural landscape.

In addition, when it comes to raising awareness about the COVID-19 vaccine, the Ministry of Health (MoH) has actively taken multiple routes to reach the populace. One of the most conspicuous efforts in this regard has been the production and

dissemination of informational brochures (Solehan et al., 2023). These brochures are not mere informational booklets; they serve as carefully designed communication tools intended to resonate with a wide demographic. Language, tone, and the incorporation of locally significant symbolism or idioms are meticulously considered to ensure maximum reach and efficacy.

Furthermore, these brochures stand as a testament to the multifaceted role played by linguistic features in health communication. They encapsulate not just medical facts but also societal norms and values, thereby operating as microcosms of the broader health-related dialogues in which they are situated (Moorthy et al., 2022). Thus, the Ministry of Health's focus on using tailored linguistic features in these brochures underlines its nuanced understanding of the socio-cultural variables that influence public health outcomes in Malaysia.

To summarise, the Ministry of Health (MoH) in Malaysia serves a pivotal role in not just healthcare regulation but also in shaping health behaviours through effective communication strategies. Its role in the COVID-19 pandemic is a case study in how institutional authority can mobilise resources, disseminate information, and engage with the public in ways that are both scientifically sound and culturally sensitive by publishing the National COVID-19 Immunisation Programme brochure to the public.

2.4 Brochures as a Medium of Health Communication in Malaysia

In the complex tapestry of healthcare communication, brochures occupy a singular space, bridging the gap between medical professionals and the lay public. Particularly in Malaysia, these printed materials function not merely as repositories of health-related information but as mediators of cultural norms, social expectations, and traditional beliefs concerning healthcare (Mårtensson et al., 2020).

One might question the relevance of paper-based media like brochures in an age dominated by digital platforms. However, it is essential to recognize the unique reach of brochures in a diverse nation like Malaysia, which comprises a multi-ethnic, multi-lingual populace with varying degrees of technological literacy. Here, brochures act as accessible, portable, and easily disseminated sources of trusted information (Sokey, Adjei & Ankrah, 2018).

Specifically, during the COVID-19 endemic phase, brochures have gained renewed importance as instruments for awareness-raising and vaccination advocacy.

The Ministry of Health in Malaysia (MoH) has been instrumental in leveraging this traditional form of communication to combat misinformation and scepticism around the COVID-19 vaccines. Strategically placed in healthcare centres, community halls, and sometimes even in religious institutions, these brochures serve as counter-narratives to prevailing myths and misinformation, providing scientifically validated information that is aligned with community values and beliefs.

Moreover, what distinguishes these brochures further is the linguistic features with which the information is presented, as evidenced in the National COVID-19 Immunisation Programme brochure. Research on the use of health communication materials has revealed that linguistic features like the use of technical terms, the inclusion of structural headings, referencing authoritative sources, and the inclusion of quotations from representatives of institutions are commonly used to impart information to the audience (Schiavo, 2013). These features are not only useful tools for communication but are also rhetorical devices that influence the audience's perception and response to the information communicated through these features. Health communication and discourse analysis scholars have revealed the role of linguistic features like the inclusion of specialized terms, commonly known as jargon, to impart scientific accuracy to the information communicated, although the overuse of technical terms might influence the audience's ability to understand the information communicated (Manar, 2022). Similarly, textual features like the inclusion of headings have been recognized to influence the audience's ability to process the information communicated through the inclusion of the heading, especially to facilitate the processing of complex information communicated to the audience.

Hence, by recognizing the multifaceted nature of brochures, this study aims to scrutinise the linguistic choices made in the National COVID-19 Immunisation Programme brochure. These choices reflect not only the Ministry of Health's awareness of the healthcare challenges but also their understanding of the socio-cultural variables that influence healthcare decisions in Malaysia. Thus, this study illuminates the brochure's role as more than mere informational pamphlets; they are complex, strategic communications tools skilfully tailored to influence public health behaviour in a nuanced manner.

2.5 Previous Studies on COVID-19 Vaccination Intention

2.5.1 Psychological and Informational Factors

Previous studies on COVID-19 vaccination intention have shown that people's intention to be vaccinated is a function of a variety of psychological factors, risk perception, knowledge of vaccination, and quality of information received by people. Rather than seeing it as a personal attitude, it seems clear from this body of work that people's hesitancy is closely related to their perception of safety, uncertainty, and trustworthy communication in public health contexts. In the United Kingdom, Sherman et al. (2020) found that 64% of people considered would be keen to be vaccinated, but it also became clear from this work that this intention to be vaccinated depended on whether people's concerns were addressed through clear and transparent forms of communication. Similarly, in a study of university students, Graupensperger et al. (2021) found a close relationship between hesitancy and fears people have about the safety of vaccination, suggesting that increased knowledge of clinical trial processes could help alleviate these fears and build confidence in vaccination. What this work also suggests is that intention to be vaccinated is not simply a matter of scientific facts, but also how these are communicated in a way that reduces uncertainty and promotes confidence.

This trend is also seen in the US. A study by Ruiz and Bell (2021), in which 804 English-speaking adults were surveyed, found that the intention to receive the vaccine remained low. A significant 14.8% of the population remained unlikely to receive the vaccine, while another 23.0% remained uncertain. A range of predictors were found in the study. These included vaccine knowledge in general, rejection of vaccine conspiracy theories, the perceived severity of COVID-19, the influenza vaccine, pre-existing medical conditions, gender, household income, political affiliation, and the use of social media to gather information on the virus. What is significant in the study is the range of predictors that included cognitive as well as social predictors. This suggests that the intention to receive the vaccine is the result of the interplay of what people know, what people believe in, and what people trust.

For instance, in the Malaysian study done by Syed Alwi et al. (2021), a considerable level of vaccine acceptance was similarly established among Malaysians aged 18 years and above. However, the findings of the study similarly indicated that

acceptance alone does not eradicate the need to consider the importance of effective communication. For instance, the study stressed the need to build the level of confidence in vaccine safety and efficacy through the provision of sufficient information. On top of that, the study similarly acknowledged that the online data collection method used may have excluded certain groups such as those with low socioeconomic status and those who are illiterate. This similarly indicates that the level of acceptance may not be a true reflection of those with limited access to information. For instance, the study done by Wong et al. (2020) similarly indicated that side effects and misinformation significantly contributed to vaccine reluctance among Malaysians. Similarly, the study done by Lazarus et al. (2020) indicated that government trust plays a critical role in influencing vaccine acceptance. This similarly indicates that psychological readiness to be vaccinated is significantly linked to the level of information.

Another area of concern relates to cognitive and emotional aspects. Dal and Tokdemir (2022) asserted that the discussion on COVID-19 vaccination intention has increasingly used behavioural economics, communication theories, and social psychology to understand the reasons behind people's failure to behave rationally when faced with medical evidence. In that respect, Ruiz and Bell's (2021) article indirectly captures the issue because repeated exposure to negative information on side effects may create more fear despite the low risk of side effects. Cisar (2022) explained that confirmation bias may contribute to scepticism as people may seek information that confirms their initial perceptions or attitudes. In response to the issue of scepticism towards vaccination, Mohammed (2023) established that involving leaders improved vaccination acceptance among people with very high initial levels of scepticism.

Other studies have further incorporated the moral and emotional components of the above. For example, Ray (2022) found that the persuasiveness of the message is increased when the message is consistent with dominant moral values. Similarly, Chou and Budenz (2020) pointed out the importance of emotions in the decision to receive the vaccine. Specifically, the emotions of fear, anxiety, hope, or relief can play a crucial role in the decision. Reyna et al. (2021) found that people who have a strong future thinking ability will have a positive attitude towards the vaccine since they will understand the importance of the vaccine in preventing the transmission of the virus.

2.5.2 Social Influence, Media and Communication Processes

Another key area of study has centred on the role of social influence and communication environments in the determination of vaccination intentions. According to the findings of Lin et al. (2020), peer pressure, social influence, and family influence were all determinants of vaccination intentions. Similarly, the study by Betsch et al. (2018) showed the influence of descriptive norms on vaccination intentions, with the authors noting that individuals are more likely to vaccinate when they see others vaccinating. These findings were similar to those of Vuong et al. (2022), who noted the influence of public commitments and community leaders on vaccination intentions, with the authors noting the positive influence of these factors on vaccination uptake in rural areas. Similarly, the study by Lin et al. (2022) noted the influence of group influence on vaccination intentions, particularly in communities with high ethnic and cultural ties. These findings indicate the role of social negotiation on vaccination intentions, with the study suggesting that the intentions to vaccinate are not only determined by individual judgments but also by the behaviour of others.

Another area where media and public health communication are prominent in this body of literature is in their impact on hesitancy. Arrif Emir and Ma'rof, in their study published in 2024, established that misinformation through social media significantly contributed to hesitancy, especially among younger people. Similarly, Dhall et al., in their study published in 2021, described communication through digital media as a double-edged sword where accurate and inaccurate information could be spread with similar ease. As a response to this menace, researchers are now shifting their focus to how public health communication is framed. For instance, Peng et al., in their study published in 2021, established that communication framed in a manner that highlighted protection of the larger population and a sense of duty to do so was more persuasive in overcoming hesitancy. Similarly, Ashby et al., in their study published in 2021, established that communication sent prior to vaccine distribution reduced hesitancy and confusion around logistics. These studies are useful in this dissertation because they move focus from the actual communication to its presentation.

Narrative persuasion has also been found to play an important role in the process of communication. Petrovic and Gaggioli (2021) found that the use of patient testimonials to describe the positive outcomes of vaccinations led to significant increases in the number of people vaccinated. On the other hand, Ten Kate et al. (2022)

found that narratives of people's experiences of being vaccinated could have positive or negative effects depending on whether the experiences were positive or negative. Zhang et al. (2023) found that vaccine literacy has a direct relationship with the intention of being vaccinated for COVID-19. This is particularly significant in the study of communication-based studies since it suggests that the effectiveness of any health information is not only determined by the information in the message itself but also by the ability of the reader to understand the information.

This is where Framing Theory is particularly relevant. Framing Theory is, of course, not introduced here as a theory that is simply relevant to the topic, but rather because it represents a different, albeit related, level of analysis to that of Systemic Functional Linguistics (SFL). Indeed, whereas the former is useful for the analysis of the construction of meaning through particular linguistic features, the latter is more useful for the analysis of how such features of language serve to draw the reader's attention to particular aspects of reality, such as danger, safety, authority, or collective responsibility. Thus, whereas the former is useful for the analysis of the language of the message, the latter is more useful for the analysis of the message itself, i.e. how it positions the reader to interpret the language. As such, the use of the two theories is analytically justifiable, as this study is not simply concerned with the features of the language that the brochure uses, but also with how such features might be interpreted.

2.5.3 Demographic, Institutional and Contextual Factors

In addition to the psychological and communicative factors, the literature has also pointed out demographic, institutional, and contextual factors as important predictors of vaccine intention. AlShurman et al. (2021) discovered that age, ethnicity, and education level were important factors influencing intention to vaccinate, with the elderly showing more willingness to vaccinate due to the vulnerability of the population to COVID-19. However, the study also revealed ethnic differences due to the lack of trust in the medical system, which highlights the importance of culturally appropriate strategies. Another demographic factor that has been revealed as an important predictor is gender. Savoia et al. (2021) discovered that women were more hesitant to vaccinate than men, mainly due to concerns regarding the side effects of the vaccine. This highlights the fact that demographic factors do not simply describe the patterns of vaccination but also reflect the meaning of vaccination for different groups.

Institutional trust and healthcare endorsement are other factors that enhance the pattern. Loftus et al. (2021) demonstrated that the opinions of physicians and nurses were among the most important factors influencing vaccine uptake. Siciliani et al. (2020) further demonstrated that trust not only includes the vaccine but also the overall healthcare system through which the vaccine has been developed, tested, and delivered. This includes the transparency of side effects, the stringency of the vaccine, and the quality of the overall service provided during the vaccination centres. Chen et al. (2021) further demonstrated that the overall control of health influences the willingness to engage in preventative measures, including the vaccine, although the overall control of health might be limited among lower socioeconomic groups. This pattern resonates with Dubé and MacDonald (2020), who demonstrated that economic insecurity might exacerbate vaccine hesitancy due to the overall pressure to prioritize the current state of living over the long-term benefit of the vaccine. Rodrigues and Plotkin (2020) demonstrated that the decision to vaccinate might also be influenced by economic reasoning, including the cost of illness and the time spent on work.

Other contextual factors add more complexity to the picture. Sarathchandra and Johnson-Leung's study (2024) revealed that political affiliation can affect attitudes towards the pandemic and vaccination, thereby underscoring the importance of depoliticized health messaging. Stead et al. (2022) revealed that international travel and vaccine passports play a role, as the benefits of vaccination are tied to the ease of mobility. Kuehn et al. (2022) revealed that access to health facilities is a factor, thereby underscoring the point that willingness is not the same as action. Larson and Toledo (2023) took the discussion to the global level, underscoring the point that for some, vaccination is an altruistic act that helps control the spread of the virus globally. Overall, the research confirms the point that vaccination intention is multi-layered, involving access, trust, identity, mobility, and ethics, rather than a single source of motivation.

2.5.4 Synthesis and Research Gap

Overall, the literature has clearly indicated that the intention to receive a COVID-19 vaccine can be influenced by a wide array of interconnected factors. These include the safety of the vaccine, trust in the authorities, exposure to misinformation, social influences, demographic factors, trust in institutions, as well as broader contextual realities. While the importance of communication has emerged as a major

factor in the existing research on the intention to receive a COVID-19 vaccine, the majority of the existing studies have examined the outcomes of messages, predictor variables of behaviour, or attitudes in a general sense rather than the linguistic construction of the health materials. In other words, the existing literature has indicated that communication does indeed play a critical role in the intention to receive a vaccine. However, it has not explored the potential significance of the linguistic construction of health materials to any great degree.

Specifically, there has been limited research conducted on COVID-19 brochures, especially in Malaysia, and more specifically among university students whose level of English proficiency may play a critical role. This is important because brochures are an important form of official health communication, and university students are a highly relevant population for this research during the endemic stage, especially due to their level of exposure to information through the internet, as well as their level of participation as active information seekers. In the Malaysian context, where the level of technicality, officialness, and persuasiveness may be high in vaccination brochures, it is important to recognize that the interpretation of the information may vary. Thus, the present study is more specifically oriented towards the investigation of the potential impact of linguistic features of the National COVID-19 Immunisation Programme, published by the Ministry of Health, Malaysia, among university students.

For this reason, the current study uses the theories of SFL and Framing Theory simultaneously. SFL offers the tools to examine the role of linguistic features, including wording, structure, and textual features, in the construction of meaning, whereas Framing Theory offers the tools to examine the role of these features in the foregrounding of specific interpretations of the concept of vaccination, including risk, safety, and responsibility. Thus, the application of these theories is not unnecessary but rather necessary because it enables the current study to make the connection between the analysis and the interpretation of the audience. This also provides the context for the discussion in next section, where the theories are discussed in detail as the theoretical base of the current study.

2.6 Theoretical Framework of the Study

Theoretical frameworks play an essential role in research as they provide a structured lens through which a study can be approached and understood. They draw upon established bodies of knowledge and create the foundation for interpreting data and guiding analysis. A theoretical framework is essentially a review of existing theoretical foundations that offers direction for the study. According to Varpio et al., (2019), it represents the integration of several theories that are connected to the research topic. In this way, it guides the researcher in collecting, analysing, and interpreting data, which then informs the discussion of findings, recommendations, and conclusions.

Halliday's Systemic Functional Linguistics (SFL) is a compelling choice for this research to examine the linguistic features of the National COVID-19 Immunisation Programme brochure due to its holistic approach to language, which aligns seamlessly with the multifaceted nature of health communication. The theory's emphasis on language's functionality within social contexts allows for a nuanced analysis of how linguistic choices in the Ministry of Health's immunisation brochure can influence university students' vaccination intentions (Wen, 2017).

Halliday's SFL consists of three metafunctions: ideational, interpersonal, and textual (Halliday & Matthiessen, 2014). Each metafunction plays a distinct role in shaping how information is presented and understood within the National COVID-19 Immunisation Programme brochure. Furthermore, this analytical lens also allows the researcher to systematically explore how the brochure's language functions at different levels, such as representing reality, shaping interpersonal relationships, and organising information.

The first metafunction is ideational metafunction. The ideational metafunction pertains to the representation of reality, describing how language conveys both content and experience (Halliday & Matthiessen, 2014). Within the context of this study, it refers to the way the brochure presents factual and conceptual information about COVID-19 vaccination. This includes the use of technical jargon that can be identified from the National COVID-19 Immunisation brochure such as "inactivated virus," "mRNA," or "viral vector" as well as authoritative references to credible sources like the Ministry of Health or the World Health Organization. Such language choices are not merely informational but also carry persuasive weight; they position the brochure as a reliable, expert-led communication. The analysis under this metafunction will

therefore explore how the inclusion of specialised terminology and authoritative references shapes students' comprehension, reinforces the brochure's credibility, and influences perceptions of vaccine safety and necessity.

Next, is the interpersonal metafunction. The interpersonal metafunction concerns the relationship between the text and its audience, focusing on the interactional aspects of communication (Halliday & Matthiessen, 2014). In the brochure, this is often achieved through the inclusion of quotations from respected figures, such as health ministers, medical professionals, or scientific experts, which function as appeals to authority. These linguistic features aim to establish credibility, build trust, and encourage alignment with the vaccination message. For university students, a demographic that may seek both factual accuracy and social validation, these interpersonal strategies can significantly impact their perception of the brochure's reliability. By analysing how these interpersonal cues are embedded in the text, the study can assess the extent to which they contribute to shaping attitudes toward vaccination, thus directly addressing RQ2 (students' perceptions of linguistic features) and RQ3 (how these perceptions influence vaccination intention).

The third metafunction is the textual metafunction. The textual metafunction refers to the way information is organised and structured within a text, ensuring that content is coherent, readable, and contextually relevant (Halliday & Matthiessen, 2014). In the case of the brochure, this involves elements such as the use of headings, which involves the sequencing of information from general to specific. A clear and logical flow of information can significantly enhance the reader's ability to process and retain essential vaccine-related messages. Conversely, poor organisation or unclear structuring could hinder comprehension, reducing the overall persuasive impact of the brochure. This aspect of the analysis is therefore crucial for determining whether the brochure succeeds in effectively communicating key vaccine information to university students, particularly in a way that is accessible and engaging to this audience.

2.6.1 Textual Metafunction

The textual metafunction deals with the organisation of language to make sense and make the text readable to the intended readers (Halliday & Matthiessen, 2014). In written communication, the textual metafunction focuses on how information is organised to make sense to the intended readers. In health communication texts, the

textual organisation of language is very important because health information may be very complex to understand.

One of the textual devices frequently encountered in information-based texts is the application of headings. It has been recognized through scholarly investigations that the application of headings assists readers in perceiving the hierarchical arrangement of the text and offers an overview of the information provided within the text (Lorch, Lemarie, & Grant, 2011). Looi et al. (2021) for instance, emphasized the difficulties readers face when confronted with large volumes of information provided within a single subheading. It has also been recognized through the study on cochlear implants brochures by Looi et al. (2021) that the lack of subheadings makes it difficult for readers to retrieve the information they require and make informed decisions due to insufficient textual structuring.

Under the SFL theory, headings are said to have a textual function. This implies that the headings in the National COVID-19 Immunisation Programme brochure facilitate the reader in understanding the theme of the text as well as the progress of the ideas. In the brochure, the headings facilitate the reader in understanding the flow of the ideas related to the vaccine. This implies that the headings facilitate the reader in understanding the key aspects of the vaccine, such as the safety of the vaccine, the criteria for the vaccine, or the benefits associated with the vaccine. In this study, the headings are used to understand how the reader can interpret the vaccine through the theme of the text.

2.6.2 Ideational Metafunction

Ideational metafunction is associated with the representation of knowledge, experiences, and realities in language (Halliday & Matthiessen, 2014). In health communication, the ideational metafunction is important in the representation of scientific knowledge and realities in public health discourse. In health communication materials, references to scientific sources can be used to represent vaccination as an evidence-based and socially responsible practice.

One linguistic feature related to the ideational metafunction is the use of jargon. Jargon refers to “specialized or technical language used within a particular professional or disciplinary group” (Brown, Anicich & Galinsky, 2020). In health communication, the use of jargon could have both informative and symbolic functions. Past studies have

shown that using jargon could improve precision and convey a sense of scientific authority, although it could also be a barrier to understanding if the audience is not knowledgeable in using technical terms (Willerton, 2015). For this reason, researchers stress the significance of matching language with the audience's level of knowledge. For example, Niebaum et al. (2015) pointed out that health communication should be "well-written and clear in language so readers can easily comprehend it." Jahan et al. (2014) also pointed out that "simple words should be used in health education brochures, and explanations should be provided for technical words."

In the National COVID-19 Immunisation Programme brochure, examples of jargon include technical or medical terms like "viral vector," "RNA genetic sequencing," and "protein sub-unit." Using an ideational analysis, the jargon represents the discourse of medical science or expertise. By using the jargon, the brochure represents the COVID-19 vaccine as a scientifically validated practice with a basis in medical research. However, the ideational function of jargon also creates a problem for the audience who may not be familiar with the technical vocabulary used. Therefore, the aim of the research is to investigate the function of jargon in the brochure.

Another ideational feature that this research aims to explore is the presence of references. In professional communication, particularly in academic discourse, the reference used in the text of the message substantiates the claim being made and provides evidence for the information being presented (White, 2004). Past studies have established that the reference plays a critical role in the credibility of the informational materials. For example, Cooper & Schriger (2005) examined the advertisements of pharmaceutical companies. Out of the 438 advertisements that the authors examined, 29% did not include a reference to support the claim being made in the advertisements. This could be a form of misinformation to the intended audience.

For the intended readers of the vaccination brochures, the reference to credible institutions such as the World Health Organization or the Ministry of Health provides a sense of grounding the information being presented to the reader. This would be particularly important to the intended readership of the brochures, which would be university students. This group of readers would be able to understand the importance of credible information as a product of academic discourse.

2.6.3 Interpersonal Metafunction

The interpersonal metafunction deals with the role of language in creating relationships with the audience and the text (Halliday & Matthiessen, 2014). Within the context of public health communication, the interpersonal metafunction has a crucial role to play in the creation of trust and authority within the audience. This can be done through the strategic use of the voices of authority within the communication to influence the audience's perception of the credibility and appropriateness of the information.

One linguistic feature linked to the interpersonal metafunction is the use of quotations from influential individuals within the communication. Quotations from influential individuals, including medical experts and policymakers, have the power to influence the opinions of the audience (Cullen, Gulati & Kelly, 2020). Past studies have proven the influence of quotations on the authority and attitudes of the audience towards health interventions.

In the National COVID-19 Immunisation Programme brochure, the quotes from government officials, health professionals, or scientists serve as interpersonal resources to establish trust. They are essentially the endorsements of the vaccination programme. They may serve to reassure university students, as a critical audience, regarding the safety and importance of vaccination. This research aims to explore the quotes' rhetorical function in the brochure, including the tone, positioning, and persuasive orientation to logic, emotion, or social responsibility.

2.7 Complementary Theoretical Perspective: Framing Theory

While Halliday's Systemic Functional Linguistics (SFL) serves as the primary framework for this study, an additional theoretical lens, the Framing Theory (Entman, 1993), is incorporated to enhance the analytical scope. Framing Theory posits that the way information is selected, organised, and emphasised can significantly influence how audiences interpret and evaluate messages. In communication research, frames function as interpretative structures, highlighting certain aspects of reality while downplaying others, thereby guiding the audience's attention and shaping perceptions.

In the context of the National COVID-19 Immunisation Programme brochure, framing techniques operate alongside the linguistic strategies identified through SFL analysis, working together to shape how university students perceive the message of the

vaccination (Betsch et al., 2013). One notable approach is risk framing, which highlights the dangers associated with COVID-19, including the potential for severe illness, long-term health complications, and mortality. This approach positions vaccination as an urgent protective measure. When examined through the ideational metafunction of SFL, risk framing reinforces the seriousness of the threat and legitimises the call to action by embedding factual data and authoritative references.

Another prominent approach is benefit framing, which emphasises the positive outcomes of vaccination, such as individual immunity, protection of vulnerable populations, and the restoration of pre-pandemic normalcy. Benefit framing aligns with the interpersonal metafunction, as it fosters a sense of optimism and shared gain, encouraging alignment between the message sender and the audience. Similarly, social norm framing presents vaccination as a socially expected and morally responsible act. By appealing to a sense of collective duty, it reinforces community values and promotes conformity to public health recommendations. This framing approach often overlaps with the textual metafunction, where the structure and flow of information position vaccination as the default, responsible choice.

Lastly, authority framing leverages endorsements from trusted figures, such as medical professionals and public health leaders, to enhance credibility and strengthen persuasion. When integrated with the interpersonal metafunction, this approach capitalises on the persuasive power of trust in expert opinion. By combining these framing strategies with the analytical precision of SFL, the study captures both the structural intricacies of the brochure's linguistic choices and the psychological mechanisms through which health messages influence behavioural intentions.

Although SFL offers a systematic method for examining how language represents reality, constructs relationships, and organises information, Framing Theory provides an interpretive layer that explains why certain linguistic strategies are more effective in shaping perceptions. A growing health-communication literature shows that frames matter, though their effects can be contingent on context, prior attitudes, and audience characteristics (Guenther et al., 2021). For instance, several COVID-19 studies report that loss or risk frames (e.g., stressing the consequences of not vaccinating) can increase stated willingness to vaccinate relative to gain-only messages, especially among younger cohorts and in high-uncertainty contexts (Prakash et al., 2022; Peng et al., 2021). Other work finds that pairing frames with credible sources or authorities (e.g., medical experts or official programmes) or with social-norm cues (e.g.,

emphasising widespread uptake) can further strengthen intentions, although effects vary by baseline scepticism and media environment (Ademu et al., 2023; Guenther et al., 2021).

Together, these frameworks provide a comprehensive analytical foundation for addressing the study's research questions, particularly RQ2 and RQ3, which examine students' perceptions of the brochure's linguistic features and the influence of those features on vaccination intentions. By integrating SFL's structural analysis with Framing Theory's interpretive lens, the study ensures a holistic understanding of how the brochure's language both conveys information and shapes behavioural responses.

Based on the theoretical bases discussed above, the following figure presents a conceptual framework of how Halliday's Systemic Functional Linguistics and Framing Theory, as a combined theoretical base, inform this study's analysis. It shows how linguistic features embedded in the textual, ideational, and interpersonal levels of meaning in SFL are related to the processes of framing in influencing university students' interpretation of the National COVID-19 Immunisation Programme brochure and their intention to be vaccinated against COVID-19.

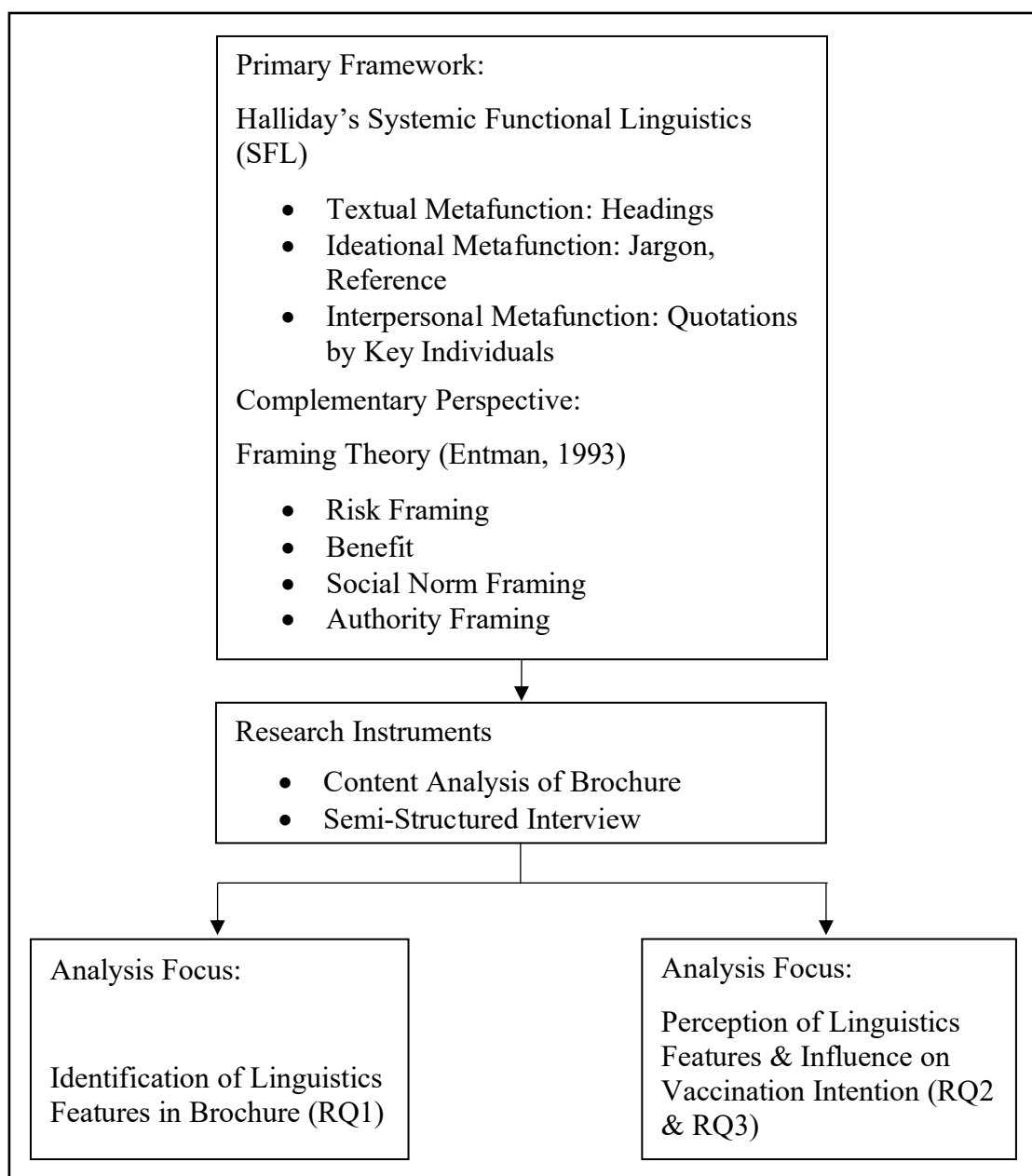


Figure 2.3 Conceptual Framework of the Study

2.8 Chapter Summary

In summary, this chapter has provided a comprehensive literature review exploring the role of linguistic features in health communication materials, particularly in Malaysia. The chapter examined the Ministry of Health (MoH) Malaysia's strategic use of brochures as a primary communication tool, highlighting their significance in the Malaysian healthcare landscape, especially during the transition to an endemic state.

A review of previous studies on COVID-19 vaccination intentions revealed the complex interplay of factors influencing vaccine uptake, including public trust,

misinformation, readability, and the framing of health messages. While past research has addressed vaccination intention from psychological and social perspectives, few studies have examined how linguistic choices in government-issued brochures impact public perception and decision-making, particularly among university students.

The theoretical foundation of this study is grounded in Halliday's Systemic Functional Linguistics (SFL) and Framing Theory, which provides a structured approach to analysing language through ideational, interpersonal, and textual metafunctions. Key linguistic features identified for analysis include jargons, headings, references, and quotations by key individuals, each of which contributes to meaning-making in distinct ways:

- Jargons (Ideational Metafunction): Represent technical medical concepts that may either enhance credibility or hinder comprehension.
- Headings (Textual Metafunction): Serve as structural markers that improve clarity and navigation within the brochure.
- References (Ideational Metafunction): Provide scientific credibility by linking information to authoritative sources.
- Quotations by Key Individuals (Interpersonal Metafunction): Establish trust and persuasion by attributing messages to experts and public figures.

Additionally, Framing Theory (Entman, 1993) was incorporated to explore how linguistic framing techniques such as risk framing, benefit framing, and social norm framing can shape the students' interpretation of vaccination messages and influence their intentions to vaccinate.

By synthesizing existing research and identifying gaps in linguistic analyses of health communication materials, this chapter establishes the groundwork for the present study. Together, these theoretical perspectives and the conceptual framework provide the foundation for examining how the linguistic features of the brochure shape university students' perceptions and vaccination intention.

The following chapter builds on this foundation by outlining the methodological approach used to investigate how linguistic features in the National COVID-19 Immunisation Programme brochure impact university students' understanding, perceptions, and vaccination intentions.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Having established the theoretical and conceptual foundations in the previous chapter, this chapter outlines the research methodology used to explore the impact of linguistic features in the National COVID-19 Immunisation Programme brochure on university students' vaccination intentions in Malaysia. This chapter provides a detailed discussion of the research design, which includes the qualitative approach adopted to analyse linguistic features and their influence on perception. Additionally, it also describes the sampling procedure, explaining the rationale for selecting participants from various faculties and their respective MUET proficiency levels, ranging from Band 3 to 5.

The chapter further elaborates on the data collection methods, including the use of semi-structured interviews to gain in-depth insights into participants' interpretations of the brochure's linguistic features. The research tools employed, such as thematic analysis and content analysis using Atlas.ti, are also outlined to illustrate how data will be systematically examined. Furthermore, the strategies for data analysis are discussed to ensure a structured approach to identifying patterns and themes relevant to the study's objectives.

Lastly, this chapter addresses crucial aspects of trustworthiness and dependability to enhance the credibility of the findings. Ethical considerations, including informed consent and data confidentiality, are also highlighted to uphold research integrity and ensure compliance with ethical research standards. By providing a comprehensive overview of the methodology, this chapter establishes the foundation for a rigorous and well-structured study.

3.2 Research Design

This study employs a qualitative research approach, as it aims to analyse the linguistic features present in the National COVID-19 Immunisation Programme brochure, explore students' perceptions of these features, and examine how such

linguistic features may influence their vaccination intentions. A qualitative design is particularly suitable for this study because it enables an in-depth exploration of language use in health communication, capturing not only surface-level linguistic features but also the meanings and interpretations assigned by readers (Creswell & Poth, 2018). In contrast to the quantitative methods that emphasize the measurement of the relationship between defined variables, qualitative research allows the researcher to explore the ways in which the participants interpret the meaning of the communication texts (Denham & Onwuegbuzie, 2013). This interpretive perspective is useful for the analysis of public health materials.

Furthermore, to systematically examine the linguistic features such as jargon, headings, references, and quotations by key individuals, a content analysis method was employed. Content analysis is a widely recognised qualitative technique used to evaluate textual data by identifying patterns, meanings, and themes within the content (Bengtsson, 2016). In this study, it provided a structured framework for categorising the four targeted linguistic features and interpreting their potential influence on university students' comprehension and decision-making regarding vaccination. Importantly, the coding categories for content analysis were derived from Halliday's Systemic Functional Linguistics (SFL) metafunctions (ideational, interpersonal, textual), ensuring that each feature was analysed in terms of how it constructs meaning, establishes authority, and organises the text. Through the alignment of the coding framework with the theoretical lens of SFL, the analysis shifts beyond the identification of the linguistic features to the examination of the function of the features within the larger communicative structure of the brochure.

In line with the research objectives, a case study design was also adopted. A case study facilitates in-depth investigation of a specific phenomenon within its real-world context (Yin, 2018). In this study, the "case" is the National COVID-19 Immunisation Programme brochure, examined as a health communication material and situated within the context of how university students interpret and respond to its linguistic features. This approach is particularly valuable as it enables the integration of document analysis (to address RQ1) with semi-structured interviews (to address RQ2 and RQ3). By combining multiple methods, the case study design provides both analytical depth and contextual richness while ensuring triangulation of data (Rashid et al., 2019).

The rationale for adopting a case study design lies in its ability to generate focused and detailed insights that are directly aligned with the research questions and objectives. As McCombes (2019) observes, case study research produces rich,

contextualised understanding, making it particularly suitable for small-scale qualitative inquiries. By centring on a specific health communication material (the National COVID-19 Immunisation Programme brochure) and examining its linguistic impact on a defined demographic of students, this case study offers both depth and specificity in exploring how language shapes vaccination perceptions and decisions.

Although other qualitative research methods, such as phenomenology or grounded theory, offer the same flexibility in the data collection process, these research methods are appropriate for different research purposes. In the former two methods, the research purpose is to explore the experiences of individuals, whereas the purpose is to develop a new theory based on the emerging data (Almusaed et al., 2025). However, the research purpose of the present study is different, as it is not focused on creating a new theory, exploring the experiences of individuals, but rather aims at analysing the particular communication piece, as well as the readers' interpretation of it, based on the particular context. In this respect, the most appropriate research method is the case study method, as it enables the researcher to carry out an in-depth analysis of the particular system, namely the National COVID-19 Immunisation Programme, while at the same time taking into consideration the particular responses based on the context of the university students.

Additionally, the case study approach also provides the flexibility in data collection, allowing for the combination of document analysis and semi-structured interviews with participants of varying English proficiency levels. However, the importance of the use of the case study research design for this research is not necessarily rooted in the flexibility of the design. Instead, the importance of the research design is rooted in the potential it has to offer a detailed analysis of the single artefact of communication, as well as the potential it has to integrate different sources of data. Indeed, according to Yin (2018), the use of the case study research design for this research would offer the opportunity to explore the phenomenon of health communication through an in-depth analysis of the data, as it would allow the researcher to use different sources of data at the same time. Indeed, the single artefact of communication, the brochure, is the primary source of data, while the responses obtained during the interview would offer the opportunity to explore the interpretation of the linguistic features included in the text.

Overall, the integration of qualitative research approach, content analysis, and case study design establishes a robust methodological framework for this study. This combined approach allows for detailed examination of linguistic features in health communication while simultaneously capturing students' subjective experiences,

perceptions, and vaccination intention. Such methodological rigour enhances the validity and credibility of the findings, ensuring that the conclusions contribute meaningfully to broader discussions on effective health communication and vaccine advocacy.

3.3 Sampling Procedures

The setting of this study is Universiti Teknologi MARA (UiTM), Shah Alam, one of Malaysia's largest public universities. This institution provides a diverse pool of students from different faculties and programmes, making it an appropriate context for investigating how university students interpret and respond to health communication materials. For the sake of methodological clarity, it should be noted that the study involved a total of 13 participants, comprising three pilot participants and ten main interview participants. It should also be made aware that only the data from the main participants were included in the final analysis.

The pilot interview participants were drawn from three distinct linguistic and academic backgrounds (English, Bahasa Melayu, and Arabic) to refine the research instruments and ensure clarity across multiple linguistic contexts. These pilot interviews played a crucial role in validating and improving the interview protocol before the main data collection. In addition to pilot testing the interview protocol, the questions were iteratively refined to enhance clarity, ensure alignment with the research objectives, and the ability to generate useful information about the linguistic aspects presented in the brochure (Creswell & Poth, 2018). However, the pilot data were not included in the final analysis, as their purpose was strictly instrument refinement.

The final sample comprised 10 participants from various faculties, including English, Engineering, Arabic, Bahasa Melayu and Design studies. This selection also ensured a level of diversity since the students from the language-related courses were likely to be more language-conscious, while the students from technical courses like engineering were likely to be reading the brochure from the point of view of general readers. This diversity of academic disciplines reflected a range of linguistic backgrounds, enabling the study to capture nuanced differences in how students with varying English proficiency levels perceive and interpret the linguistic features of the National COVID-19 Immunisation Programme brochure.

In order to ensure that the study adequately represents both stronger and weaker language users, participants' English proficiency levels were determined by their Malaysian University English Test (MUET) bands, ranging from Band 3 (intermediate)

to Band 5 (high proficiency). The involvement of the MUET Band 3 participants was deliberate, and the study seeks to understand the perspectives of readers who have moderate English proficiency levels. Although the participants are at an intermediate level of English proficiency, they are able to understand academic texts and engage in discussions at the university level. It should also be noted that the participants were not asked to provide any technical linguistic analysis during the interview, and instead, the study sought to understand the participants' explanations of what they understood and what they thought and interpreted about the language used in the brochure. This was to ensure the participants were comfortable to express themselves and could contribute to the analysis of how linguistic features influence vaccination intention even if they were not familiar with the technical terms used in linguistics.

The decision to involve 13 participants aligns with precedents in qualitative research on vaccination intentions and behaviours. For example, Lockyer et al. (2021) conducted 20 interviews, Gorman et al. (2019) used 13, and Ganczak et al. (2021) employed 22. Similarly, Rumetta et al. (2020) conducted 14 interviews (seven face-to-face and seven online), Fadda et al. (2021) involved 19 participants, and Woodhead et al. (2021) included 25. These studies collectively demonstrate that the sample size selected for the present study falls within the accepted range for qualitative research and is sufficient for generating in-depth insights. However, it is important to note that the ten interviews were the ones that formed the final analytical dataset, while the other three participants took part only at the pilot stage. The purpose of the pilot stage was to refine the interview protocol to ensure that the questions were clear and would allow for detailed responses. In addition to aligning with previous qualitative studies, the determination of the final sample size was informed by the principle of data saturation. Data saturation is the point at which the results of further interviews in the course of qualitative research no longer produce any new themes or significant knowledge (Rieh & Hilligoss, 2008).

The study also employed a non-probability sampling design, specifically purposive sampling. This strategy allowed for the deliberate selection of participants who could provide rich insights into the linguistic aspects of the brochure and their potential influence on perceptions and intentions. Purposive sampling is particularly appropriate in qualitative research, as it prioritises the selection of participants who meet pre-defined criteria relevant to the research objectives (Dovetail, 2023). In this study, those criteria included (1) current enrolment at UiTM Shah Alam, (2) representation of varying MUET proficiency levels, and (3) willingness to reflect on and discuss health communication materials.

This sampling design is also theoretically grounded in the study's conceptual framework. By including students with different English proficiency levels, the study could capture variation in how the Halliday's SFL metafunctions which are the ideational (meaning-making of jargon and credibility of references), interpersonal (quotations), and textual (organisation through headings) were interpreted across groups. Similarly, Framing Theory was used to guide interpretation of how participants' responses reflected frames of risk, benefit, authority, and social norms. Thus, the purposive selection of participants was not only a methodological choice but also a theoretical one, ensuring alignment between the sampling strategy, the conceptual framework, and the study's research questions.

Overall, the sampling procedures were designed to ensure that the study achieved both depth and diversity. By including students from different faculties and linguistic backgrounds, and by ensuring representation across proficiency levels, the study captured a wide spectrum of perspectives. This approach enabled the research to address RQ1 through the textual analysis of the brochure, and RQ2 and RQ3 through the exploration of how different students perceived and were influenced by its linguistic features.

To provide clarity on participants backgrounds, including their programmes, MUET proficiency levels, and study roles, Table 3.1 summarises the profiles of both pilot interview and main interview participants.

Table 3.1
Profile of Study Participants

Participant Code	Programme/Faculty	MUET Band	Role in Study
1	English	Band 4	Pilot Interview
2	Bahasa Melayu	Band 3	Pilot Interview
3	Bahasa Arab	Band 4	Pilot Interview
A	Bahasa Melayu	Band 3	Main Interview
B	Engineering	Band 4	Main Interview
C	Bahasa Arab	Band 4	Main Interview
D	English	Band 4	Main Interview
E	English	Band 4	Main Interview
F	Bahasa Arab	Band 3	Main Interview
G	Bahasa Melayu	Band 4	Main Interview

Participant Code	Programme/Faculty	MUET Band	Role in Study
H	Design Studies	Band 5	Main Interview
I	English	Band 4	Main Interview
J	Engineering	Band 4	Main Interview

The use of coded identifiers (1–3 for pilot participants and A–J for main interviews) ensures consistency throughout Chapters 3 and 4, while also safeguarding anonymity. As shown in Table 3.1, the diversity of faculties and MUET bands supports the study’s aim of exploring perceptions across different linguistic proficiencies, directly addressing RQ2 and RQ3.

3.4 Data Collection

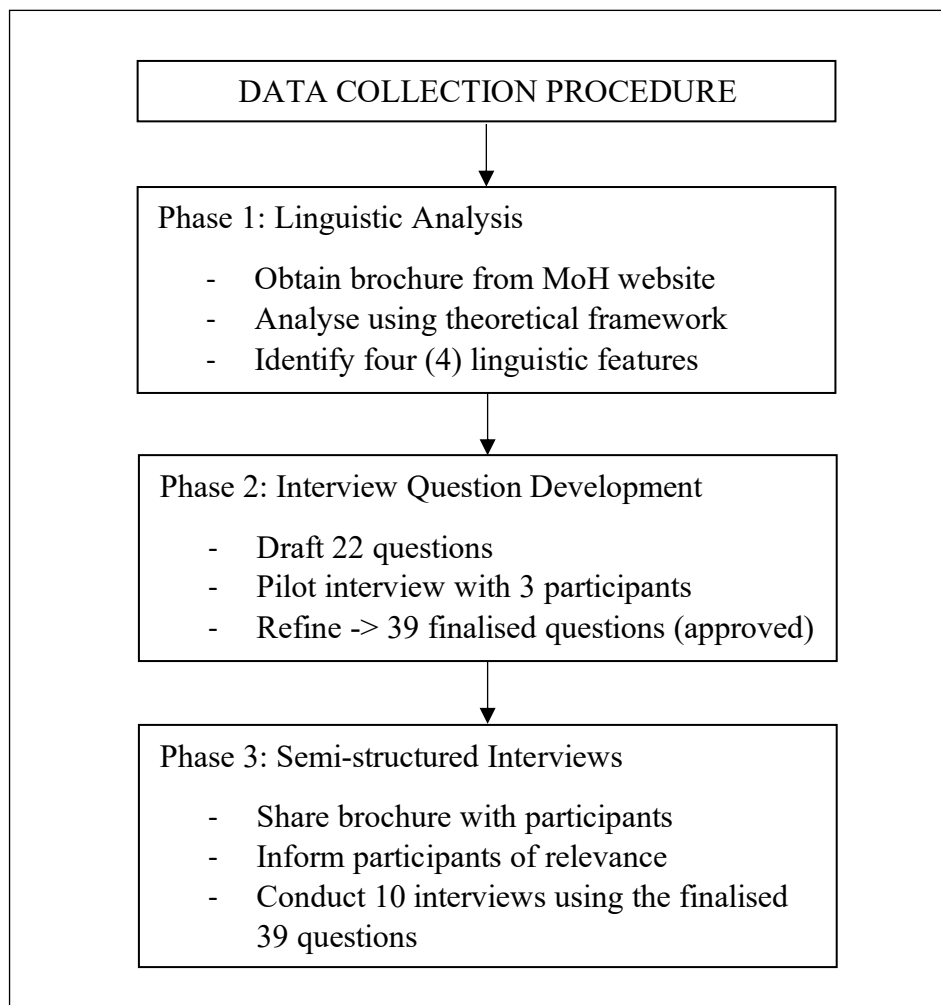


Figure 3.1 Data Collection Procedure of the Study

This section outlines the procedures used to collect data for addressing the research questions. This study employed a three-phase data collection procedure, as illustrated in Figure 3.1. The phases were designed to systematically address the research questions: (1) identification of linguistic features in the National COVID-19 Immunisation Programme brochure (RQ1), (2) students' perceptions of these linguistic features (RQ2), and (3) the influence of the linguistic features on vaccination intention (RQ3).

Phase 1: Linguistic Analysis of the National COVID-19 Immunisation Programme Brochure

The first phase involved conducting a content analysis of the National COVID-19 Immunisation Programme brochure, which was obtained from the Ministry of Health (MoH) and the Special Committee on COVID-19 Vaccine Supply (JKJAV) official websites. The brochure, consisting of 26 pages, was chosen as the central research material because it represented an official government health communication tool aimed at informing and persuading the public about vaccination.

During this phase, the analysis focused on four linguistic features identified in the conceptual framework: (1) jargon, (2) headings, (3) references, and (4) quotations by key individuals. Examples included specialised terms such as “pathogens” or “inactivated virus” under jargon, and quotations attributed to authoritative figures such as the Prime Minister or Minister of Health. These features were identified and categorised systematically using Halliday's Systemic Functional Linguistics (SFL) metafunctions (ideational, interpersonal, and textual) to explore how language was used to construct meaning, establish credibility, and organise information. The findings from this phase addressed RQ1, which asked: What linguistic features are utilised in the brochure?

Phase 2: Development of the Interview Questions

Building on the findings from Phase 1, the second phase focused on designing interview questions informed by the results of Phase 1. A preliminary set of 22 questions was initially developed to explore students' perceptions of the brochure's linguistic features and their potential influence on vaccination intention. To ensure clarity, comprehensibility, and cultural appropriateness, a pilot interview was conducted with

three participants from different linguistic backgrounds (English, Bahasa Melayu, and Bahasa Arab).

Feedback from the pilot interview highlighted areas for refinement, leading to the expansion and adjustment of the interview protocol. The finalised set of questions comprised 39 items, which were subsequently reviewed and approved by the research supervisors. This process ensured the clarity and alignment of the finalised interview questions with the research objectives.

Phase 3: Semi-Structured Interviews

The third phase involved conducting semi-structured interviews with 10 participants from various faculties at Universiti Teknologi MARA (UiTM), Shah Alam. Participants were purposively selected to reflect both high and moderate English proficiency levels, as measured by MUET bands. This purposive sampling enabled exploration of RQ2 (What are the perceptions of high and low English proficiency students regarding the linguistic features of the brochure?) and RQ3 (How do the linguistic features influence students' vaccination intention?).

Each of the semi-structured interviews lasted between 30 to 45 minutes. However, although the initial pilot interview protocol used a smaller set of questions, the final protocol used in the course of the main interviews included a larger set of questions along with follow-up prompts. This was done in consideration of the pilot results, which showed that probing questions were necessary in order to elicit participants' in-depth understanding of the linguistic features described in the brochure. This ensured that the flexibility of the interviews was not compromised in consideration of the key issues that were to be addressed.

Prior to the interviews, the participants were given a digital version of the National COVID-19 Immunisation Programme brochure before the interview. This measure was taken to ensure that all the participants were given sufficient time to read the brochure and become familiar with the content before the interview. Giving the brochure to the participants beforehand helped create a conducive interview setting that was not only informative but also reflective for the participants to comment on the specific linguistic features without any superficial reactions during the interview. To ensure the authenticity of the participants' answers, they were asked to go through the brochure on their own and reminded that the research needed their personal understanding of the content rather than the "right" answer. During the interview with

the participants, the researcher also asked questions that referred to a particular part of the brochure to ensure that the answers were not based on any external source.

The finalised set of 39 questions guided the interviews, enabling participants to elaborate on their perceptions and experiences while maintaining consistency across the dataset (Bengtsson, 2016). During the recruitment, participants were also verbally briefed on the relevance of the National COVID-19 Immunisation Programme brochure to the research. Interviews were audio-recorded for subsequent transcription and analysis.

Summary of Alignment Between Research Questions, Data Sources, and Analysis:

To demonstrate methodological coherence, the following figure summarises how each research question was addressed through specific data sources, methods, and analysis strategies.

Table 3.2
Alignment of Research Questions, Data Sources, and Analysis Approaches

Research Question (RQ)	Data Source(s)	Method / Procedure	Analysis Approach
RQ1: What linguistic features are utilised in the National COVID-19 Immunisation Programme brochure?	The brochure (26 pages, MoH/JKJAV, 2021).	Document collection and content analysis of four linguistic features (jargon, headings, references, quotations).	Content analysis guided by SFL metafunctions (ideational, interpersonal, textual).
RQ2: What are the perceptions of high and low English proficiency students regarding the linguistic features of the brochure?	Semi-structured interviews with 10 UiTM students (varied MUET bands).	Finalised set of 39 interview questions (refined through pilot interview with 3 students).	Thematic analysis of interview transcripts with SFL categories, supported by inductive coding.
RQ3: How do the linguistic features of the brochure influence students' vaccination intention?	Semi-structured interviews with the same 10 students.	Interviews guided by refined protocol; brochure shared in advance via email.	Thematic analysis supported by Framing Theory (risk, benefit, authority, and social framing).

As shown in Table 3.2, each research question was systematically aligned with its respective data source, collection method, and analysis technique. This ensured both methodological rigour and theoretical grounding. Section 3.5 later provides a detailed description of the research tools used in this study.

3.5 Research Tools

Two research tools were employed in this study: (1) the National COVID-19 Immunisation Programme brochure, which served as the primary text for content analysis, and (2) semi-structured interview protocols, which were developed to elicit students' perceptions and interpretations of the brochure's linguistic features. These tools complemented one another, ensuring that both the textual and experiential dimensions of the research questions were adequately addressed.

3.5.1 Brochure (National COVID-19 Immunisation Programme)



Figure 3.2 Front Page of the Brochure

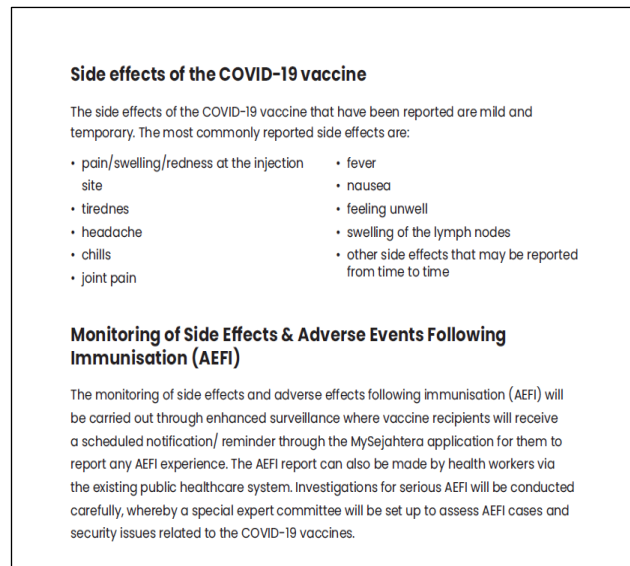


Figure 3.3 One of the Sections in the Brochure

The National COVID-19 Immunisation Programme brochure, published by the Ministry of Health (MoH) and the Special Committee on COVID-19 Vaccine Supply (JKJAV) in 2021, was selected as the central research material. The brochure consisted of 26 pages and was made publicly available on the official MoH and JKJAV websites, making it an authoritative source of health communication during the COVID-19 vaccination campaign.

The brochure was chosen because it represents the Malaysian government's most comprehensive attempt at disseminating information about the national vaccination programme to the public. Its purpose was not only to provide factual details about vaccine supply, distribution, and administration but also to shape public perception and promote vaccine acceptance. By examining this text, the study situates itself within real-world health communication practices where linguistic choices directly influence public trust and behavioural intentions.

For this study, the brochure was analysed through content analysis, with particular focus on four key linguistic features: jargon, headings, references, and quotations by key individuals as they may shape how readers interpret the message, which in turn can influence their trust, perception, and vaccination intention. The decision to focus on these features was informed by prior research in health communication (e.g., Fadda et al., 2021; Lockyer et al., 2021), which demonstrated that technical terminology, textual organisation, source credibility, and authority quotations

significantly shape comprehension and persuasion. These features were coded using Halliday's Systemic Functional Linguistics (SFL) metafunctions:

- **Ideational metafunction:** to capture how scientific and medical realities were represented through jargon and terminology as well as the credibility constructed through references.
- **Interpersonal metafunction:** to examine how authority was constructed through the quotations by key individuals.
- **Textual metafunction:** to analyse how headings and textual organisation structured the flow of information.

By grounding the analysis in SFL, the study ensured that the linguistic features were not examined in isolation, but rather in terms of how they interact to construct meaning and influence readers. This tool directly contributed to addressing RQ1, which focuses on the identification and categorisation of the linguistic features within the brochure.

3.5.2 Semi-Structured Interview Protocol

After carrying out the content analysis for the linguistic features identified in the brochure (jargons, headings, references and quotations by key individuals), the study employed semi-structured interviews to gain a deeper understanding of students' perceptions of the National COVID-19 Immunisation Programme brochure and to explore how these linguistic features influenced their intention to be vaccinated against COVID-19. Semi-structured interviews were chosen because they can elicit additional details from participants that may be valuable to the study (Moran, 2017).

According to Adams (2015), semi-structured interviews are typically conducted conversationally with one respondent at a time, using a blend of closed- and open-ended questions, often accompanied by follow-up "why" or "how" questions. For the interview protocol, the most common method of obtaining informed consent is by providing participants with an information sheet as well as a consent form to read and sign before the interview begins (Jacob & Furgerson, 2015). At the start of each interview, confidentiality was addressed explicitly to avoid any potential issues (Adams, 2015).

Thus, for the present study, semi-structured interviews were conducted individually at Universiti Teknologi MARA, Shah Alam (UiTM). The interview questions were accompanied by a cover letter explaining the purpose of the study and a consent letter informing participants that they could withdraw from the interview at any time. Each interview session was estimated to last no longer than one hour in order to minimise fatigue for both the interviewer and the respondent (Adams, 2015). To ensure smoother interaction, all interviews were recorded electronically using a mobile phone, allowing the interviewer to engage actively in the conversation rather than focusing solely on note-taking.

A pilot interview with three participants from diverse linguistic backgrounds (English, Bahasa Melayu, and Arabic) proved essential for refining the interview protocol. This preliminary stage enabled the researcher to assess the clarity, relevance, and structure of the proposed interview questions before conducting the main data collection. Feedback from the pilot sessions revealed that although the overall framework was effective, certain aspects required adjustment to ensure better comprehension and closer alignment with the research objectives (Majid et al., 2017).

In terms of question clarity, several items were identified as being potentially ambiguous or containing complex phrasing that might hinder understanding among participants from varying linguistic and educational backgrounds. These questions were subsequently rephrased using simpler, more accessible language without compromising their conceptual depth, ensuring that the intended meaning was consistently conveyed (Kallio et al., 2016).

Regarding relevance, the pilot interview indicated that a small number of questions, while interesting, did not directly address the core research objectives of the study. These items were either removed entirely or reframed to better align with the aim of exploring how the linguistic features of the brochure influenced students' perceptions and vaccination intentions. This selective refinement ensured that each question contributed directly to answering the research questions, thereby enhancing the overall validity of the interview guide (Castillo-Montoya, 2016).

Lastly, the structure of the interview was adjusted to create a more logical and conversational flow. The sequence of questions was reorganised to progress from general background inquiries to more specific and reflective questions about the brochure, allowing participants to gradually ease into more complex topics (Kallio et al., 2016). This reorganisation also facilitated smoother transitions between topics,

which is particularly important in semi-structured interviews to maintain engagement and encourage richer responses.

Following these refinements, the finalised interview guide was organised into four main sections, each crafted to explore distinct yet interconnected dimensions of the participants' perceptions and experiences. The first section, "Opening Questions", was designed to establish rapport and create a comfortable conversational environment. These initial questions focused on participants' general experiences with COVID-19 and their familiarity with vaccination, serving as a non-threatening entry point to the discussion. Building rapport at this stage is critical, as it fosters trust and encourages participants to provide more open and detailed responses in later parts of the interview (Opdenakker, 2006).

The second section, "Perception of the Brochure", delved into participants' interpretations of the National COVID-19 Immunisation Programme brochure, paying particular attention to identified linguistic features such as the use of jargon, the role of headings, and the inclusion of quotations or references from authoritative figures. By examining these elements, this section aimed to uncover how design and language choices influenced comprehension, engagement, and perceived credibility (Geipel et al., 2022).

The third section, "Influence of the Brochure", explored the extent to which the brochure's content and linguistic features shaped participants' attitudes toward COVID-19 vaccination. Here, the questions focused on behavioural intention, trust in the information presented, and perceived personal or societal benefits of vaccination. This section aligned closely with health communication theories that emphasise the persuasive role of message framing and language in influencing health-related decision-making (Peng et al., 2021).

The final section, "Closing Questions", offered participants the opportunity to compare the brochure with other sources of COVID-19 information they had encountered, such as online news, social media, or advice from healthcare professionals. It also invited them to suggest improvements to the brochure, ensuring that their voices contributed to potential enhancements in public health messaging. Including a reflective closing section not only facilitated the collection of richer qualitative data but also reinforced the participatory aspect of the research process (Kallio et al., 2016).

The structured approach of the interview is grounded in qualitative research methodologies that emphasize the importance of a well-organized interview guide to

facilitate in-depth exploration of participants' views (Kallio et al., 2016). By segmenting the interview into distinct sections, the researcher ensured that each research question was systematically addressed while allowing participants to express their thoughts freely.

Moreover, focusing on linguistic features in health communication materials is vital, as language plays a significant role in shaping individuals' perceptions and behaviours regarding health interventions. Studies have shown that the choice of language and terminology in health brochures can significantly impact readers' trust and willingness to engage in recommended health behaviours, such as vaccination (Geipel et al., 2022).

Following the data collection process, the collected data were analysed using systematic qualitative analysis procedures, as described in the following section.

3.6 Data Analysis

The analysis of data in this study was conducted in two stages, corresponding to the dual sources of data: the brochure (RQ1) and the semi-structured interviews (RQ2 and RQ3). This two-pronged approach ensured that both the textual features of the National COVID-19 Immunisation Programme brochure and the perceptions of university students were examined comprehensively and systematically.

To address RQ1, an exhaustive content analysis was conducted on the brochure. By systematically reviewing the text, the researcher identified and categorised the linguistic features present, including jargon, headings, references, and quotations by key individuals. The coding categories for this analysis were derived from the study's conceptual framework, specifically Halliday's Systemic Functional Linguistics (SFL), which classifies language according to the ideational, interpersonal, and textual metafunctions (Halliday & Matthiessen, 2014). This enabled the researcher to examine not only the presence of these features but also how they functioned to convey meaning, establish authority, and structure the information. For example, jargon and technical terms were analysed in terms of their ideational function, headings and organisation through their textual function, and quotations by key figures through their interpersonal function. The content analysis therefore provided both a descriptive mapping of linguistic features and an interpretive lens for understanding their communicative role in the brochure.

To address RQ2 and RQ3, which focus on students' perceptions of the brochure and how its linguistic features influenced their vaccination intentions, the data came from the 10 semi-structured interviews. These interviews offered insights into how students from different linguistic and academic backgrounds interpreted the identified features and whether such features shaped their levels of comprehension, trust, and decision-making regarding vaccination. The open-ended and flexible nature of the interviews enabled participants to articulate their interpretations, concerns, and sentiments in detail, thus bridging the gap between the intended communicative strategies of the brochure and the readers' lived interpretations.

Following the interview sessions, all audio recordings were transcribed using Otter.ai. As Ryan et al. (2022) demonstrated in their study on clinicians' perspectives on paediatric COVID-19 vaccination, Otter.ai provides an efficient transcription process that produces legible text files suitable for qualitative analysis. Nevertheless, in line with good research practice, the researcher manually reviewed and listened to each recording to ensure accuracy, correct transcription errors, and eliminate grammatical inconsistencies. This process enhanced the credibility and trustworthiness of the transcripts for subsequent analysis.

Once transcription was completed, the data were uploaded into Atlas.ti version 9 for systematic analysis. Atlas.ti is a qualitative data analysis (QDA) software capable of handling multiple data formats, thus increasing transparency, replicability, and efficiency in managing qualitative datasets (Hwang, 2007). Within Atlas.ti, the transcripts were subjected to a coding process. Initially, deductive coding was employed using the predetermined categories of linguistic features (jargon, headings, references, and quotations). These codes reflected the features already identified in Phase 1 (brochure analysis) and ensured theoretical alignment with the study's objectives. At the same time, inductive coding was applied to capture emerging themes beyond the predetermined categories, particularly those related to students' perceptions and vaccination intentions. This hybrid approach ensured both theoretical grounding and openness to new insights.

The coding process was directly related to the linguistic features identified in RQ1, facilitating a comparative process between the proposed textual strategies in the brochure and the actual perceptions expressed by the participants. The coding and interpretation of student responses were guided by the conceptual framework. Specifically, Halliday's SFL metafunctions were applied to analyse how students

perceived each linguistic feature in terms of meaning, authority, and textual organisation. In practice, comments on technical vocabulary were classified under the category of ideational meaning, comments on the organisation and presentation of information were associated with textual meaning, and comments on quotations or voices were examined under interpersonal meaning.

In parallel, Framing Theory (Entman, 1993; Chong & Druckman, 2007) was used to interpret how linguistic features framed vaccination in terms of risk, benefit, authority, and social responsibility. With the help of these lenses of analysis, the study was able to assess not only the linguistic design of the brochure but also how it was interpreted by the readers and whether it was aligned with or diverged from the intended purpose of the brochure's communication. Together, these frameworks ensured that the analysis not only identified linguistic patterns but also revealed how such patterns were perceived and how they influenced participants' attitudes and intentions.

During the interviews and the initial stages of the data analysis, the researcher observed that the participants started voicing similar opinions concerning the linguistic features of the brochure, particularly with respect to the comprehension of technical jargon, the level of credibility associated with institutional references, and the persuasive effects of quotations from key individuals. By the time the researcher conducted the eighth and ninth interviews, similar patterns of interpretation and responses were repeatedly observed from the participants. The results of the tenth interview were more of a repetition of the existing themes rather than the presentation of significantly new perspectives.

This systematic process of data analysis enabled the study to achieve its three main objectives: (1) identifying the linguistic features utilised in the brochure (RQ1), (2) uncovering students' perceptions of those features (RQ2), and (3) examining how the features influenced their vaccination intentions (RQ3). The integration of qualitative content analysis, thematic interpretation, and theoretical frameworks ensured that the findings were both methodologically rigorous and conceptually meaningful.

3.7 Trustworthiness and Dependability

In consideration of the fact that the research design for this study is qualitative, the assessment of the methodological rigour is based on the criteria of trustworthiness, rather than the more commonly used validity and reliability, which are the hallmarks of

a quantitative research design. In qualitative research, the assessment of trustworthiness is based on the dimensions of credibility, dependability, confirmability, and transparency, which provide a guarantee that the research results reflect the participants' views, and the research process is systematic and well-documented (Creswell & Poth, 2018). These criteria are more appropriate for qualitative research, as they provide a guarantee of the authenticity of the research results.

To establish the credibility of the research, which is the extent to which the research results reflect the participants' experiences, the following measures were undertaken during the development of the research instrument. In this study, the appropriateness of the research instrument, which is the interview questions, was first determined through a pilot interview among three students from different linguistic backgrounds (English, Bahasa Melayu, and Arabic). This feedback also helped ensure that the questions were clear, contextually relevant, and likely to prompt meaningful reflections on the linguistic features of the brochure. This pilot stage also enabled the researcher to refine the wording of some of the questions to ensure minimal ambiguity in the interview process.

Moreover, the credibility of the research was further enhanced from the expertise of the research supervisors who reviewed the interview protocol. This ensured that the interview questions were appropriate for the research goals and questions and that they were capable of producing relevant information for the analysis of the linguistic features presented in the brochure.

On top of that, the dependability of the research, which refers to the stability of the research process over time, was ensured by the application of a system for the collection and analysis of the research data. Standardized procedures were developed for the scheduling of the interview sessions, the conduct of the interview, the recording of the interview, and the transcription of the interview. Moreover, the research process was documented by the researcher to include the modifications to the interview questions following the pilot test of the interview protocol. Documentation of the research process creates an audit trail that allows the research process to be reviewed by other researchers.

Additionally, a triangulation approach was used to enrich the overall credibility of the study's findings. This study utilized different sources of qualitative data, including the content analysis of the National COVID-19 Immunisation Programme brochure and semi-structured interviews with ten students, in addition to the three

students who participated in the pilot stage. By examining the textual features of the brochure and the students' understanding of the text, the study was able to cross-verify the findings with different sources of qualitative data. This approach enhanced the overall credibility of the study's findings by showing consistency between different sources of evidence (Pashaie et al., 2023).

Lastly, the trustworthiness of the analysis was ensured by the fact that the research had a theoretical basis. The Systemic Functional Linguistics' metafunctions of ideational, interpersonal, and textual aspects ensured that the analysis of the linguistic features presented in the brochure followed a particular pattern. Moreover, the application of the Framing Theory ensured that the analysis of the participants' responses during the interview followed a particular pattern, enabling the analysis to investigate how the identified linguistic features framed the participants' perception of vaccination with respect to risk, benefit, authority, and social responsibility. The application of the theories ensured that the analysis of the research findings was not done haphazardly but followed a particular pattern based on the application of the theories of linguistics and communication.

3.8 Ethical Considerations

In addition to this, ethical considerations were carefully addressed during the entire research process to ensure that the research conformed to the ethical requirements for research with human subjects. Since the research involved interviewing university students through the use of a semi-structured interview guide, the rights of the participants were given particular attention. To this effect, the participants were given information concerning the intended research purposes, the research procedures to be followed, and the intended use of the collected information before the actual research interview took place. This enabled the participants to make an informed choice concerning their participation in the research.

Informed consent from the participants was also obtained before the actual interview took place. The participants were given a consent form that explained the intended research purposes, the research procedures to be followed, and the rights of the research participants. The participants were also given information concerning the fact that the interview would be audio recorded for transcription purposes.

Confidentiality and anonymity were maintained throughout the research. To ensure the participants' identity is not revealed, coded identifiers were used instead of actual names. These coded identifiers were used throughout the transcripts, data files, and written reports. Any actual personal information that may reveal the identity of the participants was avoided during the transcription process. Digital data, such as audio recordings, were stored in password-protected files that only the researcher has access to. Thus, the participants' personal information is maintained securely throughout the research process.

In addition, efforts were made to avoid creating discomfort for the participants. Questions were framed based on the participants' perceptions of the linguistic features of the National COVID-19 Immunisation Programme brochure. Questions were also framed based on the participants' perceptions of the vaccination communication. Since there were no sensitive personal questions, the possibility of creating discomfort for the participants is low. However, the participants were given the option to stop the interview at any point if they felt uncomfortable.

Lastly, ethical consideration was observed with regard to the presentation of the findings. This was achieved by analysing the participants' responses and presenting the findings accurately without any form of distortion. In addition, the quotes used in the thesis were chosen with utmost care to ensure that the identity of the participants was not traced. This ensured that the ethical standards set for carrying out research with human participants were observed.

3.9 Chapter Summary

This chapter has presented the qualitative research methodology employed in this study, detailing the research design, sampling procedures, data collection methods, instruments, and analytical strategies. Conducted at Universiti Teknologi MARA (UiTM) Shah Alam, the study adopts a case study design to allow an in-depth exploration of how language in public health materials shapes perceptions and behavioural intentions.

The methodology was structured into three phases: Phase 1 involved the content analysis of the National COVID-19 Immunisation Programme brochure to identify its linguistic features (RQ1); Phase 2 focused on the development and refinement of interview questions through a pilot interview; and Phase 3 comprised semi-structured

interviews with 10 participants to explore their perceptions and the influence of brochure language on vaccination intentions (RQ2 and RQ3). In total, 13 participants were involved (three in the pilot and ten in the final interviews), representing a diverse range of faculties and English proficiency levels. This purposive sampling approach allowed the study to capture variation in linguistic interpretation and engagement.

Data collection utilised two primary instruments: the brochure itself and the semi-structured interviews. The brochure was analysed deductively using categories informed by Halliday's SFL metafunctions: jargon and technical terms (ideational), quotations and references (interpersonal), and headings (textual). Semi-structured interviews were then conducted to capture participants' subjective experiences and reflections, which were coded in Atlas.ti v9 using both deductive codes (based on SFL features) and inductive themes (emerging perceptions shaped by Entman's framing theory: risk, benefit, social norms, and authority).

To ensure rigor, trustworthiness and dependability were strengthened through pilot interview, standardisation of procedures, triangulation of data sources, and alignment with the theoretical framework. This methodological rigor enhanced the credibility and trustworthiness of the findings. Ethical considerations were also strictly observed throughout the research process to ensure data confidentiality.

In conclusion, the integration of qualitative inquiry, case study design, and theory-driven analysis provided a robust methodological framework for answering the three research questions. By systematically linking data collection and analysis to both SFL and Framing Theory, the chapter established a strong foundation for the forthcoming discussion of results. The next chapter (Chapter 4) will present the findings from the brochure content analysis and interview data, highlighting how the identified linguistic features shaped student perceptions and influenced vaccination intentions.

CHAPTER 4

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter discusses the findings of this study, which examined the linguistic features of the National COVID-19 Immunisation Programme brochure and their influence on university students' perceptions and vaccination intention. The analysis is framed by three key research questions:

1. What linguistic features are utilised in the National COVID-19 Immunisation Programme brochure?
2. What are the perceptions of high and low English proficiency university students regarding the linguistic features of the National COVID-19 Immunisation Programme brochure?
3. How do the linguistic features of the National COVID-19 Immunisation Programme brochure influence students' intentions to get vaccinated?

As outlined in Chapter 3, RQ1 was addressed through deductive coding guided by Halliday's Systemic Functional Linguistics (SFL), categorising brochure features according to ideational, interpersonal, and textual metafunctions. These linguistic features (jargon, references, headings, and quotations) are analysed individually to explore their respective frequencies, patterns, and communicative implications. The next section presents these findings in detail.

Following this, the chapter turns to RQ2, which was explored through inductive coding of interview data to capture students' perceptions of the brochure's linguistic features. The emerging themes identified through this process include credibility versus confusion, reliance on authority, and perceptions of persuasive tone.

Finally, the chapter addresses RQ3, which was also analysed inductively using interview data to examine how brochure language influenced students' vaccination intentions. These findings are interpreted through Entman's Framing Theory, producing four themes: risk, benefit, authority, and social norm frames.

Together, these analyses provide a comprehensive answer to the research questions and establish the foundation for the discussion in Chapter 5.

4.2 Linguistic Features in the National COVID-19 Immunisation Programme Brochure

This section presents an in-depth analysis of the linguistic features identified in the National COVID-19 Immunisation Programme brochure to answer the first research question: “What linguistic features are utilised in the National COVID-19 Immunisation Programme brochure?” .

As outlined in Chapter 3, RQ1 was examined through deductive coding guided by Halliday’s Systemic Functional Linguistics (SFL). These linguistic features identified within the brochure were analysed based on the three language functions of ideational, interpersonal, and textual language use, which collectively account for language’s ability to represent knowledge, create relationships with readers, and organize information within texts (Halliday & Matthiessen, 2014). This theoretical framework provided the basis whereby the current study was able to go beyond the identification of linguistic features and explore their role within the larger communicative framework of the brochure.

The analysis revealed four prominent linguistic features: jargon, references, headings, and quotations by key individuals. To enable a more systematic interpretation of the findings, these features are examined according to their functional roles within the Halliday’s SFL framework. This approach is necessary since the linguistic features identified do not often function independently of each other, instead, they interact to form cohesive communicative strategies throughout the brochure.

The identified features are a reflection of the functional aspects of language within the Halliday’s SFL framework. Medical and scientific jargon is mainly associated with the ideational metafunction, as it reflects technical and scientific knowledge concerning vaccination. Similarly, references to institutions and authorities serve to enhance credibility and are associated with the ideational representation of credible information sources. On the other hand, headings and quotations are associated with textual and interpersonal metafunctions, respectively, as they influence the structural organisation of the text and the interpersonal relationship between the brochure and the reader.

4.2.1 Jargon and Vaccine Communication

Jargons refer to specialized terms that convey precise meanings within a domain (Biber & Conrad, 2019). The analysis indicated that the brochure extensively uses technical vocabulary, especially medical and scientific terminologies, to explain the mechanism, safety, and immunisation processes of vaccines. Technical vocabulary, such as terms associated with vaccine technology, biological mechanisms, and immunological responses, was consistently present throughout the information sections of the brochure. This indicates the use of technical vocabulary to explain the mechanism of vaccines. The use of technical vocabulary is indicative of the attempt to provide scientifically accurate information to the readers. However, the use of technical vocabulary may have different implications for the readers, especially based on the level of linguistic proficiency (Qian & Lin, 2019).

In the context of Halliday's Systemic Functional Linguistics, the technical vocabulary is associated with the ideational function, as it represents knowledge and constructs a scientific reality (Halliday & Matthiessen, 2014). Although the use of technical vocabulary may add to the level of expertise of the information being provided, it may, at the same time, lead to difficulties for the readers who are less familiar with such technical vocabulary. Thus, the use of technical vocabulary is indicative of the balance between providing scientifically accurate information and the implications for the readers (Miroshnychenko, 2024).

4.2.1.1 Frequency and Patterns

Through content analysis of the National COVID-19 Immunisation Programme brochure that has been done, 11 different jargons related to medical and scientific, with a total of 22 occurrences are identified. The table below presents the frequency of each jargon identified in the brochure and its respective metafunction based on Halliday's Systemic Functional Linguistics (SFL) theory.

Table 4.1
Jargons Identified in the National COVID-19 Immunisation Programme Brochure
Under the Ideational Metafunction

Jargon	Frequency	Metafunction	Category
Viral vector	6	Ideational	Vaccine Technology
mRNA	5	Ideational	Vaccine Technology
Inactivated virus	2	Ideational	Vaccine Technology
Antigens	1	Ideational	Medical Science
RNA genetic sequencing	1	Ideational	Vaccine Technology
Protein sub-unit	1	Ideational	Vaccine Technology
Pathogens	1	Ideational	Medical Science
SARS-CoV-2	1	Ideational	Medical Science
Deactivating virus	1	Ideational	Vaccine Technology
Synthetically produced	1	Ideational	Scientific Processes
Epidemiology of the disease	1	Ideational	Public Health
Geo-Big Data information	1	Ideational	Scientific Processes
Total	22		

As shown in the table above, the use of jargon is predominantly aligned with the ideational metafunction, indicating a strategy to enable the concise communication of complex processes and concepts, which is essential for public understanding of the vaccines' development and function. Additionally, the most frequently used jargon in the brochure is "viral vector", which appears 6 times in the brochure. This is followed by "mRNA" with 5 occurrences, while the remaining jargons, such as "antigens", "RNA genetic sequencing", and "pathogens" occur only once. These patterns indicate a deliberate attempt to maintain scientific accuracy by using the precise terminology associated with the vaccine technology available during the vaccine's rollout in the initial stage of pandemic.

4.2.1.2 Implications for Comprehension

The prominence of “viral vector” and “mRNA” in the brochure reflects the government’s focus on explaining the vaccines available in the National COVID-19 Immunisation Programme to curb the pandemic. Both terms are central to the discussion on vaccine technology, particularly because the programme includes vaccines that utilize these mechanisms. The frequent use of these terms indicates the brochure’s emphasis on educating the general public about the scientific basis of the vaccines being distributed.

Moreover, the lower frequency of certain jargons such as “antigens” and “pathogens” may also reflect the decision to limit the use of highly technical language as these terms may not be as familiar to people with zero medical background or even the general public. Therefore, the limited inclusion to these jargons will still ensure that the National COVID-19 Immunisation Programme brochure remains accessible to a broad audience. This approach also aligns with the best practices in health communication, where the balance between technical accuracy and public comprehension is crucial (Schiavo, 2013).

In addition, the use of these jargons aligns with ideational metafunction from the Halliday’s Systemic Functional Linguistics (SFL) theory as it helps convey specialized knowledge about the vaccines and the disease they target. The selection of jargons in this brochure also reflects the need to balance technical accuracy with accessibility, ensuring the information is still both credible and understandable to a broad audience (Halliday & Matthiessen, 2014).

However, while jargon plays a key role in ensuring scientific accuracy, its presence in public health materials must also consider readability and accessibility to diverse audiences. For instance, for high proficiency students, these terms reinforce the brochure’s expert-led status, but for low proficiency students, the terms such as “pathogens” function as a barrier. This resonance with Kreienbrinck et al., (2025) suggest that when technical language is not accompanied by layman explanations, it undermines the brochure’s goal of being an accessible educational tool.

Consequently, the lack of definitions may lead to misinterpretation, which is critical since university students, despite their academic background, still rely on linguistic clarity to form accurate health perceptions.

4.2.2 References and Policy/Authority Cues

Another linguistic feature that is noted in the brochure is the references to official institutions and policy authorities. These references are noted as they frequently appear in the discussion on the safety of the vaccine, regulatory approvals, and implementation programs. It is apparent that there is a pattern in the references to official institutions and policy authorities in the brochure (Committee, 2015). By referring to institutions such as the Ministry of Health and other health authorities, the brochure is creating a platform where the information provided is part of a larger body of information from credible sources.

From the point of view of SFL theory, the references to official institutions and policy authorities play a part in the ideational metafunction as they provide a platform where the information provided is part of a larger body of information from credible sources and institutions (Halliday & Matthiessen, 2014). The recurrence of such authority indicators indicates that the intention of the brochure is to build public trust by linking the information to these recognized bodies. However, the efficacy of the reference to such bodies may depend on the level of perception of institutional authority that the reader may hold. Thus, the reference to these bodies can be said to be a rhetorical device that presents vaccination as a policy-supported and science-supported public health practice (Bernardi et al., 2017).

4.2.2.1 Frequency and Patterns

The analysis of references in the National COVID-19 Immunisation Programme brochure reveals a total of 20 mentions of various organizations and institutions. The table below presents the frequency of each reference identified in the brochure and its respective metafunction based on Halliday's Systemic Functional Linguistics (SFL) theory.

Table 4.2

References Identified in the National COVID-19 Immunisation Programme Brochure Under the Ideational Metafunction

Reference	Frequency	Metafunction	Category
MoH (Ministry of Health)	6	Ideational	Government Authority
JKJAV (COVID-19 Immunisation Task Force)	5	Ideational	Policy Implementation
Academy of Sciences Malaysia	2	Ideational	Scientific Endorsement
Department of Islamic Development Malaysia	1	Ideational	Government Authority
Thomson Reuters	1	Ideational	Media & Information Source
FAQ	1	Ideational	Public Communication & Clarification
MOSTI (Ministry of Science, Technology and Innovation)	1	Ideational	Government Authority
KLN (Ministry of Foreign Affairs)	1	Ideational	Government Authority
WHO (World Health Organization)	1	Ideational	Global Health Standards
ICH (International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use)	1	Ideational	Scientific Endorsement
Total	20		

The data in Table 4.2 reveals that the most frequently cited reference found in the brochure is the Ministry of Health (MoH), with 6 occurrences, followed by the COVID-19 Immunisation Task Force (JKJAV) with 5 mentions. Other references, such as the Academy of Sciences Malaysia and the Department of Islamic Development Malaysia, appear only once or twice. Notably, it also highlights that references fall under the ideational metafunction as well, providing verifiable evidence to back up the claims made within the National COVID-19 Immunisation Programme brochure. These references are also strategically placed in sections discussing vaccine safety and regulatory approvals.

4.2.2.2 Implications for Credibility

The dominance of MoH and JKJAV as references underscore their pivotal roles in the implementation and communication of the National COVID-19 Immunisation Programme. MoH's frequent mention is also expected, as it is the primary government body responsible for public health in Malaysia. Moreover, the repeated JKJAV also highlights the task force's direct involvement in coordinating the vaccination efforts through the National COVID-19 Immunisation Programme as well.

The inclusion of other references, such as the Academy of Sciences Malaysia and the Department of Islamic Development Malaysia, reflects the balance between scientific consultation and religious considerations approach adopted in this vaccination programme. Thus, these references add more credibility and depth to the brochure, demonstrating that the vaccination programme is supported by a wide range of experts and institutions. This is because when the readers see that the information presented in the brochure is backed by reputable sources, they are more likely to trust the content (Murray et al., 2003).

The less frequent references, such as WHO and ICH, are likely included to enhance the brochure's authority by aligning the vaccination national programme with international standards and best practices. However, the limited use of these references also suggests that while international guidelines are important, the National COVID-19 Immunisation Programme brochure's primary focus is on local implementation and context.

These reference usages correspond with the ideational metafunction, as it reinforces the brochure's informational content through authoritative sources. For instance, the reference to MoH, which is the Ministry of Health, where its repeated mention in the brochure highlights their central role in managing the national health response to the pandemic. Additionally, the selective citation of references also helps build a narrative that is both scientifically grounded and locally relevant (Eggins, 2004). The credibility of this brochure would therefore have a positive impact on the reader, who is likely to be a university student used to analysing the credibility of academic texts. The use of institutional references is therefore an example of the impact of linguistic tools on the credibility of the health communication (Rieh & Hilligoss, 2008).

However, the inconsistencies in citation placement in the brochure can trigger scepticism as well. As highlighted by Murray et al., (2003), when health claims lack

consistent attribution, the perceived legitimacy of the entire document is weakened. For university students, this inconsistency can be interpreted as a lack of transparency, potentially hindering their willingness to commit to the vaccination intentions the brochure aims to promote.

4.2.3 Headings and Structural Organisation

Headings are vital in guiding the readers through the text, signposting key sections and organizing information into manageable segments. Within the framework of Halliday's Systemic Functional Linguistics (SFL), these headings primarily fulfil a textual metafunction by creating a logical flow. In the context of the National COVID-19 Immunisation Programme brochure, headings serve multiple purposes, including guiding readers through the brochure and clearly conveying critical aspects of the vaccination programme, such as vaccination guidelines, ensuring the brochure is coherent for its intended audience (Muizelaar & Bos, 2024).

4.2.3.1 Frequency and Patterns

To better understand the headings used in the National COVID-19 Immunisation Programme brochure, the table below shows the frequency of headings identified in the brochure and its respective metafunction based on Halliday's Systemic Functional Linguistics (SFL) theory.

Table 4.3
Headings Identified in the National COVID-19 Immunisation Programme Brochure
Under the Textual Metafunction

Headings	Frequency	Metafunction
Strategies for the Access and Acquisition of the COVID-19 vaccine	1	Textual
Malaysia's COVID-19 Vaccine Portfolio	1	Textual
Value added	1	Textual
COVID-19 Vaccination Policy	1	Textual
Vaccine Distribution Strategy and Target Groups	1	Textual
Vaccination Process	1	Textual
Vaccination process through the MySejahtera application & a Special Website	1	Textual
Manual vaccination process	1	Textual
Side effects of the COVID-19 vaccine	1	Textual
Monitoring of Side Effects & Adverse Events Following Immunisation (AEFI)	1	Textual
Advocacy and Support Services	1	Textual
Mobilising the workforce	1	Textual
Total	11	

From the data in Table 4.3, the brochure contains 11 distinct headings, each of which introduces key sections of the brochure. However, all headings occur only once, with no repetition across the National COVID-19 Immunisation Programme brochure. It also means that this brochure is also structured to cover a broad range of topics comprehensively. The pattern shows a clear focus on procedural and operational details, intended to provide a logical flow to the complex vaccine's rollout information. Furthermore, headings also operate under the textual metafunction, serving as navigational tools that structure the content of the brochure, ensuring that information is presented in logical and cohesive manner.

4.2.3.2 Implications for Navigation

The headings in the brochure are carefully crafted to guide the reader through the various aspects of the National COVID-19 Immunisation Programme. For instance, each heading introduces a specific topic, ranging from logistical aspects (e.g., vaccine distribution) to public health concerns (e.g., side effects and monitoring), ensuring that the brochure is well-structured and easy to navigate by the readers. Additionally, the lack of repetition in the headings indicates a deliberate effort to cover a wide range of topics, each of which is deemed essential to understand the vaccination programme.

The diversity of topics, from vaccine acquisition strategies to side effects monitoring, also reflects the comprehensive nature of the brochure. This will ensure that all relevant information is covered, catering to the informational needs of diverse readers. Moreover, the headings also align with the textual metafunction, as they contribute to the overall coherence and organization of the brochure (Thompson, 2014). The reason is that Halliday's textual metafunction emphasizes the role of language in creating cohesion and continuity within a text. For instance, the textual metafunction operates through the thematic structure of clauses, where the theme (the point of departure of the message) and the rheme (what is said about the theme) work together to create a coherent flow of information (Halliday & Matthiessen, 2014).

The recurrence of specific wording in the headings, such as "vaccination" and "process," is indicative of the brochure's focus on procedural and operational details, which are crucial for public understanding and compliance. For example, the headings "Vaccination Process," "Manual vaccination process," and "Vaccination process through the MySejahtera application & a Special Website" collectively underscore the importance of conveying the steps involved in vaccination, thereby ensuring that the target audience is well-informed about the different methods available for getting vaccinated.

Notably, the consistent use of headings also enhances the readability of the National COVID-19 Immunisation Programme brochure, making it easier for readers to locate specific information related to either vaccines or the disease itself. This is particularly important in a public health document, where clarity and accessibility are paramount.

However, the analysis also found that certain headings, specifically "Value Added", were perceived as vague and ambiguous. This structural flow disrupts the

navigational efficiency of the text. Vague signposting can lead to reader frustration and disengagement, particularly among students who tend to skim for specific information. This mirrors the concerns by Looi et al., (2021), where insufficient textual structuring prevents readers from retrieving the information they need to make informed health decisions. For a public health campaign, a heading that fails to describe its content accurately is a lost opportunity to foreground the benefits of vaccination.

4.2.4 Quotations by Key Individuals

Quotations in any documents serve several important functions such as enhancing credibility and trust as well as to increase emotional appeal with the readers, thus aligning with interpersonal metafunctions (Fairclough, 2015). In the context of a health brochure, such as the National COVID-19 Immunisation Programme brochure, quotations by key individuals refer to direct statements or excerpts from influential or authoritative figures, such as the Prime Minister and Ministry of Health. By including the quotations from these important figures, it will add authority to the information presented in the brochure, making it more trustworthy to the readers (Tang et al., 2025).

4.2.4.1 Frequency and Patterns

From the analysis done on the National COVID-19 Immunisation Programme brochure, the quotations identified are from three key individuals: The Prime Minister of Malaysia, YAB Tan Sri Muhyiddin Yassin; the Minister of Health, YB Dato' Sri Adham Baba; and lastly, the Minister of Science, Technology and Innovation, YB Khairy Jamaluddin. These quotations from them serve to endorse the National COVID-19 Immunisation Programme, emphasizing its importance and the government's commitment to its success in order to curb the pandemic.

A prominent linguistic pattern identified within these quotations is the use of the bolded word to create visual emphasis on specific government guarantees. By highlighting these specific words, the brochure uses a deliberate rhetorical device to draw the reader's attention to the most critical promises of the campaign, ensuring that these guarantees are the most memorable aspects of the interpersonal interaction.

4.2.4.2 Implications for Persuasion

In order to provide a clear and concise overview of the quotations by key individuals in the National COVID-19 Immunisation Programme brochure, the table below presented the quotes, their respective speakers, the respective metafunction as well as the message they convey. This table will facilitate a better understanding of the significance of these quotations in reinforcing the brochure's overall communicative goals.

Table 4.4
Quotations by Key Individuals in the National COVID-19 Immunisation Programme Brochure Under the Interpersonal Metafunction

Individual	Quotation	Key Message	Metafunction
YAB Tan Sri Muhyiddin Yassin (Prime Minister of Malaysia)	“The Government’s strategy is to ensure as many residents in Malaysia as possible will receive the vaccine to save lives in the fastest possible time...”	Emphasizes the urgency and inclusivity.	Interpersonal
YB Dato’ Sri Dr Adham Baba (Minister of Health)	“A whole-of-Government and whole-of-society approach has been adopted, which involves numerous Ministries...”	Highlights the national collaboration	Interpersonal
YB Khairy Jamaluddin (Minister of Science, Technology, and Innovation)	“The document outlines the national strategic plan to ensure the National COVID-19 Immunisation Programme runs smoothly, safely, effectively...”	Reinforces the structured implementation	Interpersonal

From table above, quotations by key individuals align with interpersonal metafunction. To elaborate, the interpersonal metafunction, as outlined by Halliday’s Systemic Functional Linguistic (SFL) theory, involves the ways in which language is used to interact with others. It includes the speaker's role in the communication, the attitudes conveyed, and the relationship between the speaker and the audience. In the context of the National COVID-19 Immunisation Programme, the quotations reflect the

government's stance and reinforce the importance of the vaccination program. Thus, by including statements from high-ranking officials, the brochure seeks to convey authority, legitimacy, and a sense of collective responsibility (Martin & White, 2005).

Next, the quotation from the Prime Minister highlights the vaccination programme's goal of vaccinating as many residents as possible, underscoring the urgency and scale of the vaccination effort by the government. The use of the "The Government's strategy" indicates a top-down approach, positioning the speaker as a representative of state authority. While the phrase such as "save lives" and "recover" appeal to the public's need for security and economic stability, as well as the intention to reassure the public of the government's dedication to protect public health and restore normalcy.

Subsequently, the quotations from the Minister of Health and the Minister of Science, Technology, and Innovation emphasize the strategic and coordinated approach taken by the government. They highlight the involvement of multiple stakeholders and the adoption of a whole-of-government and whole-of-society approach. These statements are designed to build public trust and confidence in the vaccination programme. For instance, the content of Khairy Jamaluddin's statement mirrors that of YB Dato' Sri Dr. Adham Baba, which reinforces the consistency and unified stance of the government. The repetition of the key terms and phrases such as "smoothly," "safely," and "effectively" further solidifies the government's message and reflects the shared voice among different ministries.

In addition, from the quotations, certain words are highlighted in bold. These bolded words serve specific communicative purposes that also align with the interpersonal metafunction of language, as theorized by Halliday's Systemic Functional Linguistics (SFL). It focuses on how language is used to establish relationships, engage with the audience and convey attitudes, judgments as well as degrees of certainty (Halliday & Matthiessen, 2014).

For instance, the bolding of the phrase "**for free to all citizens and non-citizens of Malaysia**" highlights the government's commitment to making the vaccine universally accessible, regardless of citizenship status. This choice underscores the inclusive nature of the vaccination programme, aiming to build trust and assurance among all residents. Moreover, the bolding also serves to draw attention to a key

message that is likely to resonate deeply with the audience, especially in a context where vaccine access might be a concern (Hyland, 2019). Thus, by emphasizing these words, the brochure strengthens the government's ethos (credibility) and logos (logical appeal), making the information more persuasive and reassuring to the public (Thompson, 2014; Martin & White, 2005). The participants of this study also mentioned that these highlighted phrases helped to evoke a sense of reassurance and national unity, particularly among the students who were not proficient in English. The emphasis on inclusivity, particularly through phrases such as "**for free to all citizens**," was also noted by several participants to be a message that the programme was for the benefit of all people without discrimination. The emotional appeal of the programme was also noted to have reinforced the belief that it was a national effort rather than an individual medical need.

Other than that, the bolded words "**smoothly, safely, effectively and in an orderly manner**" from the quotations are meant to reassure the readers that the vaccination programme is well-planned and executed. These words highlight the qualities that are most likely to be valued by the public, thus enhancing the vaccination programme's credibility (Van Leeuwen, 2008; Fairclough, 2015).

The strategic use of bolding within these quotations is a deliberate rhetorical device aimed at enhancing the brochure's persuasive impact. By highlighting specific words and phrases, the brochure draws the reader's attention to the most critical aspects of the message, aligning with the interpersonal metafunction's focus on building relationships and engaging the audience. This technique is particularly effective in public health communication, where clarity, trust, and assurance are paramount (Thompson, 2014; Hyland, 2019).

However, the analysis also revealed that these quotations also received mixed responses from the participants. While the authoritative tone provided emotional reassurances to some (especially regarding free access), it triggered scepticism in others who perceived it as political rather than medical. This aligns with Hyland (2019), who suggests that the messenger's perceived expertise is as vital as the message itself. The disparity here shows that for a sceptical academic audience, political endorsement may be less persuasive than expert medical voices. Therefore, while these quotes

successfully foster a sense of national unity, their persuasive impact on vaccination intention is limited if the reader does not view the speaker as primary medical authority.

4.3 University Students' Perceptions of Linguistic Features in the National COVID-19 Immunisation Programme Brochure

This section addresses the second research question (RQ2): “What are the perceptions of high and low English proficiency university students regarding the linguistic features of the National COVID-19 Immunisation Programme brochure?”. The analysis is based on interviews with 10 university students from various courses and English proficiency levels.

Guided by Halliday’s Systemic Functional Linguistics (SFL) and the Framing Theory, this section highlights key themes that emerged from the data. The linguistic features examined include headings, jargons, quotations, and references, with insights into how they influence comprehension, engagement, and vaccination intentions. Inductive coding of the interview data revealed three central themes regarding students’ perceptions: (1) credibility versus confusion, (2) reliance on authority, and (3) responses to the brochure’ persuasive tone.

4.4 Perceptions of Linguistic Features in the Brochure

To provide a clearer overview of participant responses, the table below summarizes the key findings from the interviews with 10 university students from different courses in UiTM Shah Alam regarding their perceptions of linguistic features in the brochure.

Table 4.5
Summary of Participants' Perceptions on Linguistic Features

Participant	Headings	Jargons	Quotations	References	Encouraged to Vaccinate?	Language Suitability
A (Bahasa Melayu)	Helpful for navigation, not too wordy	Familiar but not fully understood	Not needed; trusts mother (doctor)	Good for credibility	No impact on decision	Suitable but could use more visuals
B (Engineering)	Helps in understanding section content	Heard most terms but lacks full understanding	Increases trust if stated by experts	Trusts sources; aligns with known info	Boosts confidence in vaccine	Detailed but would benefit from infographics
C (Bahasa Arab)	Clear and directive	Unfamiliar with “ <i>viral vector</i> ” but understands others	Increases confidence; government quotes are persuasive	Trusts sources as they include global references	Encouraged but lacks booster dose info	Language is understandable
D (English)	Clear but some headings (e.g., <i>Value Added</i>) are vague	Understands but prefers layman terms	Prefers medical expert quotes over politicians	Trusts references but notes inconsistency	No emotional appeal to persuade	Suitable, but lacks references on all claims
E (English)	Mostly clear but <i>Value Added</i> is confusing	Can guess meaning from context but needs explanation	“ <i>For free to all citizens</i> ” quote stood out due to economic concerns	Trusts references due to official logos	No; concerned about AstraZeneca and outdated info	Language may be too advanced for general society
F (Bahasa Arab)	Some headings lengthy but useful	50-50 understanding; more explanations needed	Effective since they are government figures	MOH references are trusted	Yes, but brochure should provide more explanations	Suitable but challenging for those with low health literacy

Participant	Headings	Jargons	Quotations	References	Encouraged to Vaccinate?	Language Suitability
G (Bahasa Melayu)	Some headings too lengthy but still navigable	Recognizes words but cannot define them	No personal impact but may help others trust gov	Trusts references	Encouraged but needs more booster dose info	Suitable but some terms may be difficult
H (Design Studies)	Understandable but some are too long	Understands most jargons through context	Increases public trust	Trusts government references	Encouraged but jargons need explanations	Not fully accessible for non-fluent English speakers
I (English)	Some headings vague (<i>Value Added</i> confusing)	Can assume meanings but unsure of accuracy	Ministerial quotes can encourage vaccination	Reliable but should cite more sources	Encouraged, but lacks booster info	Simplified explanations needed for accessibility
J (Engineering)	Well-structured and easy to follow	Understands 75% of terms; needs explanations	Bolded quotes catch attention and persuade	Trusts references	Yes, but more info on boosters needed	Informative but could use more visuals

In general, the responses indicate that headings aid navigation, though some, like “Value Added” on page 13 from the brochure, require rewording for clarity. Jargons are familiar to many students but remain a barrier to full comprehension, particularly for low-proficiency individuals. Quotations from government officials are effective for building trust, though some students prefer statements from medical professionals. References generally reinforce credibility, but inconsistent placement of citations reduces trust. Finally, while most students find the brochure’s language suitable, there are concerns about its accessibility for lower proficiency readers and those unfamiliar with medical terminology. Further analysis of these linguistic features is discussed in the following sections.

4.4.1 The Role of Headings in Navigating the Brochure

Headings play a significant role in guiding readers through the content of the brochure by structuring information clearly. Most participants found the headings useful for navigating the text, as they provided a clear indication of what each section was about. This aligns with the textual metafunction in Halliday’s SFL, which emphasizes how language organizes meaning in discourse (Thompson, 2014). Participants B and C, for instance, noted that the headings helped them anticipate the type of information they would find in each section.

However, from the interview data, while most headings were perceived as clear, some were considered vague or ambiguous. The heading “Value Added” was specifically mentioned by Participants D, E, and I as unclear, as it did not explicitly state what was being added or improved. According to Murray et al. (2003), vague headings can disrupt a reader’s comprehension process, leading to cognitive overload as individuals struggle to interpret meaning. A clearer heading, for example, such as “Benefits of Vaccination”, would provide more immediate context to the reader and ensure the message is easily understood.

4.4.2 Comprehension Barriers Posed by Jargons

Jargons serve a crucial role in health communication by conveying scientific accuracy, yet they can also act as barriers for audiences unfamiliar with specialized terminology. The findings show that high English proficiency students (Participants D, E, I) generally understood the jargons used in the brochure, though they expressed a

preference for layman explanations to ensure broader accessibility. This aligns with Johnson and Seale (2020), who argue that medical discourse should balance precision with readability to enhance public understanding.

Conversely, low English proficiency students (Participants A, H, C) struggled with many of the jargons, particularly “viral vector” and “pathogens”. Although they had seen these terms before, they could not define them with certainty. Halliday’s ideational metafunction, which focuses on how language represents real-world experiences, explains this challenge, as specialized terms fail to resonate with those outside the medical field (Halliday & Matthiessen, 2014). To mitigate this issue, research suggests including brief definitions or contextual explanations alongside technical terms (Kools et al., 2006).

4.4.3 The Influence of Quotations on Trust and Persuasion

Quotations in the brochure, particularly from government officials, aimed to enhance credibility and persuade the audience to accept vaccination. The findings reveal mixed responses regarding the effectiveness of these quotations. Participants C, F, and H reported that quotes from government officials increased their trust in the information provided, reinforcing the role of interpersonal metafunction in establishing authority and credibility (Fairclough, 2015).

However, some participants (D, E) expressed skepticism, arguing that statements from politicians could appear performative rather than evidence-based. Framing Theory suggests that the messenger’s perceived credibility significantly impacts how an audience receives information (Entman, 1993). Research by Hyland (2019) supports this, emphasizing that endorsements from medical professionals and scientists often hold greater persuasive power than political figures. A potential improvement to the brochure would be incorporating direct statements from healthcare experts to enhance persuasiveness.

4.4.4 The Role of References in Establishing Credibility

References in public health materials serve as an essential tool for validating claims and fostering trust among readers. Most participants viewed the references in the brochure as credible and reliable, especially when they were sourced from official agencies such as the Ministry of Health (MoH) and the COVID-19 Task Force

(JKJAV). This aligns with findings by Murray et al. (2003), which indicate that well-cited information in health communication enhances public confidence.

Nevertheless, some participants (D, I) pointed out that not all claims in the brochure were consistently referenced, which weakened its credibility. Inconsistent citation of sources may lead to skepticism, particularly among university students who are trained to critically evaluate academic and official documents. Studies suggest that a higher frequency of cited references throughout a document enhances its trustworthiness, as it provides verifiable sources of information (Schiavo, 2013).

4.4.5 Accessibility and Audience Perceptions

The brochure's readability and accessibility varied based on participants' language proficiency. High proficiency students (D, E, I) generally found the text manageable but noted that it was lengthy and dense. On the other hand, low proficiency students (A, F, G) reported difficulties with some sections, particularly those containing extensive medical jargon. This reflects broader issues in health communication, where information must balance accuracy with accessibility (Paasche-Orlow & Wolf, 2007; Kools et al., 2006).

Several participants suggested using infographics and visuals to supplement textual information. Visual aids have been shown to significantly improve health literacy, especially for audiences with limited proficiency in the document's primary language (Garcia-Retamero & Cokely, 2017). Additionally, some participants noted that the brochure lacked sufficient emphasis on booster doses, an issue that could be addressed in future updates.

4.5 Linguistic Features and Vaccination Intention

For this section, it will address the third research question (RQ3): "How do the linguistic features of the National COVID-19 Immunisation Programme brochure influence students' intentions to get vaccinated?". The analysis examines how different linguistic features, including headings, jargons, quotations, and references from the National COVID-19 Immunisation Programme brochure shape the students' perceptions and ultimately impact their willingness to receive the COVID-19 vaccine or booster doses.

The discussion is also framed by using Halliday's Systemic Functional Linguistics (SFL) theory and Framing Theory, providing insights into how language choices in the brochure construct meaning, reinforce authority, and persuade or dissuade university students. Additionally, to address RQ3, the interview data were again analysed inductively and interpreted through Entman's Framing Theory. Four themes emerged concerning how brochure language influenced students' vaccination intentions: (1) benefit frame, (2) risk frame, (3) authority frame, and (4) social norm frame.

4.6 The Role of Linguistic Features in Influencing Vaccination Intention

To provide a clearer overview of how linguistic features impacted students' vaccination decisions, Table 4.6 summarizes the key findings.

Table 4.6
Summary of Participants' Vaccination Intentions

Participant	Impact of Headings	Impact of Jargons	Influence of Quotations	Role of References	Vaccine Encouragement?
A (Bahasa Melayu)	Helped with readability	Recognized but didn't fully understand	No impact; family influence stronger	Trusted references	No change in decision
B (Engineering)	Helped clarify content	Familiar but needed more clarity	Ministerial quotes increased trust	Trusted references	More confidence in vaccination
C (Bahasa Arab)	Directive and clear	<i>Viral vector</i> was confusing	Quotes increased trust	References were reassuring	Encouraged but needed more booster info
D (English)	Some headings were vague	Understood but preferred simple terms	Politician quotes less convincing	Inconsistent referencing weakened trust	No persuasion effect
E (English)	Some headings unclear	Could infer meaning but wanted explanations	Economic context made " <i>free vaccine</i> " quote stand out	Trusted references due to logos	No, due to outdated AstraZeneca info
F (Bahasa Arab)	Lengthy but useful	Only partially understood	Quotes increased trust	MOH references reassuring	Encouraged but needed more clarity
G (Bahasa Melayu)	Navigation was fine	Recognized terms but didn't fully understand	No impact personally but may work for others	Trusted references	Encouraged but lacked booster info
H (Design Studies)	Some headings too long	Understood most via context	Increased public trust	Trusted references	Encouraged but wanted jargon explanations
I (English)	Some headings unclear	Guessed meaning but unsure of accuracy	Ministerial quotes persuasive	Reliable but needed more sources	Encouraged but lacked booster info
J (Engineering)	Clear structure	Understood 75% but needed explanations	Bolded quotes persuasive	Trusted references	Encouraged but wanted more booster details

The findings suggest that linguistic features impact vaccination intention differently depending on proficiency, trust in sources, and clarity of the information. While some students were encouraged to vaccinate, others were left uncertain due to jargon complexity, reference inconsistencies, or political framing. Further analysis of these linguistic features is discussed in the following sections.

4.6.1 Benefit Frame: The Impact of Headings on Vaccine Intention

Headings function as the structural backbone of the benefit frame by signposting the positive outcomes and logistical ease of the content of the brochure. The findings indicate that headings influenced students' ability to navigate the brochure and locate information relevant to their vaccination concerns. Participants reported that clear, directive headings such as "COVID-19 Vaccination Policy" helped them quickly grasp essential details about COVID-19 vaccination, reducing the cognitive load required to process high-stakes health information. This aligns with the textual metafunction in SFL, which emphasizes the role of linguistic features in guiding readers through a text (Thompson, 2014)

However, some headings, such as "Value Added", were found to be vague and ambiguous, reducing clarity and engagement. This disrupted the benefit-focused narrative. When headings fail to provide clear expectations of the content, they can diminish engagement and hinder comprehension, thereby reducing the brochure's persuasiveness in encouraging vaccination (Murray et al., 2003). While headings help to organise the "reality" of vaccination journey, their persuasive power is significantly weakened when the language used is not sufficiently descriptive. Therefore, to strengthen its impact, the brochure would benefit from more explicit headings that directly highlight vaccine benefits and address common concerns.

4.6.2 Risk Frame: The Impact of Jargons on Vaccine Intention

Next, jargon usage in the brochure serves a dual function; while it enhances scientific credibility, it also creates barriers to understanding for students with lower English proficiency. It also serves as a primary tool for risk framing. For instance, high proficiency students (Participants D, E, I) understood the scientific jargons but noted that layman explanations should be provided to ensure accessibility. This aligns with the ideational metafunction in SFL, which highlights how language represents

specialized knowledge (Halliday & Matthiessen, 2014). The use of terms like “mRNA” and “viral vector” effectively conveys technical accuracy but risks alienating readers unfamiliar with medical terminology (Kools et al., 2006).

On the other hand, low proficiency students (Participants A, F, G) expressed confusion over key terms, leading to uncertainty about vaccine safety and effectiveness. According to Framing Theory, individuals interpret information based on their pre-existing knowledge and cognitive biases (Entman, 1993). When linguistic complexity exceeds a reader’s comprehension level, it can reduce vaccination intention rather than dispelling doubts. As noted by Kreienbrick et al. (2025), when technical accuracy is not balanced with accessibility, the intended risk-prevention message may be lost, leaving vulnerable readers more susceptible to misinformation. To maximize persuasive impact, the brochure should integrate simplified definitions or footnotes explaining medical terms, making the information more accessible to a diverse audience.

4.6.3 Authority Frame: The Influence of Quotations and References on Vaccination Intention

The authority frame is established through a combination of institutional references (ideational) and quotations (interpersonal). For instance, quotations from authoritative figures are strategically included in the brochure to enhance credibility and encourage vaccination. Many participants (C, F, H, J) perceived quotes from government officials as reassuring, reinforcing confidence in the national immunisation program. This aligns with the interpersonal metafunction in SFL, which constructs authority and trust through language (Fairclough, 2015). Statements such as “The vaccine will be provided for free to all citizens” from the brochure itself helped instil confidence in the government’s commitment to public health.

However, some students (D, E) expressed scepticism toward political figures as sources of medical information, preferring endorsements from healthcare professionals. Framing Theory suggests that the credibility of a message depends largely on the source (Hyland, 2019). Political figures, while authoritative, may not always be perceived as trustworthy in medical contexts. Thus, to strengthen persuasion, the brochure could incorporate quotes from virologists, epidemiologists, or frontline healthcare workers, increasing its credibility among vaccine-hesitant students.

References serve as a key mechanism for reinforcing legitimacy in health communication. Most participants trusted the information in the brochure because it cited official sources, such as the Ministry of Health (MoH) and the COVID-19 Task Force (JKJAV). This aligns with research showing that well-referenced materials improve reader confidence in health recommendations (Murray et al., 2003).

However, some students (D, I) noted inconsistencies in reference placement, which weakened the brochure's credibility. When claims are made without clear attribution, they can lead to uncertainty and reduce persuasive impact (Schiavo, 2013). A more structured approach where every factual claim is clearly referenced would enhance the transparency and strengthen the brochure's effectiveness in promoting vaccination.

4.6.4 Social Norm Frame: Collective Responsibility and National Unity

The social norm frame within the National COVID-19 Immunisation Programme brochure functions to present vaccination not merely as a clinical requirement, but as a socially expected and morally responsible act. Within the framework of Halliday's Systemic Functional Linguistics (SFL), this frame is predominantly constructed through the interpersonal metafunction, which establishes a relationship between the government (the speaker) and the citizens (the audience) to promote alignment with public health goals.

The "so-what" of these findings is that for university students, the brochure's language successfully shifted the narrative from individual risk to collective duty. This was achieved through strategic linguistic choices, such as the bolded phrase **"for free to all citizens and non-citizens of Malaysia,"** which several participants identified as a key motivator. This phrasing evokes a sense of inclusivity and national unity, framing the vaccination rollout as a benevolent national effort that transcends individual medical needs.

However, the efficacy of the social norm frame is contingent upon the messenger's credibility. As supported by Hyland (2019), the interpersonal impact of a message is deeply tied to the perceived expertise of the source. While many students felt a sense of national effort through these social cues, others, such as Participants D and E, remained sceptical of political figures, suggesting that for a university demographic, the social norm frame is most persuasive when it is perceived as an

authentic medical recommendation rather than a political mandate. Ultimately, these emotively engaging linguistic features serve to build a rapport that encourages compliance by making vaccination the "default" responsible choice for the community.

4.7 Discussion

This section synthesizes the study's findings by bringing together the results of the textual analysis of the National COVID-19 Immunisation Programme brochure and the perceptions shared by the university student participants. This discussion will tackle the three research questions by interpreting how the linguistic features function in the brochure, how students with varying English proficiency levels perceive these features, and how their perceptions shape their intentions towards getting vaccinated. Instead of presenting the study's findings as mere pieces of information, this synthesis will integrate the results with the theoretical perspectives presented in Chapter 2, specifically Halliday's Systemic Functional Linguistics (SFL) and Framing Theory, to present the implications of the study's findings to health communication and vaccine promotion.

4.7.1 Linguistic Features in the Brochure

The results for the first research question indicate that the brochure utilizes various linguistic features, including jargon, references, headings, and quotes, as part of a systemic form of communication. Technical vocabulary like "viral vector" and "mRNA" occurs in the description of the mechanisms of vaccines. What is interesting about this particular phenomenon is not the occurrence of technical vocabulary per se but the construction of scientific authority through the use of technical vocabulary. Accordingly, the brochure's technical vocabulary follows Halliday's ideational metafunction as a form of specialized knowledge that frames vaccines as a scientifically grounded medical practice (Halliday & Matthiessen, 2014). Previous studies have also found similar trends in their research, indicating that technical language in health communication contributes to the overall perception of expertise and thus enhances the overall legitimacy of the sources of health information (Thompson, 2014). Nevertheless, it is also clear from these findings that although technical language contributes to a more credible representation of science, it also poses a potential

hindrance to readers who may not have the same level of familiarity with technical language in biomedical contexts.

Furthermore, the inclusion of institutional references within the brochure also adds to the credibility-building strategy. That is, the references to the Ministry of Health and other international organisations are intended to situate the information within some kind of institutional context. From the perspective of discourse analysis, the references to these authorities are intended to signal the broader context within which the information might be situated (Fairclough, 2015). The “so-what” of this particular analysis is to suggest that the concept of credibility within the context of public health information is not simply constructed through the inclusion of factual information but also through the inclusion of linguistic features which signal credibility. That is, the inclusion of references to authoritative sources of information might suggest to the reader of the information that the information itself is credible because it is informed by some kind of expert opinion. This particular observation aligns with the findings of other researchers who have argued that the inclusion of credibility cues within communication materials is a critical component of the broader campaign to promote public confidence within vaccination programs (Hyland, 2019). Therefore, the linguistic features within the brochure are intended to construct a discourse of authority and legitimacy.

4.7.2 Students’ Perceptions of the Brochure

From the findings on the second research question, it is noticeable that there are differences among the students with different levels of English proficiency when it comes to the interpretation of the linguistic features within the brochure. It has been established that the higher the level of proficiency among the participants, especially with regards to the MUET, the easier it would be to understand the technical terms and the explanation provided within the brochure. However, the same cannot be said for the participants with lower levels of English proficiency, who showed difficulties with the interpretation of the terms and the explanation provided within the brochure. The importance of this study lies within the implication that the level of linguistic features could have on the overall effectiveness of the information provided within the context of public health, as the same features could have the effect of making the information more credible to some and more difficult to understand to others. This study resonates

with the findings on the necessity to adapt the information provided within the context of health communication to the level of linguistic ability within the target audience for the information to have the desired effect (Hyland, 2019). From the point of view of SFL theory, this disparity points to the different ways in which students with different linguistic resources respond to the ideational and textual level of language. For students with a higher level of language proficiency, technical vocabulary as well as structural features such as headings can be easily decoded. For those students with a lower level of proficiency, the simplified text may be more important. This research therefore points to the need to ensure that health communication materials are both scientifically correct and linguistically accessible.

4.7.3 Influence on Vaccination Intention

The third research question seeks to understand the influence of the linguistic features on the vaccination intentions of the students. According to the findings, the linguistic features have a positive influence on the confidence of the students regarding the vaccination program, especially the inclusion of institutional references and quotations from key individuals. Quotations are considered persuasive elements of the text, and the inclusion of the same reinforces the persuasive nature of the text. According to the SFL, the quotations are part of the interpersonal metafunction, which seeks to create a relationship between the text and the reader and enhance the persuasive nature of the text (Halliday & Matthiessen, 2014). However, the findings are also subject to the Framing Theory, which holds that the information provided to the audience frames the issue and influences the interpretation of the same (Entman, 1993). According to the theory, the information provided to the audience influences the interpretation of the same by accentuating some aspects of reality and downplaying others. Therefore, the linguistic features have a positive influence on the interpretation of the information provided to the audience regarding the vaccination program.

Nevertheless, the impact of these linguistic features on the intention to be vaccinated does not appear to be the same for all participants. For instance, students with higher English proficiency levels appeared to be more positive about the scientific explanations and the institutions mentioned in the brochure. On the contrary, the students with lower English proficiency levels seemed to be confused due to their difficulties in understanding certain technical terms. This demonstrates that the level of

linguistic clarity plays a significant role as a mediator in the persuasive effects of health communication messages. When the reader can understand the information presented clearly, it is likely that the message will be interpreted as effective. However, when the reader finds difficulties in understanding the information due to the presence of technical terms or complex explanations, the persuasive effects of the message may be undermined. This demonstrates one of the most important implications of health communication to the public. The persuasive effects of vaccine advocacy materials depend not only on the accuracy of the information presented but also on the level of linguistic clarity.

The employment of references also helped to perform a key role in modelling compliance and vaccine acceptance. The majority of the respondents reaffirmed that the addition of official logos and statements by reputable bodies such as the Ministry of Health and the COVID-19 Task Force legitimized the brochure. This concurs with existing studies that show that properly cited public health reports will tend to produce higher levels of confidence among readers. However, lack of consistency in citing places and failure to refer some quotes back to origin were noted by the majority of participants, especially those with backgrounds in academic writing, as weakening the legitimacy of the document as a whole. These findings underscore the importance of proper and clear citation practices in public health communication, especially in communicating to university-educated consumers who can critically evaluate sources of information.

Overall, the findings of this study demonstrate that the linguistic features in the National COVID-19 Immunisation Programme brochure have a number of communicative functions. For instance, the technical vocabulary, institutional features, structural headings, and quotative features work to construct a discourse that promotes scientific credibility, institutional legitimacy, and persuasive engagement. However, the findings also suggest that the effectiveness of these linguistic features can be limited to the level of linguistic proficiency that the audience possesses. This provides a deeper understanding of the role that language plays in the interpretation of health-related information.

4.8 Chapter Summary

Chapter 4 presents an analysis of the linguistic features in the National COVID-19 Immunisation Programme brochure, addressing the research questions through Halliday's Systemic Functional Linguistics (SFL) theory and Framing Theory.

For RQ1, deductive coding guided by Halliday's Systemic Functional Linguistics (SFL) identified the linguistic features in the National COVID-19 Immunisation Programme brochure, which were organised into three themes: Medical Science and Vaccine Technology, Policy and Authority References, and Persuasive and Structural Elements. For RQ2, inductive coding of interview data revealed three perceptions of these linguistic features: credibility versus confusion, reliance on authority, and responses to the brochure's persuasive tone. For RQ3, the findings demonstrated how brochure language influenced vaccination intentions, interpreted through Entman's Framing Theory across four frames: risk, benefit, authority, and social norms.

The findings also reveal that linguistic choices significantly impact readers' understanding. Headings help with navigation, but some, like "Value Added", are ambiguous. Jargons also enhance scientific accuracy but may act as barriers for students unfamiliar with medical terminology. Quotations from government officials build trust, though some students prefer endorsements from healthcare professionals. References contribute to credibility, but inconsistent citation placement weakens their reliability.

Regarding vaccination intention, the study finds that clear and structured headings improve engagement, whereas unexplained technical jargon may lead to confusion and hesitancy. While the government figures' statements add authority, incorporating more medical expert opinions could enhance persuasion. Moreover, references play a role in reinforcing legitimacy but need consistent placement throughout the brochure.

Overall, the linguistic features used in the brochure influence both comprehension and persuasion, with variations depending on students' language proficiency and trust in the information sources. While the brochure effectively conveys key messages, improvements in clarity, referencing, and accessibility could further strengthen its impact. The following chapter discusses these findings in relation to the research objectives and the broader literature, highlighting their implications for both theory and practice.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter 4 resented the findings of this study by summarising the three research questions: identifying the linguistic features in the National COVID-19 Immunisation Programme brochure (RQ1), examining students' perceptions of these features (RQ2), and exploring their influence on vaccination intentions (RQ3). Building on these results, this chapter provides a comprehensive conclusion of the key findings in relation to the research objectives and research questions outlined in Chapter 1.

In addition, this chapter explores the broader implications of the research, both practical and theoretical, before concluding with several recommendations for future research and improvements in public health communication strategies. The overall goal is to establish how the language used in official vaccine communication materials such as the National COVID-19 Immunisation Programme brochure affects comprehension and influences vaccination intention among university students.

5.2 Summary of Main Findings

The research objective here is to offer a complete description of how linguistic features inherent in the National COVID-19 Immunisation Programme brochure shape university students' beliefs and intentions to vaccinate. All the mentioned objectives at the start of the study are addressed through a complete description of data collected through content analysis and semi-structured interviews. These results are accounted for by Halliday's Systemic Functional Linguistics (SFL) and Framing Theory to account for the role of message framing and language form in the success of public health communication among young adult readers.

5.2.1 Summary of Linguistic Features in the Brochure

The first aim was to determine linguistic features employed in the National COVID-19 Immunisation Programme brochure. This was carried out through a careful content analysis that yielded four salient features: jargon, headings, references, and

quotes by prominent figures. All the features were slotted into Halliday's metafunctions (ideational, textual, and interpersonal) to find out what their communicative function was. Terms like "mRNA," "viral vector," and "pathogens" fall under the ideational metafunction because of their role in the delivery of complicated vaccine-related information. Their multiple occurrences indicated the brochure's aim to present scientifically correct information, although they were technical and raised questions about their accessibility. Headings performed textual organisational functions, directing readers through sections and maintaining message consistency (Tikhonova et al., 2024). References and quotations were also tailored to the ideational and interpersonal metafunctions, respectively, as these performed credibility-establishing and readers' involvement functions through signifying authority and purpose. Together, the analysis of the features verified that the brochure used an integration of informative and persuasive linguistic approaches, which is obviously an attempt by the Ministry of Health to provide clarity, authority, and reader interest.

5.2.2 Summary of Students' Perceptions of the Brochure

The second research goal was developed in order to explore high and low English ability university students' attitudes towards the determined linguistic features. Qualitative data gathered from interviews showed patterns in students' experience of the brochure in relation to their English proficiency. Students with high proficiency had a clearer understanding of medical terminologies and could read the brochure more seamlessly. They did raise some shortcomings of the brochure, e.g., generic titles like "Value Added" and the absence of explanations for technical terms in everyday language. Although they knew the validity of sources and the value of quotes of public figures, doctor quotes were their favourites. This response confirms that, despite excellent language proficiency, these readers are critical of the content and question its effectiveness on the basis of being easy and of a credible origin.

While weaker students found it difficult to understand the medical vocabulary and the significance of some words and structural elements. Although they enjoyed having references and headings for orientation and genuineness in what they read, lacking contextual definitions of some words like "viral vector" placed them in disarray. To them, a statement by the authoritative figure such as the Prime Minister or Minister of Health was effective in arousing a sense of belief, although they might not grasp the

technical content. Their results hint at the necessity of balancing scientific correctness with the clout of language employed for public health materials, especially in multilingual and multi-proficiency societies such as that of Malaysia. The contrast between high and low proficiency groups renders that linguistic accessibility is the fundamental determinant of the effectiveness of health communication and that a standardized linguistic feature may be inapplicable to such a heterogeneous public.

5.2.3 Summary of the Influence on Vaccination Intention

The study found that linguistic features significantly influenced vaccination intention, though their impact was heavily mediated by English language proficiency. For high-proficiency students, the scientific tone and institutional references enhanced trust, although these features alone could not always override scepticism regarding outdated content or missing booster information. Conversely, for lower-proficiency students, intention was more closely tied to the interpersonal metafunction of language; ministerial quotes and bolded guarantees, such as "for free to all citizens," fostered emotional appeal and a sense of national unity, which served as a primary motivator for vaccination.

Ultimately, while the brochure effectively utilised authority and social norm frames to establish legitimacy, its efficacy was often regulated by the audience's linguistic needs. Technical complexity in jargon and inconsistent citation placement acted as barriers for some, while persuasive interpersonal cues bolstered intention for others. This summary highlights that for public health communication to successfully enhance vaccination intention, linguistic strategies must balance scientific authority with accessibility tailored to the target demographic's proficiency levels.

5.3 Theoretical Implications

Theoretically, the research makes a contribution towards the application of Halliday's Systemic Functional Linguistics (SFL) and Framing Theory to real health communication in a multicultural and multilingual society such as Malaysia. The research illustrates how language works at various levels, not just to inform but to build perception, create social relations, and frame realities. Though this study is embedded in a particular context of COVID-19 vaccination communication, the theoretical

insights generated are transferable to a more general analysis of health communication texts, such as brochures on disease prevention, health education, and health awareness.

Halliday's SFL tradition offered a standard by which the linguistic features of the National COVID-19 Immunisation Programme brochure was analysed. The ideational metafunction was most evidently realised in the brochure's deployment of specialist scientific jargon, such as the terms "mRNA," "viral vector," and "antigens." These terms realise a knowledge-exchange function by spelling out the scientific and technological foundation of vaccination. The findings also indicate that even as such terms are intended to construct factual authority, they also inadvertently push the text away from readers who lack scientific or linguistic expertise. This is parallel to the double life of ideational meaning in SFL, that in communicating knowledge, it also constitutes a field of discourse that can be excluding to some readers.

The interpersonal metafunction was also instantiated in tone and modality expressed in quotation and command in the brochure. For example, the deployment of modal verbs "will receive" and "is available" conveyed certainty, assurance, and institutional commitment. These lexical choices were meant to support the government's authoritative position and induce a feeling of trust in the immunisation program. Concurrently, the interpersonal metafunction enabled the brochure to establish alignment or dissonance with the reader's own perspective, depending on how much they trust the institutional voices therein. Quotes from government officials, aimed at being reassuring, were met with varying degrees of credibility depending on students' existing beliefs regarding political authorities, suggesting the involvement of the interpersonal dimension in trust and engagement.

Textual metafunctions were also heavily involved, especially in the content organization of the brochure. The organization of material, headings, and placement of references played an important role in controlling flow and readability of text. This confirms Halliday's explanation of the textual metafunction as the resource for shaping ideational and interpersonal meanings into coherent discourse (Lukitasari, 2019). But where headings were ambiguous or where references were not clearly linked to the claims they supported, coherence was lost, and the persuasiveness of the text compromised. This points to the value of clarity and cohesion in textual organisation in using SFL to inform the design of health communication.

In tandem, Framing Theory offered a vital interpretive instrument for investigating how the content of the brochure attempted to frame perception and direct

public reaction (Radmer, 2025). The brochure presented vaccination as a matter of national unity, government approval, and scientific justification, emphasizing accessibility, safety, and shared responsibility. Such positive or benefit-focused frames are more apt to encourage preventive behaviours than risk-focused frames (Gallagher & Updegraff, 2012). The use of such frames in the brochure was strategic; the results, however, indicate framing efficacy is also dependent on values and trust levels specific to the audience. For instance, political authority framing resonated with some but estranged others who found political leaders to be less trustworthy than health officials. This confirms the axiom that framing doesn't always apply across the board and needs to be adjusted to fit the social and cultural environment of the audience (Martin, 2021).

In addition, this research emphasizes that public health communication cannot be analysed in isolation from the sociocultural and psychological conditions under which communication takes place. The meaning of language is mediated by previous experiences, education levels, trust in institutions, and emotional state. Thus, this study gestures toward the integrative possibilities of SFL and Framing Theory to not just examine linguistic form and function, but also to situate communication within the larger dynamics of perception, emotion, and trust. Overall, the study adds to the perspective that language in health communication has a twofold function: conveying content and actively constructing meaning. This supports the imperative for theory models such as SFL and Framing Theory to be used not only descriptively, but also as a means of designing and assessing future communication interventions in public health.

5.4 Recommendations

From the insights and experiences gained in this study, a number of important recommendations are made to improve the simplicity, accessibility, and impact of health communication materials on vaccines. These range from linguistic features used in brochures to more general design and dissemination strategies required to reach a multilingual and multicultural audience, as Malaysia has.

One of the major suggestions is employing plain exposition of technical terms in health writing. Instead of banning medical jargon completely, and thereby settling for watering down scientific reality, brochures should facilitate comprehension by including short, reader-friendly explanations as appended to the technical terms (Blasie,

2023). This can be done through footnotes, parenthetical definitions, or unobtrusively separated sidebars. For example, the moment a term like "mRNA" is used, an exemplifying sentence of the sort "a type of vaccine that tells the body to combat the virus" can be added. This practice recognizes that all readers are not equally scientifically literate and corroborates the idea that health communication must be understandable to everyone on every level of literacy, a priority area of study in health literacy (Paasche-Orlow & Wolf, 2007). Ensuring that readers are not alienated by language that is not accessible to them is essential in a way that avoids them losing interest and faith in the information provided.

Also essential is the giving of authoritative and understandable voices within the content of health pamphlets. Findings from this research indicate that participants responded more favourably to information conveyed through medical doctors than messages coming from politicians. This is supported by previous studies that have established that public confidence in health communication relies on perceived authority and expertise of the communicator (Garcia-Retamero & Cokely, 2017). To ensure scientific integrity and build trust, brochures ought to include endorsements or signatures of support from healthcare professionals like doctors, virologists, or epidemiologists. In addition, quotation from vaccinated subjects, particularly from multicultural communities, can also personalize the narrative and make it more personalizable. Both official authority and professional as well as peer voice can contribute to making communication materials reach a larger audience and reduce perceived bias or scepticism.

Maintaining clear and consistent referencing throughout the brochure is another recommendation. As identified by participants, citations to such institutions as the Ministry of Health and JKJAV assisted in confirming the legitimacy of the brochure. This was, however, lost where it was carried out irregularly so that citations were dropped or when assertions did not have clear sources. In order to correct this, brochures are required to adhere to a clear referencing guide where every factual or statistical assertion has bearing correctly cited sources. This not only makes individuals more confident of information being accurate but also stimulates critical thinking and fact-checking (Murray et al., 2003). In an era where misinformation spreads rapidly, such transparency is not only best practice but necessary in terms of upholding people's trust in health communication.

The visual content has also got to be prioritized highly as part of the communication strategy. The research discovered that students would prefer the brochure to be more concise in words and sometimes more difficult to read. The use of professionally designed visual components such as flowcharts, diagrams, icons, or infographics makes information with high complexity simpler to split up and easier to read. The images can help readers navigate through processes such as enrolling for immunisation or tracking side effects, thereby boosting comprehension and memorability (Bhat & Alyahya, 2024). Visual communication has been widely accepted as a good means of enhancing understanding and decision-making, particularly for those with inadequate literacy (Houts et al., 2006). Visuals should never be employed as pure frills but as part of the message.

Finally, a participatory process of content creation is highly advocated. Audience testing, including pilot surveys or focus groups, should be done with participants representative of a wide variety of linguistic, cultural, and educational backgrounds before materials are released for public use. This ensures the detection of possible misunderstanding or design errors and enables developers to make changes in the material (Heineke & McTighe, 2018). By obtaining initial feedback from actual users, communication materials can be better tailored to the needs of the target population, for greatest impact and reach. User-centered design thus comes in particularly in public health in that it impacts behavioral change and adherence to the masses directly via such as ease of understanding, credibility, and availability (Dopp et al., 2018).

5.5 Suggestions for Future Research

Although the present study offers significant insights into the role of linguistic features in the interpretation of the National COVID-19 Immunisation Programme brochure by students, the limitations of the study have also indicated the following areas of future study. The present study has specifically dealt with a single health communication material designed by the Ministry of Health Malaysia. This has helped to carry out an in-depth study of the linguistic features of the brochure and the interpretation of the brochure by students. Future studies could include a larger scope of health communication materials designed by different organizations. Comparative studies of different health communication materials like brochures, online campaigns,

health posters, and social media health messages could offer significant insights into the different linguistic features used in different health communication materials. Moreover, the study could identify the different linguistic patterns used in health communication in Malaysia.

Another area for future research would be the linguistic medium of health communication. As mentioned above, the research for this paper dealt exclusively with the English medium since the brochure used for the National COVID-19 Immunisation Programme was written entirely in English. However, the fact that Malaysia is a multilingual country with the most commonly used languages for the dissemination of information on health issues being Bahasa Melayu, Mandarin Chinese, and Tamil means that future research could be carried out to examine the role of linguistic features in multilingual health communication materials. Specifically, future research could be carried out to examine whether the interpretation of the information presented in the materials differs depending on the medium used to present the information.

The population of the present study is only limited to the students of various academic disciplines from Universiti Teknologi MARA (UiTM), Shah Alam. The study's findings may only represent the point of view of the younger generation who pursue their higher education. Further studies could expand the population's demographics to include people from different age groups and professional fields in order to have a better understanding of the interpretation of health communication materials. For example, studies on the population of working adults or the elderly could provide a better understanding of the linguistic difficulties in reading health brochures. Comparing the population's needs would provide a better understanding of the functionality of linguistic features in different segments of society.

Moreover, the qualitative approach to the case study research that was adopted in this research enabled the generation of detailed insights into the perceptions of the participants. However, it would be possible to consider the adoption of quantitative research approaches in the future to explore the relationship between the identified linguistic features and health communication outcomes. This would be possible through quantitative research approaches that could assess the impact of different approaches to health communication on a larger sample. This would provide additional empirical evidence on the effectiveness of different approaches to health communication. Mixed research approaches could be another approach to research that could provide a balance between depth and breadth.

Lastly, the future research could also involve the exploration of the changing world of health communication in the endemic world. Though the research for this paper was carried out with the background of the COVID-19 pandemic vaccination message, the world of public health communication encompasses a broad scope of issues, ranging from disease prevention to the creation of awareness about vaccination, mental health issues, and the management of chronic diseases. Further research into the role of linguistic features in the emerging world of health communication would be useful to see whether the findings of this research are applicable to the wider world at endemic phase.

5.6 Practical Implications

The results of this study contain several practical implications of direct applicability to public health administrators, communication experts, content creators, and educators who participate in the development of official health communication materials. Intrinsic to these effects is the acceptance of the assumption that language is something more than a means of conveying facts, but an active organism with the capacity to influence understanding, perception, and subsequently, behaviour. As would be clear in the study, linguistic features on the National COVID-19 Immunisation Programme leaflet did have an impactful effect on understanding the message and the immunisation schedule of the university students, especially as mediated by the proficiency level in English. Although the research was conducted under the backdrop of the COVID-19 pandemic, the information obtained is highly relevant for the endemic era, where health organizations still use brochures and other information-based materials to communicate issues such as vaccination, prevention of diseases, management of chronic conditions, and public health awareness.

One of the main implications of the research is the need to improve linguistic accessibility in health communication, especially in communicating with heterogeneous populations of individuals with various language abilities. As Chapter 4 has shown, the vast majority of the students, especially the weaker ones in English, grumbled that they could not understand elaborate medical jargon such as "mRNA" and "viral vector." Scientifically correct as these words are, they were oftentimes recited without explanation or illustrations. This constituted a hindrance to understanding, with some readers still in the dark regarding the safety or operation of the advertised vaccines. This

problem reinforces the wider view in health literacy studies that the mere provision of information is not enough, audiences should also be able to comprehend, interpret, and assess the information effectively (Paasche-Orlow & Wolf, 2007). The larger implication is that health organisations need to focus on plain language approaches in the development of their informational brochures to ensure that the use of special terminology is accompanied by explanations, definitions, or even visual illustrations. The use of visual aids could also play a crucial role in ensuring the effectiveness of the information being communicated in the brochure. This is particularly true for those who have different literacy or linguistic backgrounds (Monroe et al., 2022). These approaches are not limited to the COVID-19 pandemic but could be used for any type of health brochure that seeks to communicate issues relating to vaccinations, preventive tests, nutritional guidelines, or diseases.

Another significant implication has to do with the nature and clarity of the headings contained within the information materials. Although participants acknowledged the importance of headings for information navigation, the nature of the headings, especially abstract ones such as “Value Added,” was found to be ambiguous. This has significant implications for the importance of headings, which go beyond the visual organisation of information. Headings, it appears, play a critical role in the cognitive organisation of information. A study by Kools et al. (2006) has demonstrated that clear, logically ordered headings can significantly reduce the cognitive load, facilitate comprehension, and aid information recall. As such, it is critical for information developers to ensure that the information contained within the headings is clear, unambiguous, and directly related to the information contained within the section that follows. This has significant implications for the development of information materials at endemic phase, especially where brochures are commonly utilised in health environments.

The analysis further cites the inclusion of quotations from experts in the brochure. Whereas these quotes, especially those of government ministers, were meant to reassure and to demonstrate the gravity of the vaccination programme, student reaction was divided. Some students were reassured by the quotes and welcomed the aura of official sanction that they provided. Others doubted this, given the fact that political leaders may not be the best to deliver health messages. This aligns with the study of health communication that shows audiences believing physicians more than politicians, especially when they are speaking about health (Garcia-Retamero &

Cokely, 2017). This implies that the credibility of health communication can be improved by emphasizing the voices of experts like doctors, epidemiologists, or public health specialists in health communication materials like brochures. Even adding testimonials from health experts or people with actual health-related experiences can help increase the health message's relatability and thus increase its persuasiveness and personal significance (Ramirez et al., 2023). This can be used not only in health communication materials about vaccinations but also in other health-related issues like mental health awareness, disease prevention, or lifestyle modifications.

The need for regular and open referencing is also a practical issue. Several participants mentioned that references to government agencies like the Ministry of Health (MoH) and the COVID-19 Immunisation Task Force (JKJAV) provided credibility to the brochure. But students did protest when claims were not attributed clearly or citations were not given as a matter of course. In a situation where there is the spread of disinformation far and wide, transparent clarity in attribution is something that is crucial. A clear reference or citation to a statement may be a claim's anchor of credibility, and vagueness or absence thereof such citations offers leeway to suspicion. This means that developers of health communication need to follow uniform standards of referencing throughout their work, where every substantial claim should be supported by an apparent and reputable source (Hocevar et al., 2017). It is therefore necessary for organisations creating health brochures to use consistent referencing to identify the institutional or scientific sources of the information in the brochure.

The second element of practical improvement is visual presentation of information. Other students in the study said that the brochure was verbose, that it appeared overpopulated, and, in some cases, overstuffed. Participants suggested more graphics such as diagrams, infographics, and charts to support important messages. This is supported by evidence that states the use of visual aids enhances understanding and recall, particularly in low-literacy or linguistically proficient individuals (Tengku Fariqul Haq & Nur Zahra Madany, 2025). Graphics can be used to illustrate complicated processes like the way vaccines work or the way immunisation rollout is organized into bite-sized pieces that are understood by more people (Ringgold, 2023). Apart from COVID-19 brochures, visual communication strategies are also vital in health organisations designing brochures on various health issues, ranging from disease prevention to health care instructions.

Outside of the direct domain of public health messaging, the study has implications for educational institutions and government communications departments. For university departments, particularly linguistics, communication, and design schools, this research offers a fertile source of curricular innovation and student projects. Students can be tasked not just with criticizing existing materials but also with creating new communication vehicles that are exemplars of best practices in linguistic simplicity, cultural humility, and graphical communication. For government agencies engaged in the development of national health messages, the results are a useful reminder that inclusivity of language has no place as an optional add-on, it is a foundation of successful communication. With the utilization of the findings of this study, government ministries like the Ministry of Communication and Ministry of Health are able to create future documents that are, in addition to being informational, empathetic, understandable, and trust-building.

Finally, the practical applications of this research strike a chord with an increasing demand for health communication activities that are both linguistically and visually inclusive. A good brochure is not merely one that contains accurate information within its confines but one that encourages its readers, regardless of language origin, literacy, or religion, to take action for the public interest of health (U.S Department of Health and Human Services, 2018). In the present scenario, where health communication is being used to cover a wide range of health issues other than endemics, the guidelines for health brochures that have been established in the present study—linguistic accessibility, structural clarity, use of credible sources of information, and the use of effective visuals—may serve as guidelines for the creation of health brochures in the future by the government, hospitals, and health organizations.

5.7 Conclusion

This chapter has summarised the key findings of the study and explored their practical and theoretical implications. The research demonstrated that linguistic features such as jargons, headings, references, and quotations have a measurable impact on how university students perceive and respond to vaccine information. The study reaffirms the importance of accessible, credible, and audience-sensitive health communication.

Through the application of Halliday's Systemic Functional Linguistics (SFL) and Framing Theory, the study has shown how language both informs and persuades,

sometimes effectively, and sometimes less so. By improving clarity, ensuring consistent referencing, and incorporating multiple voices, the future public health materials can be more inclusive and impactful. As the world continues to navigate health crises, especially as some viruses stay around us permanently, the role of effective communication remains more important than ever.

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APPENDICES

APPENDIX A

Interview Consent Form

Project Title: **LINGUISTIC FEATURES IN THE MINISTRY OF HEALTH'S IMMUNISATION BROCHURE: PERCEPTIONS AND VACCINATION INTENTION AMONG UNIVERSITY STUDENTS**

Thank you for your interest in taking part in this interview session. The purpose of this interview session is to identify the linguistic features used in the National COVID-19 Immunisation Programme brochure. Other than that, this study aims to examine students' perception on the National COVID-19 Immunisation Programme brochure's linguistic features and how it will influence their vaccination intention.

For this interview session, there are questions regarding warm up questions, the perception of the brochure, influence of the brochure and closing questions.

This research is supervised by Prof. Dr Ts Janudin Sardi and Dr Nur Husna Serip Muhammad of Universiti Teknologi MARA (UiTM). If you require any additional information about this research, please contact me at the number listed below.

Nisa Nur Arisyia binti Mawardi
2023781137@student.uitm.edu.my

Consent:

By participating in this interview session, I agree that:

1. I am 18 years old and above.
2. I agree to take part in the research named above.
3. I understand that all data of this research will be protected by the researcher.
4. I understand that the researcher will maintain confidentiality and any information gained from this interview session will be used only for the purposes of the research.
5. I understand that this research involves interview:-

Please indicate whether you agree to be audio taped during the interview session by checking the appropriate box below.

- ☐ I agree to be audio taped during the interview session.
- ☐ I do not agree to be audio taped during the interview session.

6. I understand that my participation is voluntary, and I may withdraw at any time without any effect.

Participant's Name:

Participant's Course Programme:

Signature:

Date:

MUET (Band):

APPENDIX B

Pilot Interview Questions

First Section: Warm-up Questions

1. How are you today?
2. How has COVID-19 affected you?
3. May I know how many times you have taken the COVID-19 vaccines?
4. How do you feel after you have been vaccinated?
5. In your opinion, how has vaccination helped us to adjust post-COVID 19?

Second Section: Respondents' Perception of the Brochure

1. Now that you have read the brochure, explain in your own words what is the brochure about?
2. From the brochure you have read, how do you think the vaccine was explained in the brochure?
3. In your own words, how do you define COVID-19 vaccine?
4. Based on what you have read in the brochure, how does the brochure show on how the COVID-19 vaccines are acquired?
5. What do you understand about “synthetically produced” that is mentioned in the brochure?
6. Based on the brochure, what do you understand about the COVID-19 vaccination programme?
7. In your opinion, what do you understand about the word ‘pathogens’ from the brochure?
8. Based on the brochure, how does it explain the vaccination process?
9. Based on the brochure, how do you obtain the information about the COVID-19 vaccination?
10. Based on the brochure, do you have any problem in identifying the indication on how to access COVID-19 vaccine?
11. What is your opinion on the presentation (the organisation of the information) of this brochure altogether?

Third Section: Influence of the Brochure

1. How does the brochure encourage you to get vaccinated against COVID-19?
2. If you still need to have a booster COVID-19 vaccine, do you think that the brochure presents enough information about the vaccine itself? Explain why.
3. In general, what is your opinion of getting COVID-19 vaccines after reading the brochure?
4. In general, what do you think of the brochure and the information contained in it?

Fourth Section: Closing Questions

1. Would you like to add anything else about the brochure?
2. Do you mind if I send the transcription of this interview session through email for validation purposes?

APPENDIX C

Finalised Interview Question

OPENING QUESTIONS

1. How are you today?
2. How has COVID-19 pandemic affected you?
3. May I know how many times you have taken the COVID-19 vaccine?
4. How do you feel after you have been vaccinated?
5. In your opinion, how has vaccination help us to adjust post-COVID-19?

PERCEPTION OF THE BROCHURE

1. Now that you have read the brochure, can you explain in your own words what is the brochure about?
2. How engaging did you find the brochure?
3. Does the brochure keep your attention throughout the reading?
4. From the brochure you have read, how clear do you think the vaccine was explained in the brochure?
5. Based on the brochure, what do you understand about the COVID-19 vaccination programme initiated by the government?
6. From my analysis, the word “viral vector” is mentioned the most in the brochure. Do you understand the meaning of “viral vector”?
7. In your opinion, what do you understand about the word “pathogens” mentioned in the brochure?
8. How clear and understandable did you find the language used in the brochure?
9. Are there any terms or sections that you found confusing or difficult to understand?
10. How credible did you find the sources or references for information presented in the brochure?
11. Does this brochure provide enough sources or references to back up its claims?

12. When you read this heading “Value added” on page 13, do you get the general gist of information explained on this page?
13. In your opinion, do you think these headings help you to navigate and read the brochure better?

INFLUENCE OF THE BROCHURE

6. In general, are you encouraged to get vaccinated against COVID-19 after reading this brochure?
7. After reading the brochure, are you more likely to recommend the COVID-19 vaccines to others?
8. If you still need to have a booster COVID-19 vaccine, do you think this brochure present enough information for you to get the booster? Explain why.
9. After reading the brochure, did any specific linguistic features or word choices stand out to you that persuaded or dissuaded you about getting the COVID-19 vaccine? Please provide examples.
10. Does the brochure alleviate any concerns you had about the COVID-19 vaccines?
11. How does the brochure make you feel about the vaccine? Did it evoke trust, skepticism, confidence, or any other feelings?
12. For example, does the information on page 10 that is taken from JKJAV increase your confidence level in COVID-19 vaccine?
13. Do any of direct quotes or statements by the ministers in the brochure affected your intention to vaccinate? Can you pinpoint any?
14. Do you think by putting the quotes or statements by important ministers such as Minister of Health are effective in convincing people or yourself to get vaccinated? Can you explain why?
15. Are there any linguistic presentation in the brochure that you believe would influence university students' vaccination intention?
16. Given your status as a university student, do you feel the brochure's language is tailored to address your demographic's concerns or questions about vaccination?

CLOSING QUESTIONS

1. How does this brochure compare to other sources of information you have encountered about COVID-19 vaccine?
2. Which source of information do you find most reliable and why?
3. What improvements would you suggest for the brochure to make it more effective?
4. Is there any additional information you think should be included in the brochure?
5. How accessible do you think the brochure is for individuals with different levels of health literacy?
6. Do you think the level of this brochure are suitable to the general society? If not, why and who do you think this brochure is intended for?
7. Do you find the brochure to be inclusive in terms of language, cultural differences, and imagery?
8. Do you feel that the brochure covered all the necessary information about COVID-19? If not, what was missing?
9. Do you mind if I send the transcription of this interview session through email for validation purposes?

AUTHOR'S PROFILE



Nisa Nur Arisyia Mawardi graduated in 2022 with a Bachelor of Applied Language Studies (Hons.) English for Professional Communication from Universiti Teknologi MARA, Shah Alam. In 2023, she pursued her Master of Applied Language Studies at the same university, with her research focusing on linguistic features in applied communication. During her postgraduate journey, she published a paper in the *International Journal of Modern Languages and Applied Linguistics (IJMAL)* in 2025 and presented her work at the e-Postgraduate International Colloquium (e-PIC) 2023 Series 5, held at UiTM Shah Alam. She aims to further her academic journey, with particular interest in language and historical linguistics.

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