

DETERMINANTS THAT INFLUENCE THE ACCEPTANCE OF
GENERATION Z IN MALAYSIA TOWARDS COMPLEMENTARY
AND ALTERNATIVE MEDICINE

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DECLARATION

We hereby declare that:

- (1) This undergraduate FYP is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Equal contribution has been made by each group member in completing the FYP.
- (4) The word count of this research report is **10745 words**.

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This study completed is particularly dedicated to:

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For guiding and supporting us throughout the completion of this project.

Our university,

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For providing us the chance to conduct this Final Year Project.

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LIST OF ABBREVIATIONS

FBF	Faculty Business and Finance
CAM	Complementary and Alternative Medicines
MG	Government of Malaysia
NHS	National Health Care System
UHC	Universal Health Coverage
MOH	Ministry of Health
WHO	World Health Organization
NCCAM	National Center for Complementary and Alternative Medicine
TCM	Traditional Chinese Medicine
DV	Dependent Variable
IV	Independent Variable
HBM	Healthcare Belief Model
UTAR	Universiti Tunku Abdul Rahman

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ABSTRACT

In recent years, the growing popularity of Complementary and Alternative Medicine (CAM) has become a noteworthy trend, even in the midst of remarkable advancements in Western medicine. This study examines the acceptance of CAM among Generation Z in Malaysia. Utilizing the Theory of Perceived Risk, quantitative research employing questionnaires is conducted among individuals aged 18 to 26, representing the Generation Z cohort. Employing judgmental sampling, a sample of 300 respondents is surveyed via a Google form. Microsoft Excel aids in data organization and analysis. Through Cronbach's alpha, frequency distribution, and multiple regression analysis, the study concludes that effectiveness, mindset, and perceived affordability significantly impact acceptance, while side effects and treatment duration do not. This research enriches consumer behavior insights in healthcare, inviting further exploration of perceived risk's role in shaping consumer behavior. The exploration of this study not only contributed to the future researchers but also has practical impacts for government and CAM providers seeking to adapt healthcare services to meet the changing expectations and requirements of Generation Z.

CHAPTER 1: INTRODUCTION

1.0 Introduction

The study consists of five chapters, with the first one providing a thorough overview. The aim of this study is to explore the factors influencing the acceptance of Generation Z in Malaysia towards Complementary and Alternative Medicine (CAM). This chapter explains the background, problem, objective, and significance of the study.

1.1 Research Background

The quality of human life has been greatly improved due to the advancement of western medicine, specifically in decreasing infant mortality. As a result, Western medicine has become the predominant medical system worldwide (Fu et al., 2021). CAM's popularity and reputation have increased in recent years despite the immense advances in Western medicine. CAM is widespread in developing countries. High levels of user satisfaction and claims of better health are linked to the use of CAM (Peltzer & Pengpid, 2018). CAM is typically used as a complement to Western medicine, but usage is also influenced by patient's age, geographic location, and healthy issue they are experiencing (Fu et al., 2021). CAM has been used to improve public health and treat patients infected with viruses such as COVID-19. 85% or more of COVID-19 patients in China used CAM, as did 84% of Iranians (Dehghan et al., 2021), 85.5% of Ghanaians (Kretchy et al., 2021), and 56.6% of patients in the United Arab Emirates (Radwan et al., 2022).

Malaysia has a public-private dichotomy in its healthcare system (Balqis et al., 2021). The British introduced Western medicine at the end of the 19th century, and it quickly gained popularity due to its efficacy and simplicity of application (Kim, 2017). About 65% of the population is thought to be served by the public healthcare sector, which consists of heavily subsidized hospitals and health clinics. On the other hand, the private sector includes medical facilities such hospitals, retail pharmacies and clinics for primary care physicians and specialists. In June 2020, Malaysia has a total of 71,041 doctors and 19,341 pharmacists. Among them, 51,912 doctors and 11,616 pharmacists are serving in the Ministry of health (Panickar et al., 2022).

Prior to the advent of modern medicine, it is assumed that CAM practises were utilised as primary medical care by diverse cultural populations throughout history (Odegard et al., 2022). In 1878, CAM was introduced

to Malaysia. In the past two decades, The government of Malaysia (MG) has created legislation to legitimize CAM, make it an official part of the National Health Care System (NHS), and regulate CAM professionals and businesses in the country. This work has led to CAM's full incorporation into the NHS and its use as a resource for providing Universal Health Coverage (UHC) to the public (Park et al., 2022). According to the Ministry of Health (MOH) Malaysia, there are 15 MOH hospitals in our country that provide CAM services as of December 2022 (Ministry of Health Malaysia, 2023). For example, traditional Malay massage, postnatal massage, herbal oncology, and acupuncture. According to Dehghan et al., (2022), 69.4% of Malaysians have used CAM in their lives. Biological and natural products were the most reported forms of CAM utilized to treat chronic disorders in the Malaysian population. The extensive availability of herbs and natural goods like garlic, Misai Kucing, Gingko Biloba, and honey in Malaysia has made them the go-to choice for alternative medicine there (Zakaria et al, 2021).

1.2 Research Problems

CAM is practised in **Malaysia**, where it has contributed to medical therapy (Gan et al., 2015). Numerous studies have indicated that Malaysians have a high prevalence of CAM use, even though many medical professionals find the use of CAM for cancer difficult because it may slowdown oncology treatment and lead to unexpected consequences such drug interactions or less adherence to conventional care. For example, approximately 51 to 88% of cancer patients in Malaysia use CAM at any given time (Abuduli et al., 2011; Farooqui et al., 2016). Hasan et al. (2009) discovered that CAM use was prevalent among hospitalised patients with chronic conditions (63.9%). Patients with chronic illnesses like diabetes are increasingly embracing CAM for diabetic management (Ching et al., 2013), and a study found that 41% of asthmatic patients use CAM (Mokhtar & Chan, 2006). Furthermore, CAM has developed into one of the effective treatments for dengue fever (85.3%) patients (Ching et al., 2016), and it is also use by moms after giving birth to lessen pain and blood loss, as well as to increase the breast milk production and improve insomnia symptoms (Fuad et al., 2020).

There are reasons for the **acceptance of CAM** throughout Asia. Individuals are more likely to engage in preventive health practices (Whyand et al., 2018; Yazdanpanah et al., 2015). One component of this trend is the rise in popularity of healthy lifestyle choices including going to the gym, taking yoga courses, and following rigorous exercise routines. This impacts acceptance of CAM such as eating medicinal plants for nutrition (Aschemann-Witzel & Grunert, 2017; Chen & Wei, 2017). The majority of patients accept and choose CAM because it is believed that these treatments have fewer adverse effects (31.1%) than traditional treatments, improves life quality (26.7%), and has the potential to treat cancer (20.7%). 17.8% thought that

CAM offers numerous cancer treatments (Razali et al., 2020). CAM procedures are becoming more popular due to their affordability and accessibility (Kretchy et al., 2021). CAM is used by people at risk of infections and diseases to reduce risk (Hwang et al., 2020). Moreover, compared to American students, Asian students might be more acquainted with culture-specific CAM due to the origins of numerous CAM practices in Asia, especially in the culture of Chinese and Indian. Consequently, it stands to reason that people of Asian descent would have a higher CAM usage rate and a deeper understanding of the practise (Ho, 2012).

In some study suggests that incorporating CAM into conventional treatment may be beneficial, while others research suggest that it may be harmful (Andersen et al., 2015). There is a **possibility risk** of certain herbal remedies and chemotherapeutic drugs interact adversely, causing drug toxicity or failure of the treatment. (Clarke & McLachlan, 2011). In the worst-case scenario, certain CAM can prove fatal. Vitamins and minerals can also increase cancer risk if taken in excess. Consequently, since CAM is not a component of standard medical therapy, medical doctors do not recommend it. Many doctors are still sceptical about CAM due to a lack of prior qualifications and expertise, as well as high-quality experimental studies on its effectiveness (Asadi-Pooya et al., 2021; Land & Wang, 2018). Several CAM treatments, including their potential advantages and risks, have not been scientifically proven (Tabish, 2008). Yet, despite general practitioners' greater usage and understanding of CAM (Maha & Shaw, 2007), patients' disclosure of its use to doctors is still inadequate (Robinson & McGrail, 2004). Up to 90% of patients believe CAM is safe, thus they rarely think about the risk of treatment-related adverse events (MacLennan et al., 1996). Additionally, risk might occur due to "mistaken identity," where herbal and other medicines are falsely labelled as homoeopathic in an effort to make them appear safer (Fisher et al., 2002). Patients may overdose on non-homeopathic substances because of the belief that it is safe due to the homoeopathic label, and resulting to toxic level (Aviner et al., 2010).

In this study, we are focusing on **Generation Z**, which consists of people who were born between 1997 and 2012 (Dimock, 2019). According to Mondelez International's marketing director for Malaysia and Singapore, Arpan Sur, Generation Z is a substantial market and a significant chunk of the population (Dhesi, 2022). Generation Z is the largest age group in Malaysia at 29% (Tjiptono et al., 2020). A study showed by Eventbrite, an event management and ticketing company, discovered that the most popular events among Generation Z were those that focused on healthy diet, natural-based nutrition (31%), meditation (23%), decluttering (18%), and breathing (16%). Meditation is practised by two times as many members of Generation Z as by baby boomers (Georgious & Chheda, 2020).

Therefore, our study is unique and able to provide information that differs from prior CAM-related studies. Many previous research papers focused on physicians' perspectives and use of CAM (Wahner-Roedler et al., 2006; Milden & Stokols, 2004; Patel et al., 2017). Meanwhile, many previous research papers focused on

the health-related and socio-demographic factors of CAM usage in different countries other than Malaysia, such as Europe, Bangladesh, China, USA and so on (Kemppainen et al., 2018; Peltzer & Pengpid, 2018; Shahjalal et al., 2022). Our research allows us to comprehend the determinants such as possible risks that influence the acceptability of CAM. Instead of focusing on the physicians' attitudes and health-related and socio-demographic factors of use of CAM treatments, we tend to focus on whether perceived risk will or will not discourage Generation Z in Malaysia from accepting CAM.

1.3 Research Questions

Do effectiveness, side effects, treatment duration, mindset and perceived affordability significantly influence the acceptance of Generation Z in Malaysia toward CAM?

1.4 Research Objective

Ultimately, this study aims to examine the effect of effectiveness, side effects, treatment duration, mindset, and perceived affordability on acceptance of Generation Z in Malaysia towards CAM.

1.5 Research Significance

This research is important for several parties to gain a better understanding of the topic. Firstly, this research can help government sets a rule and regulations that all the CAM practitioners must meet certain educational or training requirement, obtain license, and follow professional standards. Government support for safe CAM practices can increase economic growth and create more job in CAM industry. This can involve providing fund for research and development, and training and education programs for CAM practitioners. This can lead to innovation, economic diversification, and employment opportunities in the healthcare industry which can boost the revenue of government.

Secondly, this research can help CAM practitioners ensure that they have a deep understanding and knowledge of the therapies they provide to effectively manage functional risks and ensure CAM consumers receive safe and effective care. By understanding functional risk, they can reduce the chance of adverse effects and improve patients' satisfaction. This can also improve the patient outcomes. They can implement

safety measures to minimize potential risks. For example, they can set a guideline for observing patients prior to or following CAM treatments to determine any unfavourable responses.

Thirdly, as there is less research on this topic, therefore, this research has the potential to add new insights to the literature on CAM and consumer behaviour. Furthermore, this research can act as a foundation for future study on CAM and consumer behaviour. Researchers can determine research areas that require further analysis. This can help to guide future research and ensure that resources are utilized in the areas of greatest need.

1.6 Conclusion

This chapter's discussion summed up the overall focus of the study. First, the research background briefly reviewed the rise of CAM and its use worldwide, particularly in developing nations like Malaysia. The research problem provides the motivation for the research, while the research objective specifies what has to be accomplished. Last but not least, the research's significance to the field and the academy must be defended.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Chapter 2 defines CAM and describes the study's use of the Theory of Perceived Risk. This chapter will provide a description of the study's dependent and independent variables and it will also include an illustration of the conceptual framework. It also describes how the current study's hypotheses were developed.

2.1 Complementary and Alternative Medicine (CAM)

According to the National Institute of Health's Center for Complementary and Integrative Health (NCCIH), CAM is a spectrum of medical and healthcare approaches that fall outside the mainstream at the present time (NCCIH, 2021). The World Health Organization (WHO) defines CAM as the application of knowledge, skills, beliefs, and indigenous experiences from various cultural contexts to the promotion of health and the prevention, recovery, or treatment of illness of the physical and mental systems (Pinzon-Perez et al, 2016). According to St. Luke's Hospital (n.d.), CAM is a broad term for a variety of treatment modalities that are not normally included in standard Western medicine. Complementary medicine is when practises that aren't usually used in medicine are used along with traditional medicine. Alternative medicine is used to describe the use of non-traditional methods as an alternative to standard medical care (Odegard et al., 2022).

The National Center for Complementary and Alternative Medicine (NCCAM) has established five broad categories for CAM. First of all, whole medical system refers to a set of beliefs and practises around health care that has developed independently in various parts of the world. Traditional Chinese medicine (TCM) is part of this system. Secondly, biologically based therapies utilise natural substances. Vitamins, botanicals, specialty diets, and other dietary supplements are some examples. Third, manipulative body therapies include bodily parts. Therapies like massage, chiropractic, and reflexology are examples. Fourth, mind-body therapies use breathing, attention, and movement to calm the body and mind. Biofeedback, hypnosis, yoga, tai chi, and meditation, for instance. Last but not least, the premise of energy-healing therapies is that life force energy circulates throughout the physical body. The purpose is to restore harmony to the patient's energy system. Therapeutic touch and reiki are two such practises (Barnes et al., 2008; National Cancer Institute, 2022).

2.2 Review of Past Theories - Theory of Perceived Risk

According to Bauer (1960), perceived risk is the risk that consumers actively perceive due to a lack of product information comprehension. Subsequently, Bauer included perceived risk to the study of customer behaviour. Later, Mitchell (1999) categorized it into two components: uncertainty regarding the consequences of a poor decision and uncertainty regarding the outcome. According to the Theory of Perceived Risk, consumers' perceptions of risk depend on a number of factors that differ from person to person (Mitchell, 1999). Furthermore, Mulino et al. (2009) also find that a person's risk aversion is not always the same. Instead, it changes for the same person across different decision-frames. So, the same perceived risk can make different people act in different ways. Schiffman and Kanuk (1994) outlined 6 main types of risk in terms of loss when making product decisions which are functional, physical, time, social, psychological, and financial risk. Some literature, like a study by Carroll et al. (2014) has found that psychological and social risk dimensions are combined and treated as one.

Functional risk refers to risks linked with a product's functionality. It consists of consumer suspicion or worry that the products they purchase will not perform as expected (Lake, 2019). In addition, **physical risk** refers to the possibility that a consumer is uncertain about the safety of a product or service and, as a result, delays a purchasing decision (Bhasin, 2018). Furthermore, **time risk** refers to the time and effort that could be lost if the item is bought needs to be fixed or replaced (Ko et al., 2004). Additionally, **psychological risk** is potential damage to one's sense of self or identity (Murray & Schlacter, 1990). Moreover, **social risk** is defined as the danger of losing the approval of purchase by family or friends (Li & Zhang, 2002). The individual's social standing could decline if they made that purchase (Leonard, 2019). Besides, money can be lost, which is what is meant by **financial risk** (Chen et al., 2021). They worry that making a purchase could cause them to lose their current or future financial resources (Lake, 2019).

We will employ 5 types of risk from the Theory of Perceived Risk in this research study. Firstly, functional risk will be treated as **effectiveness**. Individual patient characteristics, disease conditions, etc will influence how CAM is likely to perform in diverse clinical settings and patient populations. Secondly, physical risk will be treated as **side effects**. Patients believe CAM is harmless, hence they often avoid telling their doctors they are doing so. However, might be risky because some CAM therapies and practises can interfere with traditional medical treatments or even worsen the underlying health issues (Bello et al., 2012). Thirdly, time risk will be treated as **treatment duration**. Most CAM therapies take time to work. If a patient spends a lot of time and money on an unsuccessful or hazardous CAM therapy, they may lose time and the possibility to pursue other treatments (Moore et al., 2017). Fourthly, psychological risk will be treated as **mindset**. Mindsets have the potential to influence the consumer attitudes. Consumers with a positive attitude towards

CAM use are more inclined to buy and interact (Omar & Putit, 2012). Lastly, financial risk will be treated as **perceived affordability**. CAM treatment is self-pay. If patients are unemployed, self-employed, or on short-term contracts without health insurance, this could jeopardise their money (Ismail et al., 2016).

2.3 Review of Variable

2.3.1 Acceptance

Acceptance is defined by Chismar and Wiley-Patton (2003) as "the intention to adopt an application." Moreover, Ausserer and Risser (2005) defined acceptance as "a phenomenon that represents the extent to which potential users are willing to employ a certain technology." The Cambridge Dictionary (n.d.) says that acceptance is when everyone agrees that something is satisfactory or right or that someone should be a part of a group. Acceptance is described as the presence of good practise. According to Proctor et al. (2011), it is the perception among implementation stakeholders that a given treatment, service, practise, or innovation is agreeable, palatable, or satisfactory. Acceptance occurs when a group or community shows positive attitudes towards a topic through endorsement, approval, or approbation (Kraeusel and Most, 2012). Acceptance entails fully understanding the realities of a situation and letting go of the notion that things ought to be different (Alford, 2021).

2.3.2 Effectiveness

The third edition of the Oxford Dictionary of English defines effectiveness as the degree to which something achieves the result you want (Stevenson, 2010). In medical field, effectiveness is the capacity of an intervention to have a significant impact on patients under normal clinical conditions (Burches & Burches, 2020). When talk about how effective a treatment is, we're talking about how well it works in actual clinical settings. Effectiveness defines a study's external validity, also known as "performative efficacy" (Kaptchuk, 2002a), is a measure of a study's reliability and validity when applied to the real world.

2.3.3 Side Effects

Side effects refer to the additional, unintended outcomes of a drug or treatment beyond its desired effect. These effects can be either harmful or beneficial and may vary among patients based on factors such as general health, disease state, age, weight, and gender (National Cancer Institute, n.d; Brazier, 2017). It is important to note that not all side effects are severe, and some may improve over time, like nausea caused by a new medicine (Health direct, 2022). Any unwanted or unexpected effects of a medicine fall under the category of side effects, and they can be challenging to distinguish from the illness or interactions with other medicines (Better Health Channel, n.d.). Besides that, based on Linden & Haupt (2014), side effects are adverse reactions which may cause by a correct treatment.

2.3.4 Treatment Duration

Treatment duration is the number of days, weeks, months, or years that a patient should get manual treatment for a certain issue (Seffinger & Hruby, 2007). The study by Fisher et al. (2010) found that the duration of treatment was measured in months. In addition, treatment duration defines as the number of weeks required to complete therapy was determined by counting backwards from the date of the patient's first on-site diagnostic contact with the therapist to the date of the last on-site treatment session. The total time spent on treatment accounts for both the time it takes to complete the intake and the duration it takes to begin actual therapy. The full duration of the treatment has been calculated, and this includes the time spent waiting (de Beurs et al, 2018). Additionally, treatment duration includes when people living in remote areas have to travel for hours to receive treatment (Jaret, 2020), for example, the distances and travel time use by the people when rural region have no land route connection to the city's treatment centre (Yahya et al, 2019). Also, physician travel time for outreach clinics is considered treatment duration (Doolittle & Spaulding, 2006).

2.3.5 Mindset

Webster's dictionary (n.d.) provides two definitions of mindset: "a mental attitude or inclination" and "a fixed state of mind." Both definitions shows that mindset is an internal process of a person's thinking; nevertheless, a person's mindset can exert influence over their attitudes and may impact their conduct. Mindset is the standpoint from which individuals act and express themselves (Giovana et al, 2022). Mindsets are lenses or mental frames that orient a person towards a specific set of associations and expectations. As with beliefs, mindsets direct attention and motivation in ways that influence physiology and behaviour. Individuals' mindset determines their emotions and behaviours,

which can have substantial effects on their health and well-being. Physicians have the opportunity to positively or negatively affect patient perspectives on health and healing based on patient's mind-set (Crum & Zuckerman, 2017).

2.3.6 Perceived Affordability

The definition of affordability by Morgan and Kennedy (2010) noted that when it comes to health technologies like prescription drugs, affordability can be gauged at an individual level through out-of-pocket expenses, or at a systemic level by considering overall incurred costs. To determine affordability, it was necessary to consider the WHO's definition of catastrophic health expenditure, which is defined as an out-of-pocket medical expense that exceeds 40% of disposable household income (McLane et al., 2015). In addition, perceived affordability is referring how patients view the cost of medicines in relation to their own financial capability and the prices of the medicines required for their diagnosed conditions. It's categorized as affordable if patients could acquire the medicines, and unaffordable if they couldn't do so at a minimum price (Mathewos et al., 2021). Affordability embodies the economic ability of individuals to allocate resources and time for appropriate services. This arises from the direct service fees, associated expenses, and potential income losses. The concept of the perceived affordability for healthcare is widely discussed in the study of Levesque et al. (2013), state that the capacity to generate economic means—through income, savings, borrowing, or loans—to cover healthcare expenses without depleting resources required for essential needs (e.g., selling a home). Affordability also pertains to prices and people's perceptions of worth in relation to price (Caspi et al., 2012).

2.4 Research Framework

Figure 2.1 shows the determinants that influence the acceptance of Generation Z in Malaysia toward CAM. In relation to the **Theory of Perceived risk**, there are five independent variables which include effectiveness, side effects, treatment duration, mindset and perceived affordability that influence the dependent variable which is the acceptance.

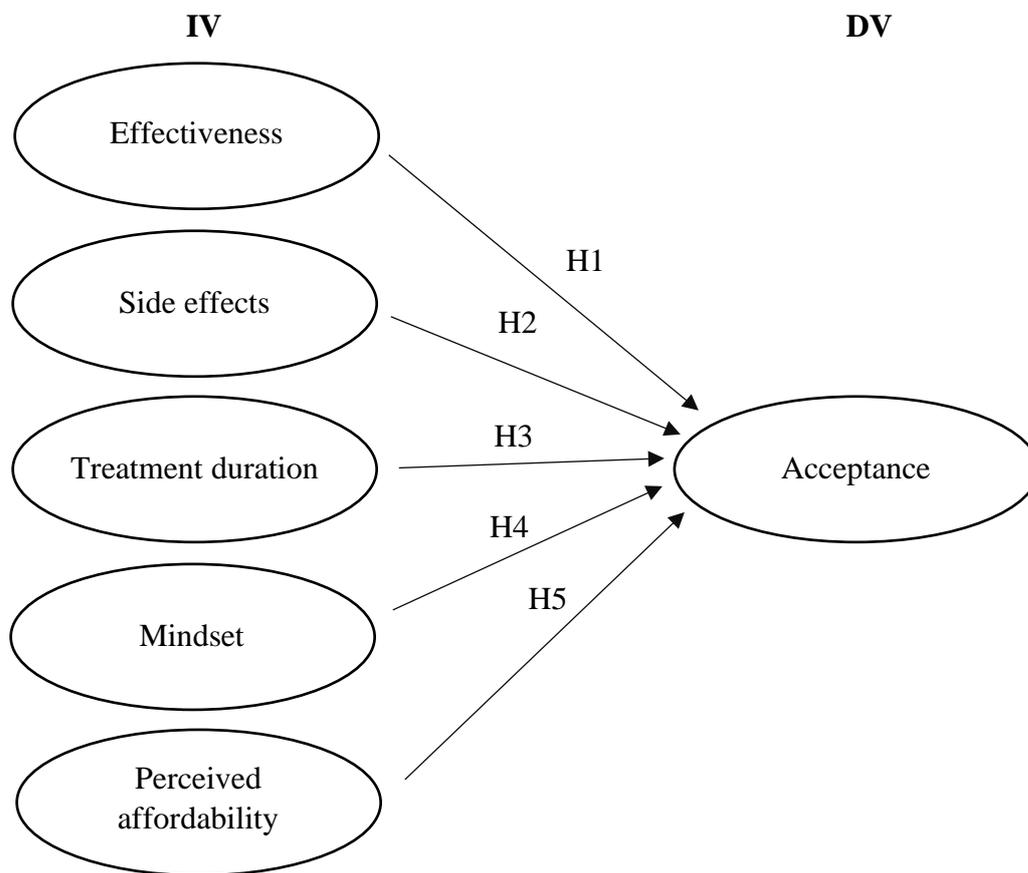


Figure 2.1: Research Framework

2.5 Hypothesis Development

H1: Effectiveness significantly influence the acceptance of generation Z in Malaysia towards CAM.

More effective medicines have resulted in earlier detection and increased treatment success rates among patients (World Health Organization, 2022). The treatment-based relationships between healthcare practitioners and patients will be closer when there is increase in treatment effectiveness, which would subsequently lead to higher satisfaction (Kim et al., 2017). According to the study of Kim (2017), nurses desired for reliable information to have better understanding towards CAM.

Based on the study by Johnson et al. (2019), the healthcare decisions about CAM for menopausal symptoms can be based on existing scientific evidence of effectiveness. A lot of cancer patients choose to use Chinese Herbal Medicine which is an application category of CAM as an alternative therapy due to its effectiveness (Xiang et al., 2019). Therefore, effectiveness significantly influences the acceptance of generation Z towards CAM because if generation Z perceived CAM is effective in treating health conditions, and have satisfied

personal experience of using it, they are more likely to integrate it into their healthcare choices and will accept it.

H2: Side effects significantly influence the acceptance of generation Z in Malaysia towards CAM.

According to Bello et al (2012), patients who hold positive views about CAM side effects are more likely to accept and embrace these alternative treatments. One factor that contributes to high acceptance rates is the perception that CAM side effects are less severe compared to those associated with conventional medicines. As the prevalence of alternative treatments continues to grow, it becomes crucial for healthcare professionals, including physicians, pharmacists, and clinicians, to be well-informed about CAM and its potential benefits and side effects. Providing patients with accurate information about the possible side effects of CAM treatments will lead to increased acceptance, as patients can make informed decisions about their healthcare (Farooq et al, 2022).

Many individuals believe that contemporary drugs, especially when used over an extended period of time, might cause major side effects. In contrast, CAM is often perceived as having fewer or no side effects, contributing to its higher acceptance compared to conventional medicine (Meraya et al, 2022). Thus, side effect is significantly influencing the acceptance of generation Z in Malaysia towards CAM because if they have experienced less side effect from using CAM or believe the potential of CAM for less or no side effects, they may become more likely to trust it and use them in the future.

H3: Treatment duration significantly influence the acceptance of generation Z in Malaysia towards CAM.

According to Kuunibe et al (2012), time spent waiting will discourage patient to use the CAM services. Some CAM treatments such as cupping, acupuncture and moxibustion require longer duration spent in patient interaction and create a stronger bond between service provider and patient. These aspects have a natural impact on establishing rapport with patients and affect effectiveness of treatment (Welz et al., 2019). In patients' perception, speedy service and shorter treatment duration can result in quicker resolution of pain (Kim et al., 2017).

Furthermore, long treatment duration can be a burden to patients and are linked with several negative consequences (Abbing et al., 2020). Therefore, the treatment duration will also affect the acceptance of generation Z towards CAM as some of them may experience a more effective treatment for a longer treatment duration and some of them may opt for shorter treatment duration to relief their pain.

H4: Mindset significantly influence the acceptance of generation Z in Malaysia towards CAM.

According to Purić et al (2022), researchers found that irritational beliefs and thinking patterns, such as paranormal beliefs and medical and general conspiracist beliefs, could determine the acceptance and attitudes of CAM. The use of CAM is expected to be capable of regulating immune response by the community, and as a result, they are believed to have potential benefits on treating and preventing COVID-19 (Nugraha et al., 2020). In addition, female patients' use of CAM has been linked to a form of behaviour aim at addressing personal distress from unresolved health issues (Jones et al., 2019).

A study from Ghana by Aziato & Antwi (2016) argued that some patients' preconceived notions that the herbal remedies taste unpleasant prevented them from taking the treatment. Providers of herbal medicines must inquire into their patients' mindset since having a favorable perspective on CAM makes it easier to integrate it with conventional care (James et al, 2016). Clinical CAM utilization is hampered by patients' attitudes regarding CAM. Patients who have a negative mindset about herbal medicines, which is a type of CAM, may choose not to consumer it, and this will impede the entire process (Asare et al., 2021). Thus, mindset will affect the acceptance of generation Z in Malaysia towards CAM because if they hold positive beliefs or expectations that CAM are beneficial or effective to them, they are more likely to use it.

H5: Perceived affordability significantly influence the acceptance of generation Z in Malaysia towards CAM.

The growing acceptance of CAM is attributed to its convenience, safety, and affordability, influenced by religious and personal beliefs. The affordability of CAM has led to a rise in its use in both developing and advanced counties (Ashraf et al., 2019). The general belief among common people that the use of CAM either cost nothing or is more affordable than conventional medical care (Meraya et al., 2022). In general, the perceived affordability will influence the practice of CAM. People are opting for CAM due to affordable cost regardless of the possible risks involved in the use of CAM (Kuunibe et al., 2012).

The correlation between affordability and acceptance within the service industry as emphasized by Sekhon et al. (2017). This relationship is exemplified, where consumer affordability demonstrates a direct influence on consumer acceptability (Tomlins et al., 2007). The significance of affordability is evident in the healthcare sector, particularly when service expenses are high and patients lack insurance coverage (Mosadeghrad, 2012). Enhancing healthcare affordability and financial accessibility not only improves patients' perceived service quality, as noted by Chou et al. (2010), but also establishes a positive association with the patient-provider relationship, in alignment with research by Birkhäuser et al. (2017) and Han et al. (2016). The perceived affordability will affect the acceptance of generation Z in Malaysia towards CAM depends on their

financial ability. They might refuse to use CAM if the cost of CAM treatment is high and they cannot afford it, and they are more likely to accept CAM if it is affordable.

2.6 Conclusion

Theory of Perceived Risk was introduced in chapter 2. To further investigate the connection between the two groups of variables, a study framework was also created. Methods of research are discussed in the subsequent chapter.

CHAPTER 3: METHODOLOGY

3.0 Introduction

Methods of analyzing the factors that influence Generation Z's acceptance of CAM in Malaysia are discussed in Chapter 3. This chapter describes the study's methodology. The research technique includes research design, sample design, data collection method, and proposed data analysis tool.

3.1 Research Design

In this study, **quantitative research** is used for investigating data from questionnaires. Quantitative research is about gathering numerical data and using it to understand a specific event or make it apply to groups of people (LeTourneau University, 2022). By conducting quantitative research, librarians can better understand the population they serve, quantify the number of people who utilise a service or product, probe patrons' views and actions and record patterns (Goertzen, 2017). We use **descriptive research design** to describe a population, a situation, or a phenomenon precisely and systematically (McCombes, 2019). **Cross-sectional** studies are typically used to do descriptive research. A cross-sectional study involves getting information about different variables for each person at specific points in time (Voxco, 2021). Consequently, descriptive research is used in this research to describe the aspect of perceived risk and collect data from a sample size via questionnaire and analyse how determinants will influence Generation Z's acceptance of CAM.

3.2 Sampling Design

3.2.1 Target Population and Sample Frame

Generation Z consists of individuals born between 1997 and 2012 (Dimock, 2019). This study's target population would consist of individuals between the ages of 18 and 26, as they are typically considered to be part of Generation Z. The target population for this research consists of generation Z aged 18 to 26 who know CAM. Generation Z is the first generation to grow up in a time when knowledge and technology are easy to get (Desai & Lele, 2017). They are very effective at accumulating and cross-referencing information from a variety of online sources. Our survey will be

administered using a Google form. Thus, generation Z in Malaysia who meet our criteria are ideal as respondents for this study. The **sampling frame** is the range of the population that will be included in the assessment. The sampling frame of our target population is **unavailable and inaccessible** because it is impossible to compile the list of generation Z who know CAM and we cannot acquire information from every qualified respondent individually.

3.2.2 Sampling Technique

Our study would make use of a **non-probability sampling** technique, which involves selecting samples from a population based on subjective criteria as opposed to a random selection. In most cases, non-probability sampling methods need less time and resources to implement than probability sampling strategies (Rahman, 2023). Convenience, judgement, quota, and snowball sampling were types of non-probability samples (Berndt, 2020). We will employ judgmental sampling for our research. In a judgmental sampling method, researchers select respondents to participate in our study based on their own discretion. According to Rahman (2023), researchers will select population samples that satisfy their elements and criteria. Generation Z between the ages of 18 and 26 in Malaysia who know CAM meeting our judgmental sampling criteria.

3.2.3 Sample Size

According to Roscoe's (1979), studies with a sample size of 30 or more and fewer than 500 are generally considered appropriate for the majority of research. In addition, for a satisfactory margin of error and to avoid the threshold for diminishing returns, Lyons (2015) suggests a sample size of between 200 and 300. According to a rule of thumb based on previous survey experience, a judgment sample can include between 50 and 150 households for each variable (Kotrlík & Higgins, 2001; Ramiro, 2009). Given that there are six variables, we choose 300 respondents as our sample size for this study.

Sample Size = 50 x 6 variables = 300 respondents needed at least

3.3 Data Collection Method

Data collection involves acquiring and evaluating information related to specific variables in an organized way that enables one to answer research questions, test hypotheses, and evaluate result (Parveen, 2017). Primary and secondary sources are the two most common ways used to collecting data. The primary data gathering technique was adopted in this study.

3.3.1 Research Instrument

The questionnaire was distributed via Google form. The audiences are required to answer questions with several choices given. The questionnaire is divided to Section A, B and C.

In Section A, there are 3 filter question to determine who are eligible to answer the following questions. Section B consist of 6 general questions, while Section C consisted of 25 questions that designed to seek for the opinions on the determinants that influence the acceptance of Generation Z in Malaysia towards CAM.

Table 3.1:

Construct Measurement

Variable	Construct Measurement	Sources
Effectiveness	1. CAM promotes self-healing.	Brosnan et al. (2023)
	2. CAM will cure my disease.	Samara er al. (2019)
	3. CAM boosts my immune system.	Ismail et al. (2016)
	4. CAM can treat psychological symptoms.	
	5. CAM produces longer lasting results.	Saeed et al. (2019)
Side effects	6. CAM therapy is harmless.	Shrilatha et al (2019)
	7. CAM has fewer side effects than conventional medicine and treatment.	Samara et al. (2019)
	8. CAM has fewer drug interactions.	Brendler et al. (2021)

	9. CAM can be a helpful complement to conventional medicine and treatment.	Wopker et al. (2020)
Treatment duration	10. CAM can make me recover in short term.	Girija & Sivan (2022)
	11. CAM can reduce hospital stays.	Ismail et al. (2016)
	12. CAM practise requires less time commitment in everyday life.	Moore et al. (2017)
	13. The waiting time of CAM for examination and treatment is acceptable.	Kim et al. (2017)
Mindset	14. I feel that CAM is safer than taking medication prescribed by a doctor.	Patterson & Arthur (2009)
	15. I trust CAM because I have good impression of CAM.	Ching et al. (2016)
	16. I feel more comfortable with CAM treatment compared to conventional medicine and treatment.	Patterson & Arthur (2009)
	17. I believe that CAM is readily available and accessible.	Zakaria et al. (2021)
Perceived affordability	18. CAM is considered affordable.	
	19. I can pay for everything even if the CAM is not covered by insurance.	Park et al. (2022)
	20. CAM is worth money to me.	Wode et al. (2019)
	21. CAM is lower cost than conventional medicine, in my view.	Samara et al. (2019)
Acceptance	22. I have the intention to adopt CAM.	Keena et al (2019)
	23. I feel that CAM is a satisfying practice.	Dehghan et al (2022)
	24. I have a positive attitude toward CAM.	Samara et al. (2019)

	25. The more knowledge I have on CAM, the more likely I will accept it.	Huang et al. (2021)
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3.3.2 Pretest

Pretest is essential for identifying problem areas, reducing measurement error, determining the precision with which respondents interpret questions, and ensuring that respondents' responses are not influenced by the order of questions (Giustina, 2016; Demir & Tavail, 2021). Expert-driven pretest was chosen as the pretest procedure. Experts are essential because they cross-check the survey's substantial aspects and improve the instrument's overall style. To ensure the questionnaires are error-free, 3 lecturers who are experts in marketing field will be asked to review them.

3.3.3 Pilot Study

Pilot studies are the first step in a research methodology; they are preliminary examinations that help shape the larger, definitive study (Vemulakonda & Jones, 2016). Smaller studies, or "pilots," are often done before larger, more definitive trials in large-scale clinical investigations. Available literature suggests using a sample size equivalent to 10% of the whole sample size for a pilot study (Demir & Tavail, 2021). As a result, we'll be conducting the pilot study with 10% of the total sample size, or 30 participants.

The findings of the pilot's reliability test were listed in Table 3.2. Cronbach's alpha for the acceptance came in at 0.82, the highest of any of the scales. The next highest Cronbach's alpha is 0.77 for effectiveness, followed by 0.75 for side effects, 0.74 for mindset and 0.73 for treatment duration. Meanwhile, the scale of perceived affordability has the lowest Cronbach's alpha of 0.72. Cronbach's alpha values for all variables are above 0.6, indicating that the scales can be trusted.

Table 3.2:

Result of Reliability Test for Pilot Test

Variables	Cronbach's alpha	Reliability
Dependent Variable:	0.82	Very good

Acceptance		
Independent Variable 1: Effectiveness	0.77	Good
Independent Variable 2: Side effect	0.75	Good
Independent Variable 3: Treatment duration	0.73	Good
Independent Variable 4: Mindset	0.74	Good
Independent Variable 5: Perceived affordability	0.72	Good

3.3.4 Fieldwork

In this research, questionnaires were distributed by researchers to 300 respondents using Google forms to collect first-hand information. We will share the links of the questionnaire to online platforms, including Facebook, WhatsApp, Microsoft Team, and Instagram.

First, respondents would be asked whether their age range falls between 18 to 26 years old or not. Only 18 to 26 years old who know about CAM can answer the questionnaire as our target respondent is generation Z.

Google form enables automatic data calculation and generation. Thus, the result such as percentage of age range and gender can be obtained directly.

3.4 Proposed Data Analysis Tool

Microsoft Excel is a spreadsheet program that enables users to organize, store, and analyse data (Wilson et al., 2014). It also helps the users to perform basic and complex calculations. Furthermore, it can be customized to match user's preferences (Vashishtha, n.d.).

3.4.1 Reliability Test

Reliability refers to the extent to which measurements are repeatable when performed by different people on different occasions, under varying situations, and with alternative instruments used to assess the same construct or skill (Edwin, 2019). This research is using a reliability test to get a reliable result from the data collected. The coefficient alpha is the most used tool for evaluating the accuracy of dependability estimations based on internal consistency. In this research, Cronbach’s coefficient alpha is adopted to measure internal consistency. Cronbach's alpha is a statistical measure used to establish the validity of questionnaires and other assessment tools (Taber, 2018). A low value of the coefficient may cast doubt on the reliability of the data (Nawi et al., 2020).

Table 3.3:

Cronbach’s Alpha Internal Consistency

Cronbach’s alpha	Strength of Association
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Very Good
$0.7 \leq \alpha < 0.8$	Good
$0.6 \leq \alpha < 0.7$	Moderate
$\alpha < 0.6$	Poor

Note. From Nawi et al. (2020).

Validity is the uses and inferences drawn from the result of a study, rather than the validity of the data itself. Validity depends on the purpose and context of the study and refers to conclusions drawn based on specific methodology used to mitigate validity threats that are relevant to the study (Fitzpatrick, 2019). Content validity gives evidence about the extent to which components of an assessment instrument are related to and representative of the target construct for a specific assessment objective. It is assessed by utilizing a group of experts who review instrument components and assign rating based on their representativeness and relevance to the content domain (Almanasreh, 2019).

3.4.2 Descriptive Analysis

Mean and standard deviation are examples of the kinds of statistics that can be derived from a study's data through descriptive analysis (Mishra, 2019). In this study, the data collected will be analyzed using a frequency distribution. A frequency distribution is a tabular or graphical representation of the

number of persons who fall into various categories along a certain scale. The reason of using frequency distribution tables in this study is because it is widely used method of tabulating data to demonstrates the frequency distribution, making it easier to compare data with varying number of subjects (Martini et al, 2022). Mean is used to measures the central tendency. A simple calculation involves tallying up all the observations and dividing by the total number of measurements. To get precise measurement, standard deviation is used. Standard deviation is an indicator of the extent to which values deviate from their mean value, indicating how spread out the data is (Mishra, 2019).

3.4.3 Inferential Analysis

Inferential statistics is about making conclusions from data that is influenced by random variation (Mishra, 2019). Multiple Regression Analysis is the most common inferential technique used; therefore, it is used in our study. To better explain or forecast the value of a quantitatively measured criterion variable, additional quantitative or dichotomous variables are used in conjunction with one another in multiple regression analysis (Multiple Regression Analysis 5A.1 General Considerations, n.d.). Given the presence of numerous potential independent factors, it is recommended to do a multiple regression analysis. Generalizations about the available regression models are as follows:

Table 3.4:

Regression Models

$y = \alpha + \beta_1 x_1 + e$ <p>y = Dependent variable α = Constant/intercept β_1 = Coefficient of the independent variable e = Error x_1 = Independent variable</p>

Note. From Marko & Erik (2019).

Table 3.5:

Regression Models with Research Variables

$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + e$ <p>y = Dependent variable α = Constant/intercept</p>
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$\beta 1$ = Coefficient of the independent variable

e = Error

x1 = Effectiveness

x2 = Side effects

x3 = Treatment duration

x4 = Mindset

x5 = Perceived affordability

Note. Developed for the research

3.5 Conclusion

In total, researchers will administer 300 surveys to the target sample, made up of Generation Z in Malaysia (aged 18 to 26) who know CAM thanks to judgement sampling. The findings from this chapter's data analysis will be presented in the following chapter.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

300 questionnaires were gathered in this section. Independent and dependent variable relationships, as well as analyses of respondent characteristics and measurement precision, were performed. The data obtained from questionnaires were thoroughly examined to provide valuable insights and draw conclusions on various aspects, allowing for a comprehensive understanding of the research objectives.

4.1 Respondents' Analysis

4.1.1 Frequency Count

Among the 300 respondents, 125 (41.67%) were male, and 175 (58.33%) were female. The age distribution revealed that 92 respondents (30.67%) were 18-20 years old, 136 respondents (45.33%) were between 21-23 years old, and 72 respondents (24.00%) were between 24-26 years old. In terms of race, the majority were Chinese, with 274 respondents (91.33%), followed by Malay with 17 respondents (5.67%), Indian with 9 respondents (3.00%), and other races with 4 respondents (1.33%). Regarding occupation, 208 respondents (69.33%) were students, 88 respondents (29.33%) were working, and 4 respondents (1.33%) were unemployed. In relation to monthly individual income, 189 respondents (63.00%) earned under RM1000, 72 respondents (24.00%) earned between RM1000 and RM3500, 31 respondents (10.33%) earned between RM3501 and RM5000, and 8 respondents (2.67%) earned above RM5000. As for CAM products or therapy awareness, Yoga was the most recognized, known by 195 respondents (12.98%), followed by Massage with 170 respondents (11.32%), Vitamins and Mineral Supplements with 169 respondents (11.25%), Herbs and Natural Products with 165 respondents (10.99%), Music/Art Therapy with 156 respondents (10.39%), Traditional Chinese Medicine with 148 respondents (9.85%), Naturopathy diet with 94 respondents (6.26%), Breathing Technique with 84 respondents (5.59%), Chiropractic and Osteopathic Manipulation with 81 respondents (5.39%), Spiritual Healing with 77 respondents (5.13%), Biofeedback with 25 respondents (1.66%).

Table 4.1:

Frequency Count

Demographic profile		Frequency	Percentage
Gender	Male	125	41.67
	Female	175	58.33
Age group	18-20	92	30.67
	21-23	136	45.33
	24-26	72	24.00
Race	Malay	17	5.67
	Chinese	274	91.33
	Indian	9	3.00
Occupation	Student	208	69.33
	Working	88	29.33
	Unemployed	4	1.33
Monthly individual income	Under RM1000	189	63.00
	Rm1000-RM3500	72	24.00
	RM3501-RM5000	31	10.33
	Above RM5000	8	2.67
What Complementary and alternative (CAM) products or therapy do you know?	Biofeedback	25	1.66
	Breathing technique	84	5.59
	Chiropractic and osteopathic manipulation	81	5.39
	Herbs and natural products	165	10.99
	Vitamins and minerals supplements	169	11.25
	Yoga	195	12.98
	Meditation	138	9.19
	Music/ Art therapy	156	10.39
	Massage	170	11.32

	Naturopathy diet (example: healthy diet)	94	6.26
	Spiritual healing (example: prayer)	77	5.13
	Traditional Chinese Medicine (example: acupuncture)	148	9.85

4.1.2 Descriptive Statistic

This part of the report details the analysis of the dependent and independent variable data obtained from the respondents in Section C. The mean, standard deviation, skewness, and kurtosis were calculated by using Excel for each variable to provide a comprehensive understanding of their central tendency, dispersion, and distribution characteristics.

A higher mean value suggested that the respondents have higher agreement on the variable (Sediqi, 2022). In the table below, “Acceptance” has the highest mean value of 3.758. “Effectiveness” has the second highest mean value of 3.739, followed by “Side Effects” with 3.584, “Treatment Duration” with 3.352, “Mindset” with 3.555, and “Perceived Affordability” with the lowest mean value of 3.443. A higher standard deviation value indicated greater variability in how respondents rated the variables. “Side Effects” had the highest standard deviation value of 0.777, “Treatment Duration” has the second highest standard deviation value of 0.729, followed by “Perceived Affordability” with 0.718, “Mindset” with 0.683, “Acceptance” with 0.665, and “Effectiveness” with the lowest standard deviation value of 0.634.

A variable's skewness value indicates the degree to which its distribution is skewed. A skew value of zero indicates a symmetric distribution. If the skew value is greater than zero (positive skewness value), the right-hand tail of the distribution is more extreme than the left-hand tail, and the majority of the values lie to the left of the mean. Conversely, a skew value below zero (negative skewness value) indicates that the left-hand tail of the distribution is longer than the right-hand tail, and that most of the values cluster to the right of the mean (Kim, 2013). Skewness values between -1 and 1 are considered common (Chan, 2003). Data were skewed to the left, as evidenced by the negative skewness a value for "Effectiveness," "Side Effects," and "Acceptance." A right-skewed distribution

of values was observed for "Treatment Duration," "Mindset," and "Perceived Affordability," all of which had a positive skewness value.

A kurtosis value provides insights into whether the data has more extreme values (outliers) or if it is more concentrated around the mean. A kurtosis value of 3 is a normal distribution, which is considered a base line (Larasati et al., 2018). A kurtosis value more than 3 indicated positive kurtosis. All the variables have kurtosis value of less than 3, it means that they have negative kurtosis. This indicates that the distribution has fewer extreme values and is flatter around the mean compared to a normal distribution.

Table 4.2:

Descriptive Statistic

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Effectiveness	3.739	0.634	-0.674	2.274
Side Effects	3.584	0.777	-0.229	0.203
Treatment Duration	3.352	0.729	0.198	0.007
Mindset	3.555	0.683	0.015	0.117
Perceived affordability	3.443	0.718	0.204	0.406
Acceptance	3.758	0.665	-0.058	-0.138

4.2 Relationship Analysis

4.2.1 Inferential Analysis

The R Square of this model is 0.487. In other words, it means that 48.7% of variation dependent variable (acceptance) can be explained by the five independent variables (effectiveness, side effects, treatment duration, mindset, and perceived affordability). F-value is obtained as 55.759 and the significance level is 0.000 which is below 0.05. Thus, there is a statistically significant difference in the mean of acceptance of generation Z between the different variables. The five independent variables are consider fit and allowed to explain the variation in influence the acceptance of generation Z toward CAM. Coefficients indicate the effectiveness, mindset and perceived affordability are significant in predicting the dependent variable (acceptance among Generation Z). It is because their P-value is less than the alpha value of 0.05. In contrast, two independent variables

are insignificant in predicting the dependent variable: side effect and treatment duration. It is because their P-value (0.055 and 0.939) is more than the alpha value 0.05.

Table 4.3:

Model Summary

Model R	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.698	0.487	0.478	0.481

Model	DF	Sum of Squares	Mean Square	F	Significance F
Regression	5	64.453	12.891	55.759	0.000
Residual	294	67.968	0.231		
Total	299	132.421			

Model	Coefficients	Std. Error	t	P-value
Intercept	0.819	0.184	4.464	0.000
Effectiveness	0.249	0.061	4.108	0.000
Side Effects	0.086	0.045	1.923	0.055
Treatment Duration	0.004	0.052	0.077	0.939
Mindset	0.284	0.065	4.344	0.000
Perceived affordability	0.196	0.055	3.582	0.000

4.2.2 Hypothesis Testing and Discussion of Findings

H1: Effectiveness significantly influence the acceptance of generation Z in Malaysia towards CAM.

The p-value of effectiveness is 0.000, which is significantly lower than the significance level of 0.05. The result shows the effectiveness has significant influence towards the acceptance of generation Z in Malaysia towards CAM. Thus, H1 is accepted. This is consistent with prior research, as shown by Xiang et al (2019) and Kim et al (2017), suggesting that the acceptance of CAM as an alternative therapy is driven by its perceived effectiveness, which, in turn, contributes to higher levels of satisfaction with CAM usage. This study showed generation Z's increased interest in holistic

healthcare and self-healing. People believe that CAM can heal diseases, boost the immune system, and treat psychological health issues. This fits with their desire for complete and long-lasting effects. As they put an emphasis on overall health and preventive health practices, the perceived effectiveness of CAM therapies gives them a feeling of control over their health and gives them the power to take charge of their own well-being. This highlights the importance of considering treatment effectiveness as a significant factor in shaping Generation Z's acceptance towards CAM in the context of Malaysia.

H2: Side effects significantly influence the acceptance of generation Z in Malaysia towards CAM.

For the side effects, the p-value is 0.055, which is above the significance level of 0.05. Therefore, it shows that side effect is not positively influence the acceptance of generation Z in Malaysia towards CAM. Thus, H2 is rejected. This finding contrasts with a previous study by Meraya et al. (2022), which supported the notion that CAM's perceived lower side effects contributed to its higher acceptance. In this current study, Generation Z respondents showed less concern about side effects, implying that side effects may not significantly impact their acceptance of CAM. These observations align with the perspective put forth by Özer et al. (2023), who found that patients using CAM adopt a fatalistic mindset, believing that a disease's treatment course is determined by fate. Generation Z's acceptance of CAM in Malaysia appears to be unaffected by the possibility of side effects. They use the internet and social media for health information as the most tech-savvy and knowledgeable generation. As a result, they are bombarded with testimonials and anecdotes supporting the efficacy of CAM, often ignoring or downplaying any potential side effects. CAM has been a part of Malaysian culture for generations, which gives people a sense of trust and comfort that makes worries about side effects less important. They also believe in CAM because it is becoming more popular to live a holistic lifestyle and look for natural solutions. This makes side effects seem like less of a problem than the possible benefits.

H3: Treatment duration significantly influence the acceptance of generation Z in Malaysia towards CAM.

The p-value of treatment duration is 0.939. Thus, it means that treatment is not positively associated with the acceptance of generation Z in Malaysia towards CAM. Thus, H3 is rejected. According to Kuunibe et al.'s (2012) previous study, which suggested that longer waiting times discourage patients from accepting CAM services. Conversely, Michalczyk et al.'s (2021) study aligns with the current research, suggesting that treatment duration does not change patients' acceptance towards CAM. This finding suggests that other factors hold more importance for the target respondents, and they seem to

overlook the treatment duration, as it does not deter them from accepting CAM services regardless of the time required. Generation Z, with its progressive and tolerant outlook, appears to be more concerned with the efficacy and holistic benefits of CAM than with the duration of treatment. Although treatment duration may play a role in their initial decision, it is overshadowed by other factors such as efficacy, natural approach, and compatibility with their beliefs about holistic health. Therefore, promoting the benefits and scientific backing of CAM to generation Z may be a more effective strategy for gaining their acceptance than concentrating solely on treatment duration.

H4: Mindset significantly influence the acceptance of generation Z in Malaysia towards CAM.

Mindset has a p-value of 0.000, which is significantly lower than the significance level of 0.05. Hence, it suggests that mindset is positively influence the acceptance of generation Z in Malaysia towards CAM. Thus, H4 is accepted. This is consistent with prior research, as shown by Purić et al (2022), stating that the irritational beliefs and thinking patterns could determine the acceptance and attitudes of CAM. According to the Asare et al. (2021), patient's negative mindset will sabotage the entire process, even if all doctors are on board with using herbal medicines. This underscores the significance of understanding and addressing mindset-related factors in promoting the acceptance of CAM among Generation Z in Malaysia. Generation Z may view CAM as a safer option to taking prescription medications. This could be due to increased awareness of the potential side effects and long-term effects of conventional medicines. Besides that, positive impressions from pleasant experiences or testimony from friends, family or social media may boost CAM's credibility. CAM may be more acceptable to Generation Z because they may feel more comfortable than conventional treatment as it aligns with their preference for natural and holistic approaches to health and wellness.

H5: Perceived affordability significantly influence the acceptance of generation Z in Malaysia towards CAM.

The p-value of perceived affordability is 0.000, which is significantly lower than the significance level of 0.05. The findings demonstrate that the generation Z in Malaysia is significantly influenced by the perception of CAM's affordability. Thus, H5 is accepted. This is consistent with prior research, as shown by Ashraf et al. (2019), showing that the acceptance of CAM increases while there is affordability. People are opting for CAM due to affordable cost regardless of the possible risks involved in the use of CAM (Kuunibe et al., 2012). Generation Z is financially aware and prudent decisions. As CAM is regarded as affordable and has the potential to be less expensive than conventional medicine, it correlates with their economic outlook. They are willing to pay out-of-pocket for CAM treatment even if it is not covered by insurance, as they think CAM is worth it. Also,

rising healthcare costs in Malaysia may lead Generation Z to seek more cost-effective options, which could make CAM an appealing choice. As a result, the affordability and perceived value of CAM, leading to its wide acceptance as an alternative healthcare option in Malaysia.

4.3 Conclusion

All findings and analysis were presented in Chapter 4. 300 respondents' responses were analyzed in Excel. In sum, this study found that the adoption of CAM among Malaysian members of Generation Z is highly influenced by its effectiveness, mindset and perceived affordability.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 Introduction

This chapter will provide summary of the key findings. Furthermore, this chapter provided an analysis of the implications and limitations inherent in this study. There are also recommendations about how to improve the field of research.

5.1 Summary of Key Findings

According to the findings from chapter 4, among 300 respondents, 125 (41.67%) were male and 175 (58.33%) were female. The majority of respondents were Chinese (274), followed by Malay (17) and Indian (9) respondents. The largest age group was 21- 23 year old, consisting of 136 respondents, and a significant portion had a monthly individual income under RM1000. Most respondents (208) identified as students. The descriptive statistics revealed varying degrees of skewness and kurtosis for the studied variables. The skewness values for the variables were as follows: effectiveness (-0.674), side effects (-0.229), treatment duration (0.198), mindset (0.015), perceived affordability (0.204), and acceptance (-0.058). In terms of kurtosis, the values were: effectiveness (2.274), side effects (0.203), treatment duration (0.007), mindset (0.117), perceived affordability (0.406), and acceptance (-0.138).

In inferential analysis, the results show that the variables under study have a statistically significant connection. With a p-value of 0.000, it suggests that the observed relationship is not the result of random chance, but rather is likely due to other factors (Kenton, 2022). In addition, the R-squared value of 0.487 (48.7%) shows that the model and the dependent variable have a fair average relationship. Taylor (2020) explains that a higher R-squared value indicates that the model's predictions closely match the actual observed value of the dependent variable, adding weight to the importance of the link between the two variables.

According to the findings of this study, three hypotheses were accepted and two were rejected. Effectiveness, mindset and perceived affordability have the p-value of 0.000. However, p-value of side effects and treatment duration had exceeded 0.05 which is 0.055 and 0.939. This represents that effectiveness, mindset and perceived affordability significantly influence the acceptance, except side effects and treatment duration.

5.2 Implications

5.2.1 Implications to Academics

This study showed that the three variables, namely effectiveness, mindset, and perceived affordability, significantly influence the acceptance of Generation Z in Malaysia towards CAM. This finding highlights the flexibility of Perceived Risk Theory. In addition, this study contributes to the consumer behaviour area, particularly in the healthcare context. Researchers and scholars can further investigate the perceived risk in relation to encouraging consumer behaviour.

Furthermore, researchers and scholars can combine the Perceived Risk Theory with healthcare-related models such as the Healthcare Belief Model (HBM) to offer a comprehensive way of understanding and influencing consumer behaviour in the healthcare context. The combined model might enhance the predictive power of understanding consumer behaviour. It can make prediction on how consumers balance benefits, risks, beliefs, and cost when making decisions on healthcare.

The R-squared value of 0.487 (48.7%) implies that there are unaccounted-for factors affecting the results. This provides an opportunity for researchers to delve deeper into the variables and factors that might explain the remaining 51.3% variance. For example, they can explore the cultural contexts, beliefs, and values that might be unique to Malaysia and influence CAM acceptance.

Side effects and treatment duration are not significantly influenced the acceptance of Generation Z in Malaysia towards CAM. This is because they are tech-savvy and expose to information or evidence which support the effectiveness of CAM. They are also more tolerant on the time spent to get treatment. Therefore, it is recommended for future researchers to use this finding as a reference point and conduct a comparative study across different age groups or geographical area. Different age group might produce different result and can serve as a contribution to the literature. They also can conduct qualitative research, such as focus groups or interviews, to collect in-depth views on why “side effects” and “treatment duration” are significant determinants. This qualitative data has the potential to reveal underlying reasons for the lack of influence.

5.2.2 Implications to Practitioners

Based on our findings, mindset, effectiveness, and perceived affordability significantly affects the acceptance of Generation Z in Malaysia towards CAM. The CAM providers can organise more public education and awareness campaigns to promote a positive mindset towards CAM among Generation Z. For example, they can create digital content hub, webinars, and social media engagement. Most of the individuals in this group might have grown up with conventional medicine as the primary healthcare option and may hold sceptical views towards alternative therapies. Thus, by providing clear and concise information about the safety, benefits, and efficacy of CAM, the CAM providers can help dispel misconceptions and foster a more open-minded approach to alternative treatments.

CAM providers can emphasize the evidence-based effectiveness of CAM treatments and address any misconceptions or concerns related to perceived affordability to resonate with Generation Z and increase their willingness to accept CAM treatment. By knowing that effectiveness is a significant determinant of acceptance towards CAM, CAM providers can benefit by adopting evidence-based practices and keeping up to date with the latest research on CAM effectiveness. They can provide transparent and credible information about the evidence supporting CAM treatment.

Furthermore, addressing the issue of perceived affordability is essential to increase the acceptance towards CAM among Generation Z. Conventional medical treatment is usually costly, and if CAM is perceived as a cheaper option, it may attract this age group. The CAM practitioners can find more ways to make CAM treatments more affordable and accessible, such as providing subsidies for certain alternative treatments or incorporating CAM into public healthcare services.

In addition, the Ministry of Health (MOH) can support research and evidence-based studies on the effectiveness of CAM. Generation Z, similar with any other demographic, values scientific evidence and data-driven decision-making. By investing in research that examines the efficacy of various CAM treatments, they can help to provide Generation Z with reliable information to make informed healthcare choices.

5.3 Study's Limitation and Recommendation for Future Researchers

The ethnicity of respondents was discovered to be a limitation of this study. Based on the study of the demographic profile data, the respondents who were Chinese made up 91.33% of the total respondents. This means that 274 of the 300 respondents were of this race. Different behaviors and perceptions will result from respondents of different races; therefore, a plurality of the same race will hinder the perception of other races.

To address this limitation, future researchers are encouraged to employ quota sampling. Quota sampling can be used to ensure that the study includes a proportionate representation of different ethnic groups in the population. By setting quotas for each ethnic group based on the population distribution, can avoid over-representing any one group and obtain a more balanced and representative sample. This will provide a clearer understanding of how behaviors and perceptions differ across different ethnicities.

5.4 Conclusion

In a nutshell, the aim of this research was to investigate the determinants that influence generation Z's acceptance of CAM in Malaysia. As a whole, the findings of this research indicated that three out of the five IVs in the framework have a significant effect on generation Z's acceptance of CAM, except for side effects and treatment duration. After all of the primary findings have been analyzed and discussed, theoretic and managerial ramifications, research constraints, and recommendations are being investigated. This chapter provides insight that will be helpful to academics and practitioners in the years to come.

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APPENDICES

Appendix 1.1:

Permission to Conduct Survey



UNIVERSITI TUNKU ABDUL RAHMAN DU012(A)

Wholly owned by UTAR Education Foundation (200201010564(578227-M))

Faculty of Business and Finance
Jalan Universiti, Bandar Barat, 31900 Kampar, Perak
Phone: 05-468-8888
<https://fbf.utar.edu.my/>

2nd May 2023

To Whom It May Concern

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Marketing (Honours)* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

The students are as follows:

<u>Name of Student</u>	<u>Student ID</u>
Foo Noreen	21ABB00410
Tam Weng Theng	21ABB00106

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,

.....
Mr Choy Johnn Yee
Head of Department
Faculty of Business and Finance
Email: choyjy@utar.edu.my

Appendix 1.2:

Survey Questionnaire for Research Project



Wholly owned by UTAR Education Foundation
(Co. No. 578227-M)
DU012(A)

We are final year undergraduate students in Bachelor of Marketing (Hons) from Universiti Tunku Abdul Rahman (UTAR) Kampar Campus. We are conducting a research project which is entitled “Determinants that influence the acceptance of Generation Z in Malaysia towards Complementary and Alternative Medicine (CAM)”.

We would appreciate your help in completing the following questionnaire. Kindly answer all the questionnaires to the best of your knowledge. All information provided will be kept confidential and used only for educational purposes.

We appreciate your participation. Feel free to get in touch with us if you have any questions at: Foo Noreen | noreen06@lutar.my or Tam Weng Theng | ccootam@lutar.my.

Explanation of CAM: CAM is a broad term for a variety of treatment modalities that are not normally included in standard Western medicine. Complementary medicine is when practices that aren't usually used in medicine are used along with traditional medicine. A migraine sufferer, for instance, might use both conventional pain medication and biofeedback to manage their condition. Alternative medicine is used to describe the use of non-traditional methods as an alternative to standard medical care. Rather than taking the drugs prescribed by an oncologist, some people choose to treat their cancer with a special diet.

Section A: Filter Question

Please choose only one answer.

1. Do you fall into the age range of 18-26 (Generation Z)?

A. Yes

B. No

2. Are you Malaysian?

A. Yes

B. No

3. Have you heard of or know Complementary and Alternative Medicine (CAM) before?
 - A. Yes
 - B. No

Section B: Demographic Profile

Instructions: Please choose only 1 answer from the below options for each question.

1. What is your gender?

- A. Male
- B. Female

2. What is your current age?

- A. 18-20
- B. 21-23
- C. 24-26

3. What is your race?

- A. Malay
- B. Chinese
- C. Indian
- D. Others: _____

4. What is your current occupation?

- A. Student
- B. Working
- C. Unemployed
- D. Others: _____

5. What is your monthly individual income?

- A. Under RM1000
- B. RM1000-RM3500
- C. RM3501-RM5000
- D. Above RM5000

6. What Complementary and alternative (CAM) products or therapy do you know? (Multiple choice)

- A. Biofeedback

- B. Breathing technique
- C. Chiropractic ad osteopathic manipulation
- D. Herbs and natural products
- E. Vitamins and minerals supplements
- F. Yoga
- G. Meditation
- H. Music/ Art therapy
- I. Massage
- J. Naturopathy diet (example: healthy diet)
- K. Spiritual healing (example: prayer)
- L. Traditional Chinese Medicine (example: acupuncture)
- M. Others: _____

Section C: Independent and dependent variable

Please circle the best answer based on the scale of 1 to 5 [(1) = Strongly Disagree; (2) = Disagree; (3) = Neutral; (4) = Agree; (5) = Strongly Agree].

No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Independent variable: Effectiveness						
1	CAM promotes self-healing.	1	2	3	4	5
2	CAM will cure my disease.	1	2	3	4	5
3	CAM boosts my immune system.	1	2	3	4	5
4	CAM can treat psychological symptoms.	1	2	3	4	5
5	CAM produces longer lasting results.	1	2	3	4	5
Independent variable: Side effects						
6	CAM therapy is harmless.	1	2	3	4	5
7	CAM has fewer side effects than conventional medicine and treatment.	1	2	3	4	5
8	CAM has fewer drug interactions.	1	2	3	4	5
9	CAM can be a helpful complement to conventional medicine and treatment.	1	2	3	4	5

Independent variable: Treatment duration						
10	CAM can make me recover in the short term.	1	2	3	4	5
11	CAM can reduce hospital stays.	1	2	3	4	5
12	CAM practice requires less time commitment in everyday life.	1	2	3	4	5
13	The waiting time of CAM for examination and treatment is acceptable.	1	2	3	4	5
Independent variable: Mindset						
14	I feel that CAM is safer than taking medication prescribed by a doctor.	1	2	3	4	5
15	I trust CAM because I have a good impression of CAM.	1	2	3	4	5
16	I feel more comfortable with CAM treatment compared to conventional medicine and treatment.	1	2	3	4	5
17	I believe that CAM is readily available and accessible.	1	2	3	4	5
Independent variable: Perceived affordability						
18	CAM is considered affordable.	1	2	3	4	5
19	I can pay for everything even if the CAM is not covered by insurance.	1	2	3	4	5
20	CAM is worth money to me.	1	2	3	4	5
21	CAM is lower cost than conventional medicine, in my view.	1	2	3	4	5
Dependent variable: Acceptance						
22	I have the intention to adopt CAM.	1	2	3	4	5
23	I feel that CAM is a satisfying practice.	1	2	3	4	5
24	I have a positive attitude toward CAM.	1	2	3	4	5
25	The more knowledge I have on CAM, the more likely I will accept it.	1	2	3	4	5

Appendix 1.3:

Reliability Test Analysis Results for Pilot Test

Effectiveness

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	56.693	29.000	1.955	4.391	0.000	1.565
Columns	2.760	4.000	0.690	1.550	0.192	2.450
Error	51.640	116.000	0.445			
Total	111.093	149.000				
Formula						
CA Effectiveness	1-(MS of error / MS of row)					
	0.772					

Side effects

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	69.700	29.000	2.403	3.988	0.000	1.598
Columns	3.567	3.000	1.189	1.973	0.124	2.709
Error	52.433	87.000	0.603			
Total	125.700	119.000				
Formula						
CA Side effects	1-(MS of error / MS of row)					
	0.749					

Treatment duration

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	53.467	29.000	1.844	3.754	0.000	1.598
Columns	7.767	3.000	2.589	5.271	0.002	2.709
Error	42.733	87.000	0.491			
Total	103.967	119.000				
Formula						
CA Treatment duration	1-(MS of error / MS of row)					
	0.734					

Mindset

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	50.867	29.000	1.754	3.899	0.000	1.598
Columns	8.367	3.000	2.789	6.200	0.001	2.709
Error	39.133	87.000	0.450			
Total	98.367	119.000				
Formula						
CA Mindset	1-(MS of error / MS of row)					
	0.744					

Perceived affordability

ANOVA							
Source of Variation	SS	df	MS	F	P-value	F crit	
Rows	50.867	29.000	1.754	3.522	0.000	1.598	
Columns	1.667	3.000	0.556	1.115	0.347	2.709	
Error	43.333	87.000	0.498				
Total	95.867	119.000					
Formula							
CA Perceived affordability	1-(MS of error / MS of row)						
	0.716						

Acceptance

ANOVA							
Source of Variation	SS	df	MS	F	P-value	F crit	
Rows	38.467	29.000	1.326	5.566	0.000	1.598	
Columns	2.267	3.000	0.756	3.170	0.028	2.709	
Error	20.733	87.000	0.238				
Total	61.467	119.000					
Formula							
CA Acceptance	1-(MS of error / MS of row)						
	0.820						

Appendix 1.4:

Multiple Linear Regression Analysis Results

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.698							
R Square	0.487							
Adjusted R Square	0.478							
Standard Error	0.481							
Observations	300							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	5	64.45298759	12.8906	55.75941	0.000			
Residual	294	67.96763741	0.231182					
Total	299	132.420625						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.819	0.184	4.464	0.000	0.458	1.181	0.458	1.181
Effectiveness	0.249	0.061	4.108	0.000	0.130	0.368	0.130	0.368
Side effects	0.086	0.045	1.923	0.055	-0.002	0.173	-0.002	0.173
Treatment duration	0.004	0.052	0.077	0.939	-0.099	0.107	-0.099	0.107
Mindset	0.284	0.065	4.344	0.000	0.155	0.413	0.155	0.413
Perceived affordability	0.196	0.055	3.582	0.000	0.088	0.304	0.088	0.304