AN EVALUATION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGNS AT THE UNIVERSITY OF LIMPOPO

By

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DECLARATION

I declare that **AN EVALUTION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGNS AT THE UNIVERSITY OF LIMPOPO** represents my own original work, both in conception and execution (except where acknowledgements indicate otherwise), and that all sources that I have consulted and quoted have been acknowledge by means of a comprehensive list of reference.

Mamodupi Lekekela Date: _____

_____

Signature

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ABSTRACT

Health communication is one of the interventions used to overcome health issues in society. Behavioural change is a process that relies on influence, and carefully designed messages about a desired outcome. These messages are captured from health communication interventions such as health communication campaigns about HIV/AIDS. This study empirically measured behavioural intention and followed the introduction of the health communication campaigns at the University of Limpopo (UL) campus amongst students from all faculties. In order to evaluate these campaigns, a positivist research paradigm was chosen, and the quantitative approach was used to measure and determine the relationship between the constructs of the Theory of Planned Behaviour (TPB). The constructs (or predictor variables) of the TPB model are deterministic of behavioural change. They work together to achieve change in behaviour, where the outcome variable is the behavioural intention. This study used the TPB model to guide the literature and methodology when it came to the formulation of questions for data collection. The target population sampled was aged between 18 and 28, and all the participants belonged to various schools across all faculties at the University of Limpopo. The researcher used of the Stratified random sampling method which is classified under probability sampling; 401 questionnaires were coded, and analysed. SPSS® version 25 was used to analyse the data. The results were-drawn descriptively and inferentially. This was done in order to define the relationship between the theory's variables. The researcher used both Pearson Correlations and Regression Analysis to define the relationship between the variables. Descriptively, the majority of 148 (36.9%) participants strongly agreed while 174 (43.4%) agreed that they intended to participate in health communication campaigns in the future, as the predictor variable. Inferential findings showed that the behavioural intention variable amongst the students proved to be the one that contributed most towards behavioural change. The researcher suggests that further research should focus on message development. Health campaign messages should be developed that trigger intention, in order to achieve behavioural change for individuals so that they can ultimately participate in health campaigns.

Key Words: Health Communication, Health Promotion, Health Communication Campaigns, Health messages, Summative Evaluation, Theory of Planned Behaviour.

GLOSSARY AND ABBREVIATIONS

AIDS:	Acquired Immune Deficiency Syndrome
HIV:	Human Immunodeficiency Virus
Mankweng:	Township in Capricorn District, one municipality in Limpopo province, 28 kilometres east of Polokwane. The University of Limpopo, Turfloop (main) campus is located here.
SPSS:	Statistical Package for Social Scientists
STI:	Sexually Transmitted Infection
TB:	Tuberculosis
Tent set-up:	An out-door space where health workers/promoters pitch a tent and set up apparatus for treatment.
TREC:	Turfloop Research Ethics Committee
VCT:	Voluntary HIV Counselling and Testing

CHAPTER ONE: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The researcher's aim was to evaluate the impact of the introduction of health communication campaign messages at the University of Limpopo. To achieve this, behavioural intention had to be measured, following the introduction of health communication campaigns amongst the student population. This chapter provides the background, motivation and the problem statement of this study. This is followed by a brief synopsis of the literature review, research methodology and ethical considerations. This chapter concludes with a summary of the layout of the dissertation.

1.2 BACKGROUND AND MOTIVATION

The goal of the researcher was to assess the impact of health communication campaigns at the University of Limpopo. Atkin and Rice (2013:527-528) mentioned that the focal point of a health campaigns was to influence behaviour.

> The aim of "health communication is not to influence behaviour directly but rather indirectly through its influence on one or more intermediate process such as increased knowledge and improved attitudes.
>
> According to Babalola and Kincaid (2009:75)

Behavioural change communication is thus a process that relies on influence, and carefully designed messages with a desired outcome. These messages about behavioural change communication have been captured from health communication interventions such as those concerned with HIV/AIDS and other chronic diseases and illnesses.

Health promotion literature surrounding health communication campaigns in South Africa, specifically in Limpopo, is frequently about HIV/AIDS and is community based. This study took place on the premises of the University of Limpopo, which is located approximately 28 kilometres east of Polokwane, in the Mankweng area, which forms part of the Capricorn District. Much of the literature in South Africa surrounding health communication campaigns focuses primarily on issues of HIV/AIDS, STIs and TB. According to Onya (2007:236), "community-based health interventions require support

from community organisations and mobilisation efforts from community health promoters". Health promotion strategies, including health communication campaigns, help to inform, educate and moreover, empower communities to free themselves from their own health struggles. Prior to the implementation of health policies in South Africa, the relevant stakeholders benchmarked and drew content from international polices.

Noar (2006:21) confirms that health communication campaigns all over the world have been used as the main tool to alleviate different diseases, in different stages. They also have a holistic goal to achieve objectives about disease alleviation. The following statement confirms the nature of the techniques employed for disease alleviation.

> There are a number of techniques that can be used to persuade or encourage behavioural change. These can be by means of organised programmes that involve mass media together with interpersonal support from health workers. These communication organised activities have the ability on impact the society at large.
>
> Atkin and Rice (2013:526-527)

This description of a communication campaign not only advocates messages to inform the target audience, but also engages further with the audience in order to influence their health beliefs.

Health communication campaigns are likely to succeed when two-way communication takes place between the health promoter and the participant. According to Atkin and Freimuth (2001:125), two-way "public communication campaigns have achieved success in influencing health and prosocial behaviour".

> Well-executed health campaigns that seek to involve audiences interactively can yield better results and also alter beliefs, attitudes and change behaviours as well, this can improve the health status of the country because of media's reach.
>
> Noar (2006:21)

In addition to involvement, 'what is equally important is the nature of messages that are presented to the target audience to bring about the small-to-moderate effects on the target audience' (Noar, 2006:21).

Currently, there is little literature about health communication campaigns at the University of Limpopo. Much of the health communication research that has taken

place is related to HIV/AIDS testing, stigmatisation of HIV and HIV/AIDS risk behaviour. Jali, Tladi, Malema and Thopola. (2014:28) conducted a study at the university about attitudes towards HIV/AIDS. One of their goals 'was to determine the relationship between attitudes and practices of students towards voluntary counselling and testing' (Jali et al., 2014:28). Results drawn from this study focused on issues such as discrimination, improper healthcare treatment and lack of enthusiasm to volunteer for counselling and testing. According to Pelzer and Meiberg et al. (in Jali et al., 2014:37), "results drawn from this study showed that fear of stigmatisation was the prevalent barrier to VCT uptake and this had negative consequences for HIV prevention and treatment". These authors further recommended that more should be done to overcome the negative perceptions of the free testing facilities. It was further argued that these practices be transferred to all health communication campaigns. This study also examined pre-existing beliefs and attitudes towards health communication campaigns at the University of Limpopo.

1.3 RESEARCH PROBLEM

'Health communication campaigns have been part of the solution to address health diseases in the 20th and 21st century' (Noar, 2006:21). Challenges arise when these campaigns stop being effective. In developing countries, including South Africa, health communication programmes assist in combating chronic illness and non-communicable diseases. "The government and non-profit organisations have employed health communication campaign interventions to alleviate health issues such HIV/AIDS in and around the country to date" (Peltzer, Parker, Mabaso, Elias, & Zuma, Ramlangan, 2012:1). Furthermore, HIV/AIDS as an epidemic has shaped the health of the country's communities, and now this justifies a cause for a prompt response or intervention. The predicament of HIV/AIDS calls for answers to the following questions posed:

> What is the current mandate of health communication campaigns? Have health communication campaigns proven to be effective such that they are worth the investment of governments time, resources and further study by communication scholars?
>
> Noar (2006:22)

Traditionally, the fundamental goals of health campaigns were to reach the desired target audience. According to Atkin and Rice (2013:531), "audience resistance to

respond towards campaign messages takes place at different stages, from exposure to behavioural intention". These stages are derived from the model used in this study, which was formulated by Ajzen (1991). These stages take place at a cognitive level and responses to every stage work in conjunction, to bring about behavioural change. According to Vincent, Riley, Wilkie (2015:901), "the TPB model's variables: attitude, perceived norms and perceived behavioural control and behavioural intention all contribute towards behavioural change". Keller and Lehmann (2008:120) also refer to these stages as message tactics. During the interaction stage, there must be urgent enough conviction to prompt behavioural intention. According to Keller and Lehmann (2008:120), "message tactics are key controllable variables for health practitioners". These key, controllable variables, pose a challenge to health practitioners and promoters, as they can only deal with them individually. This study attempts to read these variables, in order to measure their effectiveness. 'Atkin and Freimuth suggests that there are reasons why a health campaign does not attain a strong impact or achieve effectiveness' (Atkin & Freimuth, 2001:130). The following authors postulated that the reasoning behind health campaigns lacking in impact is based on assumptions.

> It is because assessing the impact of an intervention requires making assumptions about what would have happened had the intervention not taken place – the counterfactual condition.
>
> Babalola and Kincaid (2009:62)

Atkin & Freimuth (2001:130) argue that poor effectiveness from health interventions should make us question the health messages and their delivery.

Firstly, the researcher established that very little literature existed about health communication campaigns at the University of Limpopo. Secondly, research that had been conducted about health communication issues was largely focused on HIV/AIDS. This study contributes to literature in the area; it questions if these campaigns are really playing a pivotal role and it makes recommendations for better health communication campaigns. The researcher provides a fresh perspective on the current situation and how effective health communication campaigns are at the University. Upon completion of the study, the researcher investigated the underlying variables that acted as enablers of change in behaviour and how they encourage students and contribute towards their participation. The researcher also recommends

how and where health promoters should improve, in order to achieve acceptable participation during health communication campaigns.

1.4 LITERATURE REVIEW

The researcher reviewed literature on the majority of topics that relate to the subject matter surrounding the Theory of Planned Behaviour. The literature reviewed first looked at the setting of health communication campaigns that take place in developing countries. Secondly, the researcher examined the significance of interpersonal communication during health communication campaigns and how it was encouraged. Thirdly, the researcher provided an international perspective on the impact of health communication campaigns. Lastly, the researcher elaborated on the modern conceptualisation of the theory which was used as a theoretical framework (foundation) for this study.

1.4.1 HEALTH COMMUNICATION CAMPAIGNS IN DEVELOPING COUNTRIES

The literature about health communication campaigns focuses predominantly on developing countries. This is due to the effectiveness and the medical capacity in their health institutions.

> Health campaigns in these developing parts of the world have proven to be effective-intervention programmes. The initiative was also to introduce contraception use to lower the risk of unplanned pregnancies, thus altering unhealthy behaviours.
>
> (Guilkey & Hutchinson, 2011:93)

These multiple goals are some of the challenges that developing countries are trying to address. ‘Amongst other developing countries, South Africa has committed itself towards health promotion and public health intervention programmes’ (Oyna, 2007:233). The following authors explain precisely why health communication campaigns are effective in developing countries.

> Complementary to this, Guilkey and Hutchinson (2011:93), stated that: “health communication campaigns are largely adopted in third world countries to provide vital information about health facilities and new medical facilities; to modify cultural norms and attitudes, and in due course to assist individuals in achieving improved health through the use of standard healthcare facilities and the implementation of a healthier lifestyle.
>
> Guilkey and Hutchinson (2011:93)

In developing countries, research demonstrates that health campaigns have been the most effective health intervention practices to date. They inform and educate communities about chronic illness, alter attitudes and teach community members how to lead a healthier life. Health interventions alter cultural norms and behaviours but do not question and understand them. It can be concluded that, questioning the existing status quo would allow social debate that would ultimately bring about change and development in these countries.

1.4.2 ROLE OF INTERPERSONAL COMMUNICATION IN HEALTH COMMUNICATION CAMPAIGNS

Health communication campaigns include a range of delivery techniques. Several schools of thought argue that the most effective delivery technique used during a health campaign is interpersonal communication.

> Health campaigns are generally used to reach large populations of people to deliver messages through routine uses of traditional mass media. However, exposure to such messages is generally passive.
>
> Wakefield, Loken, & Hornik (2010:1261)

The introduction of local “tent set-up” health communication campaigns has increased the interactive distance, personalised communication and interaction between the health promoter and the participant. Here there is two-way communication which assures that there is clarification and feedback between the health promoter and the participant. According Putte, Yzer, Southwell, Bruijn, Willmensen (2011:470), “with regard to health campaigns, interpersonal communication has two functions: (a) to motivate change through interface with health promoters and (b) to intensify message delivery to ensure impact”. Both the level of comprehension and discussion are essential for the success of a health campaign. ‘Health communication should be better understood in prevention campaigns that encourage social debate, such as peer intervention programmes’ (Saunderson, 2013:128). Health conversations thus start with the mass media, follow through to health communication campaigns and further proliferate into communities. Health communication messages that effectively reach targeted communities can achieve social change. These messages are predicated upon exposure to health communication campaigns.

1.4.3 THE EVALUATION OF HEALTH COMMUNICATION CAMPAIGNS OVER THE YEARS

Health communication campaigns, if planned and strategically executed, can be motivators and enablers of change in society. According to Noar (2006:24), “it is a compelling health communication intervention tool, that can potentially address health attitudes and behavioural change across varies health problems and in different target audiences through the mass media”. The author alludes to the fact that a health communication campaign’s success lies in the competence of the message and the level of participation from the target audience. The author does not take into cognisance issues of exposure to the message of the campaign, which is one of the first steps in a communication campaigns. Secondly, the level of participation is subjective and includes several stages. As Atkin and Rice (2013:531) dispute, resistance from the participant appears during every stage of response from the participant. This is as a result of human being are complex and their response unpredictable.

Consequently, establishing successful health communication is challenging. Guilkey and Hutchinson (2011:93) state that “measuring the impact of campaign interventions in developing countries is rather complex”. Sood, Shefner and Skinner (2014:67) corroborate this by indicating that planning, executing and measuring the effectiveness of health campaigns is a complicated venture and involves a complexity of challenges, in developing countries. Much has been said about the difficulty of executing a successful communication campaign in developing countries. The following author expresses the importance of customising health campaigns for impact.

> Effective health campaign can have moderate impacts not only on health knowledge, beliefs, and attitudes, but on behaviours as well, which can translate into major public health impact given the wide reach of mass media.
>
> Noar (2006:21)

A small-to-moderate effect can be achieved if these campaigns challenge the status quo and the social norms that exist in these countries. The central theme of this study is the evaluation of the impact created by the health communication campaigns at the University of Limpopo.

Moreover, it should be mandatory for health communication campaigns to evaluate the progression and impact created by the campaign to ensure growth, knowledge and development. The following author alludes that local-based practises should be modelled in such a way, that they are suited for the area.

> When people's lives are at risk, window dressing of current practices as 'state of the art', as being heavily evidence-based, and based on international and local-practice models of behaviour change does little to improve current practices.
>
> Swanepoel (2005:89-90)

Health communication campaigns can develop new programmes that try to alleviate local-practices models of change behaviour that exist in health systems.

1.5 ROLE OF THEORY IN THE STUDY

The following sub-sections discuss an early conceptualisation of the Theory of Planned Behaviour and the more modern conceptualisation of the same theory. De Wet (2017:6) views a theory as 'a creative interpretation or explanation of why processes occur as they do'. Theories act as a foundation for research projects. They act as maps that assist a researcher to look further than the scholars in their respective disciplines.

> A theory guides and should resonate with every aspect of the research process from the definition of the problem, literature survey, methodology, presentation and discussion of the findings as well as the conclusions that are drawn.
>
> (Dickson, Hussein, Agyem (2018:438)

The theory used in this study was used to 'guide' the researcher in the methodology and analysis of the research project in positioning the study in a context. In the early conceptualisation section, the researcher presents the historical view; an account of the various contexts where this theory was used. Thereafter follows a presentation of the modern contextualisation of the Theory of Planned Behaviour. The researcher further explains the multi-disciplinary nature of this theory.

1.5.1 Early Conceptualisations: Theory of Planned Behaviour

It is an established principle that theory in a research study guides the researcher throughout the project. The following author provides the guidelines that are in line with designing health messages.

> Social science theory has established guidelines in the design of health messages; these include, educating participants about chronic diseases; predicting relationships and outcomes; and advocating for health behavioural change.
>
> Tlou (2009:10)

The researcher followed these guidelines by demonstrating how the theory works; applying it to the target population and relating it to the results obtained upon completion of the data analysis. The theory demonstrated how decision making is prompted by campaign messages. Gholami, Pakdman, Montazeri, and Virtanen (2017:2) stated that: “traditionally, health promotion programmes have use several theoretical frameworks and models to monitor progress and behavioural change”. Conceptual frameworks assist in creating and guiding health communication campaigns from the initiation phase to their execution. Whereas, theories are there to explore and explain behaviour. Cappella et. al, in Naor (2006:25), state: “a theory can be used as the foundation for the purpose of a campaign programme and can recommend current and relevant techniques of message development which traditional campaign programmes might need to improve”. For this reason, the researcher employed the Theory of Planned Behaviour (Ajzen, 1991). According to Littlejohn and Foss (2009:828), “this theory provided specific information with regard to a campaign development, from the content to targeting a specific population which is the most useful application of this theory”. Similarly, the researcher was able to scrutinise health communication campaigns by using the same theoretical structure. Ajzen (1991) also deemed this theory a suitable framework for formative research in health communication campaigns. Below the researcher provides a retrospective view of the historical narrative of the model. The narrative presents the Theory of Reasoned Action (Fishbein & Ajzen, 1975) as the foundation of the Theory of Planned Behaviour (Ajzen, 1991). Also, the researcher expanded on the extension of the Theory of Reasoned Action (Fishbein & Ajzen, 1975). Lastly, the researcher has conceptualised a theory in the modern day context.

Historically, scholars in the social sciences have tried to make sense of determinants of behaviour to help people achieve certain behavioural goals. The theory of Reasoned Action (Fishbein & Ajzen, 1975) was developed primarily to predict human behaviour. This theory questions the primary attributes that constitute behaviour. According to Littlejohn and Foss (2009:826), “this model predicts behaviour based on the combined outcome of variables which are; attitude, subjective norms, perceived

behavioural control and behavioural intention". Core variables that make up the model are - displayed in Figure 1 below. The Theory of Planned Behaviour postulates that behavioural intentions are immediate predecessors to behaviour and demonstrate the likelihood of a new behaviour being performed (Madden, Ellen and Ajzen,.1992:3). This theory is a conceptual explanation of the cognitive process of the decision-making of an individual. This process comprises of stages or steps that are highlighted in the model. The individual reasons on a cognitive level at each of these stages, when making a decision or adapting to a new behaviour.

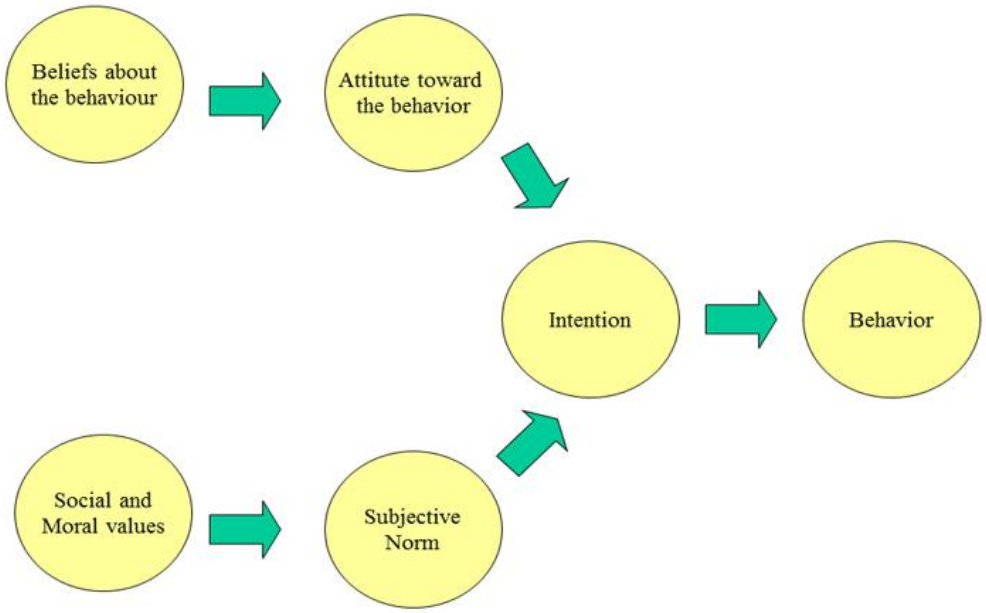


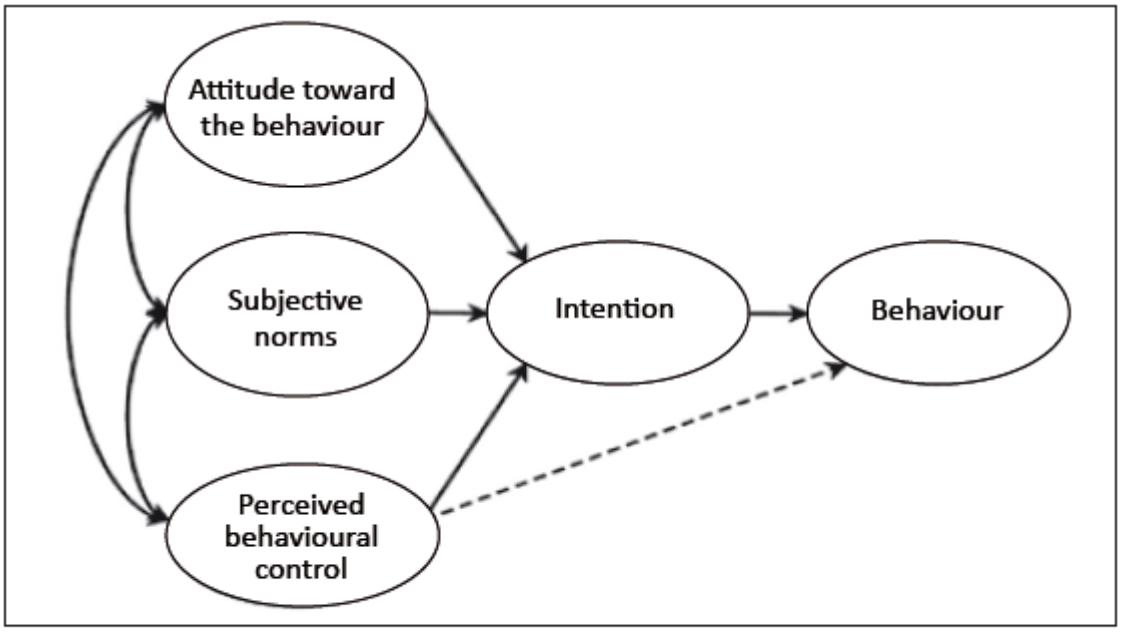
Figure 7 Theory of reasoned action, *Source: Aizen és Fishbein, 1980*

Figure 1: Theory of Reasoned Action (Ajzen & Fishbein,1980:135)

Sheppard, Hartwick and Warshaw (1999:327) commented on the cognitive process of decision making. "When researchers evaluate factors that influence a certain behaviour, their primary focus is on variables such as attitudes, subjective norms and intentions towards that particular behaviour". The application suggested by Sheppard et al. would not only limit researchers, but also reduce the ability of the theory to function to its full potential. "It is further stated the more these actors are positive within the thinking frame of an individual, behavioural change would likely take place. However, choice would change the intention to adopt the new behaviour" (Sheppard

et al.,1988:327). This shortcoming gave rise to the expansion of the theory. The ability of choice comes from control. If an individual has authority over an action, choice enables the action. This theory lacked the variable 'perceived behavioural control' which was included in the improved Theory of Planned Behaviour (Ajzen, 1991). This theory provided a limited account of the actual, cognitive process of decision making.

Subsequently, the expansion of this theory into 'The introduction of the Theory of Planned Behaviour came into being in 1985' (Madden et al., 1992:3) and included the addition of a variable called perceived behavioural control. According to Fitchen et al (2016:39), "this new theory is influenced by the intention to carry out the behaviour. Intention is predicted by: perceived behavioural control (i.e., how easy or difficult it is to enact the behaviour?)". The added variable is what sets this theory apart from the previous one. This theory postulates that the intention is prompted by the ability to enact a given behaviour. For example, when an individual has a sense of authority and control over an action, behavioural intention would be at a high variance.



Source: Ajzen, I. (1991). Theory of planned behaviour. *Organizational Behaviour and Human Decision Processes, 50*, 182. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Figure 1.2: Theory of Planned Behaviour (Ajzen,1991:50)

The model displayed in Figure 1.2, demonstrates the variables working in conjunction or rather interchangeably with one another. These variables precede one another.

Baldwin et al. (2004:12) stated that “in order to establish this type of linkage between concepts, a theorist must find evidence that one concept precedes another concept or motivates the second”. Azjen (1991) found the causal link between the variables added, that perceived behavioural control has a direct link to (wards) behavioural intention. Other variables are interdependent, compared to the control variable. It could be stated that the more positive the “attitudes, it is then that subjective norms would be influenced, followed by perceived behavioural control and finally the intention variable” (Littlejohn and Foss, 2009:826). Once this process has taken place, behavioural change would follow. The appropriateness of this theory lies in its flexibility. This enables the researcher to explore and test its ability to not only predict behavioural intention but also predict future behaviour.

In the same way, Babalola and Kincaid (2009:64), argue that “it is widely accepted that the most effective programs are evidence based and theory informed”. Once this was achieved, it was easier for the health promoter to evaluate the impact of the campaign. It is imperative for health communication campaigns to have theoretical frameworks in their planning and evaluation phases. This theory serves as a reference point in that it outlines the process of how behavioural change takes place. Lange, Kruglanski and Higgins (2012:438) argue that “this theory has proven to be the most suitable theoretical framework for measurement of change in human behaviour”. The theory prescribes measurement of increased levels of awareness, ‘attitudes, subjective norms, perceived behavioural control and behavioural intention for behavioural change’ (Littlejohn and Foss, 2009:826).

1.5.2 Modern conceptualisations of the Theory of Planned Behaviour

The Theory of Planned Behaviour (Ajzen, 1991) is one of the classical theories and is present in a variety of disciplines. Its beauty lies in its versatility. Extensive work across numerous disciplines has been conducted using this theory. This theory has been applied to different studies in order to; predict human behaviour towards shopping decisions, as a motivation towards changing departure time to avoid traffic, to predict graduation and drop outs amongst tertiary students and to predict participation in health communication campaigns, amongst other daily behaviours. The examples all have a common goal; to predict behaviour, a determination of behavioural intention and to question the attributes that co-exist to produce a particular behaviour in time.

In order to achieve behavioural change, one must first know how behaviour is planned and how the individual should be persuaded. The Theory used in this study explains the cognitive process of how a new action is adopted. According to de Wet (2013:3), “persuasion predominates our daily lives. In every aspect of human life every person is confronted with persuasive messages or information”. In today’s age, marketers, health promoters and politicians are constantly and carefully designing messages that can not only cut through clutter but generate a desired action.

A study was conducted by Lim, Osman, Salahuddin, Romle, and Abdullah (2016) at the University of Malaysia Perlis to understand factors that influence online shopping behaviour. The following authors

> The model used in this study, behavioural beliefs alter attitude, whereas normative beliefs influence subjective norms, and control beliefs serves as the foundation of behavioural control. Researchers still find the relationship between these variables debatable.
>
> Ajzen in Lim et al. (2016:404)

This is because behaviour in itself is relatively complex. These variables work in conjunction with one another to bring about change. As mentioned above, beliefs can ‘influence attitudes and attitudes would inevitably influence subjective norms’ (Vincent et al., 2015:901) and so forth. Ultimately, the individual would adopt a new behaviour. Lim et al. (2016:408) concluded that intentions were a salient predictor of actual behaviour in their research of online shopping. In this study, the key objective was to predict behavioural intention. What the researchers failed to do here is to differentiate between whether the study tested the intention to perform a certain behaviour or tested the actual change in behaviour.

1.6 THE PURPOSE OF THIS STUDY

This section discussed the aim, hypotheses, research questions and the research objectives.

1.6.1 Aim

The researcher aimed to measure behavioural intention following the introduction of health communication campaigns at the University of Limpopo.

1.6.2 Hypotheses

The following hypotheses are categorised as per the theory's variables that were tested.

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention ($p>0.05$).

H_a: All variables do not significantly contribute towards behavioural intention ($p<0.05$).

Hypothesis 2: Attitudes

H_0: If levels of attitudes increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of attitude decrease, behavioural intention will decrease ($p>0.05$).

Hypothesis 3: Subjective norms:

H_0: If levels of subjective norms increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of subjective norms decrease, behavioural intention will decrease ($p>0.05$).

Hypothesis 4: Perceived behavioural control:

H_0: If levels of perceived behavioural control increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease ($p>0.05$).

1.6.3 Objectives of the Study

- To empirically measure the intention to participate and subscribe to the health communication campaigns held at the University of Limpopo.
- To empirically determine the relationship between attitudes, beliefs, subjective norms, perceived behavioural control and the behavioural intention of students towards the health communication campaigns held at the University of Limpopo.

1.6.4 Key Research Questions

- What is the intention of students' participation in health communication campaigns at the University of Limpopo?
- What is the relationship between attitudes and beliefs, subjective norms, perceived behavioural control and the behavioural intention of students towards the health communication campaigns held at the University of Limpopo?

1.7 RESEARCH METHODOLOGY AND DESIGN

This section discusses the methods and the research design employed in this study.

1.7.1 Research Orientation

A quantitative method was elected by the researcher to achieve the study's objectives and test the hypotheses. 'The quantitative method depends largely on numerical and statistical data for the analysis and interpretation of findings that are deduced from the sampled populace' (Bless, Higson-Smith & Sithole, 2013:16). In this way, the hypothesis was challenged and the researcher would be able to quantify the results upon completion of data collection. The central idea behind this decision is to measure and quantify the relationship that exists between variables. The third objective of this research project was to empirically measure the relationship between 'attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention' (Littlejohn and Foss, 2009:826). The word 'empirical' stems from observing human experience. According to Blaikie (2003:15), "empirical here refers to methods of data collection that use the sense of sight". 'This allowed the researcher to describe and predict phenomena rather than just gather evidence to help philosophical or individualistic judgements about communication' (Reinard, 2006:6). The researcher thus aimed to be able to predict and draw conclusions after an analysis of the results, drawn from the data collected.

1.7.2 Research Design

This study used a quantitative research orientation. 'Quantitative methods interpret data in predominantly numerical terms' (Reinard,2006:6). The research orientation was chosen according to the objectives the study aimed to achieve. This study used

a questionnaire, distributed to a representative, stratified sample, according to area of study and gender ratio.

1.7.3 Target Population

The target population comprised University of Limpopo students, from all faculties, who were enrolled for the 2018 academic year. The statistics were provided by the Institutional Planning Division at the University of Limpopo (Steynberg, 2017) (Annexure D).

1.7.4 Sampling

A sample size is a segment or portion that belongs to a specific research, target group. Bless et al., describes it as "a subset of the target population" (Bless et al,2013:162). There are different types of sampling, suited to different studies. The researcher made use of probability sampling and chose the stratified random sampling method. Black (1999:120) stated that: "this approach comprises of taking a random sample from classifiable groups or strata that are similar characteristically, such as age group, ethnicity, locality belonging to an organisation". From the entire population, a sample of 2,5% was taken. This sample was called the strata because they shared similar attributes and included both genders, male and female participants. 'This approach ensures that the sample is a direct replica (of demographic characteristics) representation of the entire population' (Black, 1999:121). The strata were structured in a ratio of faculty and school enrolment figures, which also took gender distribution into account. The class size, closest to the required number, was surveyed as a whole. 'This was done to ensure that all groups were representative of the entire target population' (Black,1999:121). The researcher calculated the sample size using Sloven's formula: (*n)* from the population (*N*) plus a margin of error (e^2) (Tejada & Punzalan, 2012:131). The size of the sample was computed with a confidence level of 95%. The calculation is presented as follows:

$$n = \frac{N}{1+Ne^2}$$

$$n = \frac{20\ 679}{(1+20\ 679)(0.05)^2}$$

$$n = \frac{20\ 679}{(20\ 680)(0{,}0025)}$$

$$n = \frac{20\,679}{51{,}7}$$

$$n = 399.98 \approx 401$$

Figure 1.3: Sloven's formula (Tejada & Punzalan, 2012:129)

According to this calculation, the researcher had to have a sample group that was comprised of 401. However, a total of 517 respondents were surveyed. 116 questionnaires contained missing values so these questionnaires were discarded. Only 401 questionnaires were ultimately valid and used for the data interpretation and analysis. This ensured that the researcher obtained complete results that would be usable and reliable. As per Sloven's formula (Tejada & Punzalan, 2012:131), this population sample made up 2,5% of the entire population at a 95% confidence level. Sampling sizes per school are depicted in Table 1.1:

Faculty and School Name	Gender		Sum	2,5% Sample		2,5% Sample size
	Male	Female		Male	Female	
Health Science	588	896	1484	15	22	37
Health Science	558	826	1420	14	22	36
Medicine	30	34	64	1	1	2
Humanities	3098	4060	7158	77	102	179
Education	1546	1701	3265	37	43	80
Humanities	120	134	254	3	3	6
Lang and Comm studies	833	1342	2175	21	34	55
Social Science	581	883	1464	15	22	37
Management and Law	2892	3330	6222	72	83	155
Accountancy	989	1077	2066	25	27	52
Economics and Management	940	1300	2240	24	33	57
Graduate school of leadership	73	103	176	2	3	5
Law	811	836	1647	20	21	41
Management and Law	39	54	93	1	1	2
Science and Agriculture	3057	2750	5815	67	69	136
Agric and Environmental science	695	920	1615	17	23	40
Maths and Computer Science	911	440	1351	23	11	34
Molecular and Life Science	592	746	1338	15	19	34
Physical and Mineral Science	757	535	1292	19	13	32
Science and Agriculture	102	117	219	3	3	6

Sum	9635	11044	20679	241	276	517

Table 1.1: Sample Size

1.7.5 Data Collection

The researcher used a quantitative survey to collect data. One of the underlying goals of the study was to 'map out' the status of health communication campaigns at the University of Limpopo. This approach helped to achieve this aim. The researcher drew up a proposed questionnaire (Appendix A) in order to identify and empirically measure the pre-existing 'attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention' (Littlejohn and Foss, 2009:826) of students towards the health communication campaigns held at the University of Limpopo. According to Kelley, Clark, Brown and SITZIA (2003:261), "quantitative surveys provide a 'snap shot' of how things are at a specific point in time". This compliments the study's objectives for testing a hypothesis. The survey was conducted by the use of questionnaires, which were given to each participant to complete.

1.7.6 Data Analysis

The researcher used SPSS® (Statistical Package for Social Sciences) version 25 computer software for the data the analysis. Also Seale (2012:329) states "this programme allows a researcher to analyse complex statistical data in a simplified manner". The results reflected the impact of the health communication messages drawn from the sample group. The data was analysed according to the objectives of the study. This took place to test the theory on the sample group and make general conclusions relevant to the entire population.

1.7.7 Cronbach's Alpha

The researcher made use of Cronbrach Alpha in SPSS© to test the reliability of the results of the data that was collected. Black (1999:279) states that "Cronbach's coefficient α indicates the internal consistency of instruments that do not have right-wrong (binary marking) schemes". Firstly, a pilot study was also implemented to further to ensure validity. Secondly, the validity and level of accuracy of the data was tested. The researcher achieved this by means of construct validity. This is used for measuring abstract concepts such as attitudes which are found in the theory applicable to this study. 'This type of validity is also used when the researcher is

encouraged to deduce hypotheses from a theory that is relevant to the concept' (Bryman & Cramer, 1990:72). This means that this method would assist the researcher in accepting or rejecting the hypothesis, by determining its validity.

Furthermore, within construct validity there are sub-dimensions. The researcher used the predictive validity method of construct validity. According to Drost (2011:119), "this method is used as a test to evaluate an outcome in the future". Upon completion, this method aided the researcher to define the level of behavioural intention of the sample group of the study. Thirdly, the researcher ensured that the nature of questions asked during the data collection method did not narrow or restrict the respondent's answers, as was indicated by the pilot study. This was done to ensure objectivity. Black (1999:98) stated that, "a lack of impartiality of questions might reduce the general rationality of an instrument and 'consequently' influence consistency between concept and instrument outcomes". The trial study was conducted to guarantee high levels of validity.

1.8. CONCEPTUAL FRAMEWORK

Traditionally, scholars have included the conceptual framework discussion in their literature section. However, this discussion has been singled out to demonstrate its significance towards this study. According to Dickson (2018:438) "a conceptual framework is a researcher's description on how a research problem would be explored". This model was designed by a researcher, with constructs that belong to a theoretical framework that addresses a particular phenomenon. It is a way of looking at a research problem; how the concepts of the studied phenomena are linked and which steps to follow in solving the problem. Imenda (2014:189) 'views conceptual frameworks as a model'. Models are presented as visual diagrams which have steps/stages; they include arrows that flow in a particular direction. A conceptual framework's function is to assist a researcher to investigate the relationship between the constructs of the phenomenon of a study. Similarly, in this study, the researcher developed a conceptual framework of behavioural change. This aspect allowed the researcher to understand and visualise the flow of the research.

From these scholars, it can be concluded that a conceptual framework is a model that is comprised of concepts drawn from relevant theories that are linked together and which guide a researcher's project. Helitzer, Sussman, Hoffman, Getrich, Warner and

Rhyne (2014:158) assert that a conceptual framework is ‘a diagram of proposed casual linkages among a set of concepts, believed to be related to a particular problem’. From this statement, it can be concluded that a conceptual framework represents the relationship that exists between concepts that belong to the theory used in a study. This relationship expresses the correlation between the variables, possible causal link between them and how much each of the variables has contributed to the model. This model also assisted the researcher to ascertain or predict future behaviour of the variables that belong to the theory of this study. Since these concepts belong to a theoretical framework, it can be concluded that a conceptual model is grounded in a theoretical framework. Thus, a conceptual framework cannot exist without the background of a theoretical framework. The theoretical framework of this study will be discussed extensively in Chapter Two. In addition, this model also enabled the researcher to position this study in their field of interest. However, a conceptual frame does not only guide the research but it also assists emerging scholars in their own research or later scholars who may analyse this study.

Furthermore, authors suggest that a research study without an appropriate framework would lack theoretical grounding and its findings would be questionable.

> Research without the theoretical or conceptual framework makes it difficult for readers in ascertaining the academic position and the underlying factors to the researcher’s assertions and/or hypothesis.
>
> Dickson (2018:438)

In the same way, the purpose of a conceptual model was included in Chapter Four to demonstrate the strength of the variables and indicated how each contributed to the model. Significance values were displayed next to each variable to indicate their values and contributions.

The theory of Planned Behaviour relies on a premise that in order for a new behaviour to be enacted there has to be harmony at a cognitive level of an individual. The foundations of this theory rest on the belief that the more positive the attitude and subjective norm ‘with respect of the perceived behavioural control towards the performance; this creates a strong intention to perform an action’ (Ajzen,1991:188). However, Ajzen (1985) in Lange, Kruglanski and Higgins (2012:445) added the variable ‘perceived behavioural control’ to the Theory of Reasoned Action. This was done to include confidence in application over a given performance. This component

has a direct influence on the intentions and indirect influence over the actual behaviour (see figure 1.2). This fact provides this variable with precedence over the other two. The authors of this model, also argued that when an individual has control over a certain task, their willingness to perform a new task increases. As a result, it can be concluded that the findings in this study should reveal positive results from the questions asked and which pertained to 'perceived behavioural control'.

1.9 SIGNIFICANCE OF THE STUDY

This study has been aimed to assist the Centre for Healthcare Service to review the current and relevant health strategies, in the development a health policy at the University. The researcher sought to add to the current knowledge of health communication campaigns that might challenge the status quote on campus. The model applied in this study has assisted in quantifying the impact of health communication campaigns on the specified target group. Results of this study may also add to the repository archive of the University and be available to other South African Universities. Firstly, the researcher tested the model chosen for this study by examining the significance of each of the variables that contributed to behavioural change. This allowed the researcher to understand how the model worked to predict behaviour and how messages and conversations can be cultivated in order to stimulate behavioural change. Secondly, the researcher aimed to empirically measure the pre-existing attitudes and beliefs that contributed towards the participation or non-participation in health communication campaigns at the University. Lastly, this objective would assist the researcher to ascertain the relationship between the 'attitudes, subjective norms, perceived behavioural control and behavioural intention' (Littlejohn and Foss, 2009:826) towards the health communication campaigns held on campus.

1.10 ETHICAL CONSIDERATIONS

The researcher reflected on several ethical considerations to prepare for the process of data collection. These considerations were carefully structured and supported with relevant documentation attached. Firstly, the researcher's proposal was presented at the School Committee level. Upon approval, is was taken to the Higher Degrees Faculty Committee for approval. Secondly, the researcher applied to the Turfloop

Research Ethics Committee for data collection permission. In this study, ethical considerations were fundamental since the information that was disclosed by the participant could be considered as somewhat sensitive and personal. Kelley et al. (2003:261) stated that “it is easy to conduct an investigation of poor quality rather than of a high standard and real value”. Hence, the researcher implemented standardised measures for the collection that have been acknowledged by scholars, to ensure credible results. These steps are further discussed.

1.10.1 Permission to conduct the study

This research involved human beings. As a result, ethical clearance was essential and was applied for from the University of Limpopo Research office. This permission allowed the legitimate collection of data for the research project. During the data collection process, the researcher was supervised by an experienced researcher.

1.10.2 Voluntary Participation

The researcher emphasised that participation in this study was firmly on a voluntary basis. Should a participant withdraw at any time, it was explained that no negative consequences would be incurred. Secondly, no harm was inflicted upon participants. According to Kelley et al. (2003:263), “all questionnaires are required to have a covering letter attached that outlined the goals of the research, the name and contact details of the researcher”. A covering letter (Appendix C) was attached to the questionnaire that was distributed to the participants. The letter explained the importance of participating and how the information could contribute to the existing knowledge of health communication at the University of Limpopo. Again, it was pointed out by the researcher that no rewards would be given to any participants for their involvement.

1.10.3 Informed Consent

Informed consent is a consensus that is established between the researcher and the participant. Fouka and Mantzorou (2011:2) state “such a document acknowledges the autonomous rights of the participant through self-determination”. They support the notion that the researcher and participant should establish an understanding of what is expected from both parties. This was achieved with the informed consent letter. The researcher presented the purpose of the study and provided the detailed procedures that would follow data collection. The form highlighted the benefits of participation. A

consent (Appendix B) form was attached together with each of the questionnaires that were distributed to all participants. Guidelines were included on how to fill out the self-administered, questionnaires to ensure that the researcher obtained adequate, relevant results.

1.10.4 Anonymity and Confidentiality

The anonymity and confidentiality of the participants is important if they are to feel confident and comfortable enough to allow themselves to participate. According to Fouka and Mantzorou (2011:6), “confidentiality is the right of any person to give and hold back information as they wish”. Therefore, the researcher explained how a consent form worked and that the data collected would not in any way reveal their identity. Levine and Robert as cited in Fouka & Mntzorou (2011:6) stated that “anonymity is hidden when the participant’s identity cannot be traced with their response”. Informed consent was highlighted and the researcher explained that the participants had freedom of privacy. The researcher instructed the participants to only provide information of their own free will.

1.11 DISSERTATION LAYOUT

This study is structured according to the following chapters:

CHAPTER ONE – BACKGROUND:

This chapter presents the rational and the scope of the study and summarised; the background and context of health communication campaigns at the University of Limpopo.

CHAPTER TWO – LITERATURE REVIEW AND THEORETICAL FRAMEWORK:

This chapter explains the Theory of Planned Behaviour and reviews earlier research and explains the use of this theory in the context of this study.

CHAPTER THREE – METHODOLOGY:

In this chapter, the positivism research paradigm is discussed in detail. It covers the positivism quantitative approach that was used to collect data.

CHAPTER FOUR – ANALYSIS AND FINDINGS:

This chapter presents the analysis and findings of this study, which made use of a quantitative method. This approach would assist the researcher to measure behavioural intention following the introduction of health communication campaigns at the University of Limpopo. This approach has been found suitable to draw empirical results from this study.

CHAPTER FIVE – CONCLUSION:

This chapter provides the conclusion of the study and summarises the hypothesis. Also, here the researcher reflects on the major findings that emerged from the study.

1.12 CONCLUSION

This study indicated that there has to be a paradigm shift in thinking in the implementation of health communication campaigns. As already mentioned the universal, traditional method of health promotion has become less effective. This researcher's aim was to ascertain which variable would contribute to behavioural change following the introduction of health communication campaigns on campus. Upon completion, the researcher hoped to understand how the model works in predicting behaviour and how messages and conversations could be cultivated in order to stimulate behavioural change. Moreover, results drawn from this study could further question message development and the strategies currently used in the health communication campaigns. The theory selected provided a framework within which the study was conducted.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

In the South African context, health communication campaigns are categorised under the umbrella terms, which include ‘health communication’ and ‘health promotion’. For instance, a study done by Onya (2007:234) reported that “health promotion is considered imperative in the healthcare of the country”. There has been significant growth and support in health promotion interventions; as well as a range of health promotion interventions, such as health communication campaigns. Schiavo (2007:3) states “the field of health communication has grown exponentially over the years in both public health and private sector”. For this reason, health communication ought to be prioritised and well researched by academia to be able to assist in practice. These two concepts should also not be understood in isolation. The researcher has aimed to evaluate the impact of the introduction of health communication campaign messages on the student community. The priority of public healthcare and health promotion in South Africa has prompted new strategic ways of communicating healthy solutions to different roles player. After the different interventions and the progress that has already been made, the study aimed to answer the question; are health communication campaigns doing enough to improve health behaviour? In order to achieve this the researcher reviewed comprehensive strategies gathered from the supporting literature.

Firstly, the health communication campaign concept in this study is briefly defined, in relation to both concepts of ‘health communication’ and ‘health promotion’. Key concepts are discussed as well as their importance to the study. Secondly is a discussion, on the historical narrative of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980). This is followed by an explanation of the modern conceptualisation of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980). The literature on this theory is not meant to be exhaustive, but to be representative of the research already completed in the context of this study. In this section, the researcher also presents material on the existing gap in the literature with regards to health communication campaigns at the University of Limpopo. Last, summative evaluation strategies are discussed in an attempt to refine and refocus the health communication campaigns at the University of Limpopo.

2.2 KEY CONCEPTS

The following concepts are the main ideas that shaped the research project. These ideas are described briefly and are also included in the title which makes them the tenets of the study. Furthermore, these ideas shaped the researcher's perceptions and guided the researcher on how to better explore the existing gap in the area of study.

2.2.1 Health Communication Campaigns

Programme such as health communication campaigns in South Africa exist within the demarcation set by the (by definition and context) terms, 'health promotion' and 'health communication'. Health communication campaigns are conceptualised within the contexts of these terms.

> Health communications campaigns are programmes that aim to inform and influence health behaviours in a community of people for a given time period, providing health related messages which are sent through multiple channels.
>
> Sood et al. (2014:84)

A health communication campaign aims to reach a large audience, with packaged messages that advocate for behavioural change. These messages have one voice and are distributed via different media, within a given period.

2.2.2 Summative Evaluation

This approach was used to evaluate the impact of the health communication campaigns at the University of Limpopo. Littlejohn and Foss (2009:90) define summative evaluation as research that takes place upon the completion of a campaign, so as to evaluate its effectiveness. This process is carried out once the target population has been exposed to the different health messages carried in the health communication campaigns. "Results drawn from such research provides information about the audience, assesses the implementation and measures the level of impact made by the campaign" (Atkin & Freimuth, 2001:53). 'Summative evaluation is used to measure health communication campaigns that are designed and informed by theory' (Littlejohn & Foss,2009:91). One of the important roles of theory is to guide in the formation and message development of the campaign. 'In the beginning of a campaign, reference has to be made to a theory's variables. For example, attitude,

personal norms and knowledge; these variables could be addressed and impacted by campaign messages' (Littlejohn & Foss,2009:91).

2.2.3 Theory of Planned Behaviour

This model was used to guide specific literature in this study. Vincent et al. (2015:901) stated that "this model demonstrates the process of decision-making when a certain behaviour is subject to the influence of factors beyond an individual's control". This study aimed to predict the outcome of this 'choice' or rather predict both the choice and its influences. The theory's components work in unison for behavioural change to take place. According to Littlejohn and Foss (2009:828), "the theory also offers very specific evidence on how to improve the content of a campaign to target a specific population which is the most useful application of the theory". For this reason, this theory was chosen to measure the impact of the health communication campaigns rolled out at the University of Limpopo.

2.3 THE ROLE OF HEALTH COMMUNICATION CAMPAIGNS

It is not enough to just present health information to the public by health communication campaign programme. Firstly, target audiences should be given health information and be equipped in order to learn and practise recommended health behaviour. This would lead to them becoming active participants in disease prevention. Secondly, one of the primary reasons for health communication campaigns to exist, is to improve health behaviour. Piotrow, Rimon, Merritt and Saffitz (as cited in Schiavo, 2007:21) state : "these recent times have called for strategic ways of informing behaviour". This phenomenon points to the fact that health promotion programmes should be so strategic in their communication that people become aware of treatment and prevention methods available and the overall, current state of health in the country. Therefore, an ideal health communication campaign should be behaviour centred in order to generate behavioural change. The empirical evidence and earlier, global literature support positive results, from the introduction of health communication campaigns: 'These health interventions are primarily used to address common chronic health issues including Diabetes, HIV/AIDS, TB, Cancer' (Snyder, 2007:32). These health messages are delivered through various media to specific, target audiences. They may also prompt individuals to seek professional healthcare. Health communication campaigns thus require significant support from the relevant

governing bodies. A study conducted by Snyder (2007:32) stated that “the objectives of this the study was to evaluate the impact of health communication campaigns to inform future nutrition campaigns”. Upon completion of the study Snyder (2007:32) reported that “the conclusion was that the nutrition campaigns that were executed with careful precision to read the objectives, message delivery, audience reach, activities and post evaluation should be able to change nutrition behaviours”. The results of the nutrition campaign appeared to indicate a need for a comprehensive strategy within a health communication campaign programme that would articulate interest towards the target audience. Health communication campaigns have a mandate to gather information about their target audience and keep a record of their participants. According to Kopfman and Smith (2009:33), “accurate health communication campaign design, often depends on thorough audience analysis”. Audience analysis assists in the message development amongst other things. Relevant and appropriate health messages would ensure that the message would be well received.

2.4 HISTORICAL NARRATIVE OF THE THEORY OF PLANNED BEHAVIOUR

A good starting point to understand the Theory of Planned Behaviour is to begin with the origins of the theory. In an attempt to study and understand human behaviour. Fishbein and Ajzen (1980) came up with a foundational theory, prior to the Theory of Planned Behaviour (1980), known as the Theory of Reasoned Action. This theory, when applied, has the ability to predict future behaviour. According to Ajzen and Fishbein (2004:431), “although acknowledging that the models under consideration have been of pragmatic value, encouraging exploration of health-related behaviour and helping in the design of interventions can yield better results”. For this reason, this theory was applied in this study. The historical narrative will be a presentation of previous and current work done on the theory.

2.4.1 Theory of Reasoned Action

Historically, this theory has been used extensively across many fields of study to analyse and understand behaviour. Madden et al (1992:3) stated the: “research in social sciences has used this theory to predict future behaviour and understand motivational influences on behaviour”. These behaviours range from consumer shopping habits to voting for a certain candidate, during elections. Scholars constantly challenge and investigate influencers that have influence and want to figure out how

to predict human behaviour. According to Otieno, Liyala, Odongo and Abeka (2016:1), “the formulation of the Theory of Reasoned Action came after scholars tried to establish the discrepancy that existed between the attitude and behaviour concepts”. These two variables appear to be foundational to the construction of the theory. Littlejohn and Foss (2009:828), assert that “this theory has been the most versatile and widely used theory of behaviour change in many fields in the social sciences”. These authors concur that this theory is versatile in predicting social behaviour that is within an individual’s ability to enact. The Theory of Reasoned Action (Fishbein & Ajzen, 1975) does more than predict future behaviour. It has illustrated the process of how an individual carries out a ‘desired’ action. The constructs that make up this theory each play a role and it is through them that scholars learn what facts contribute to influencing future behaviour. Furthermore, they discovered that in order for an action to be carried out, the amount of strength in the variables found in the Theory of Reasoned Action (Fishbein & Ajzen, 1975) influence whether the action will be adopted or not. In addition, Lange et. al (2012:438), stated that “an action does not take place by chance, or unconsciously, but follows reason and judgement from information that is relevant to such behaviour”. Lange et al. (2012:438) confirms that an individual makes decisions based on new information at the time and a ‘thinking’ process takes place. In this ‘thinking’ process there are attributes found in the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) that determine the adoption of a certain behaviour or a new behaviour.

A good starting point would be to break down the Theory of Reasoned Action (Fishbein & Ajzen, 1975) (Figure 2.1) according to its variables, in order to explain its origins and demonstrate how it functions. There exists a vast array of definitions for each variable within the literature, which will be explored to achieve a clear understanding of the theoretical framework. This model consists of seven causal variables, namely: ‘attitudes and beliefs, subjective norms, normative beliefs, motivation to comply, evaluation and behavioural intention’ (Littlejohn & Foss, 2009:826). Each of these variables has a direct or indirect causal link and they all contribute to behavioural change when they work together. ‘The behavioural intention construct is the first indicator to predict change because they drive or motivate behaviour’ (Littlejohn & 2009:827). This variable is the actual determinant of behaviour and it is also useful in predicting future behaviour.

Subsequently, the researcher focused on the main variables of the model to reduce complexity and prevent confusion in understanding how all of them contribute to construct behavioural intention. Littlejohn and Foss (2009:827) assert that these constructs work in conjunction to predict behaviour. By virtue of this statement these authors automatically equate the value of the constructs with predicting behaviour given that the prerequisite is that they function together. The researcher aimed to measure the ability of behavioural intention and similarly evaluate the utility of this model. This was done by empirically determining the relationship between the variables of the Theory of Planned model with regard to the sample of students and their response to the health communication campaigns held at the University of Limpopo. The diagram of the Theory of Reasoned Action (Fishbein & Ajzen, 1980:129) is presented in Figure 2.1.

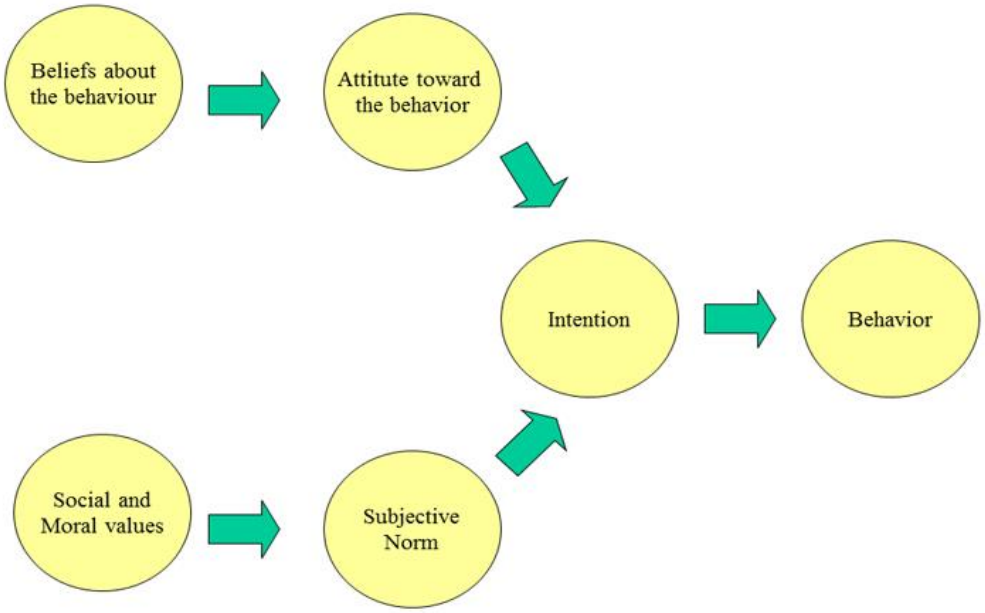


Figure 7 Theory of reasoned action, *Source: Aizen és Fishbein, 1980*

Figure 2.1: Theory of Reasoned Action (Ajzen & Fishbein,1980:129)

As identified by Ajzen and Fishbein (1975:1) the attitude variable is introduced as being complex and widely researched. Ajzen and Fishbein (1975:6), stated: “attitudes can be described as a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object”. Attitudes are described as tiny beliefs acquired or learnt, that respond positively or negatively towards an object, issue

or situation. This alludes to the fact that everyone has a certain attitude to every subject, issue or matter. Knowledge of a negative connotation attached for instance to a health communication campaign, might prompt health promoters to work twice as hard in delivering their message to an individual. This would also mean that they would have to work towards changing the individual's attitude and at the same time communicating their message. According to Hornby (2010:80), "attitude is the way you think and feel about somebody or something". This definition suggests that attitude is a feeling that already exists, based on previous personal experience. Personal experience comes with negative and positive connotations. The theory does not take cognisance of this issue. It only acknowledges the combine functioning of the constructs. Considering the previous example, if an individual has a negative attitude towards a health message, there is a possibility that a person would choose to ignore other health messages to which they are exposed. Therefore, health communication campaign messages should be strategic, they should be able to fight off clutter and preconceived, negative attitudes and still deliver the intended message. Ultimately the question then becomes how do the health promoters target changing the attitude of an individual and work towards changing his/her behaviour.

Equally important are concepts that make up the attitude construct. These concepts were established in relation to the Theory of Reasoned Action (Fishbein & Ajzen, 1980). Contemporary work on this theory mostly utilises the last concept, as is demonstrated: "the authors of the theory discovered three following assumptions: attitude is learned, that it predisposes action, and that such actions are consistently favourable or unfavourable toward the object" (Ajzen and Fishbein, 1975:6). This explains that attitudes are built from personal experience which is a learning occurrence. The second concept suggests that attitude has considerable influence on behaviour because it does not incline to an action but influences the adoption of an action. It is evident that attitude is 'active'. This would mean that the more positive the connotations attached to an action, the greater the likelihood of the performance of behaviour, whether it be positive or negative.

Following this, the construct, 'subjective norms' should be discussed. The word 'subjective' demonstrates a reactive, personal opinion and emotional reaction to a certain issue or situation. According to Schiavo (2007:40), "subjective norms are a view or judgement that is held by individuals around you such as friends, family,

colleagues, or other key influences that may influence potential behaviour". These personal opinions of close people are valued enough to influenced individuals to behave in a certain way or to think and feel a certain way about an issue or situation. Littlejohn and Foss (2009:827), stated that "subjective norms comprise of normative beliefs (i.e. the view of others regarding the behaviours) and motivation to comply (i.e. pressure to please others regarding behaviour)". Subjective norms are a result of an individual being influence by family, friends or colleagues. Influence can be directed so that a new behaviour will be either positive or negative. For instance, if a student decides to participate in a health communication campaign but his/her the peers are against the action, comment negatively and have negative perceptions of this behaviour, the student is likely to be influenced so as not to participate at all. According to Huda, Rini, Mardoni, and Putra (2012:272), "subjective norms are an individual's perception or assumptions about other's expectations of certain behaviours that one chooses to perform or decline". Peer pressure during teenage years is a good example of how young people conform to their peers' expectations. When they grow older these habits and pressures do not disappear because their peers' opinion matters to them. Huda et al. (2012:272) go into greater detail and explain that before an individual engages in a behaviour they first perceive other's expectation of the behaviour, then they decide whether to continue or not. This provides validation for adopting the action.

Lastly, the variable that completes this theoretical framework, is termed behavioural intention. Madden et al. (1992:3), explains: that "this theory postulates that an individual's behavioural intentions prompt actual behaviour; these intentions act as beliefs that reinforce the likelihood of enacting a behaviour that will produce a desired outcome". This theory assisted the researcher to measure behavioural intention which would subsequently determine behavioural change. Littlejohn and Foss (2009:827), stated that "intentions are dependent and are a product of the combination of attitudes and subjective norms". This construct is more complex than the attitudes construct because of the concept that helped build the behavioural intentions. Fishbein and Ajzen (1975:292), stated that "intentions are made up of the following; the behaviour, the target object at which the behaviour is directed, the situation in which the behaviour is formed, and the time at which the behaviour is to be performed". For instance, an individual may intend to buy washing detergent, (object) to do laundry, (target) and use the washing machine in the morning (time). All these three factors make up the

intention construct but circumstances can limit the ability to carry out the action. In the same vein, an individual can buy the washing detergent (object) to do laundry (target) but find that there is no electricity in the morning (time). However, the theory does not work within the constraints of time but applies only to the ability to enact a behaviour. Subsequently, it is also argued that behavioural intentions act as a voice which outweighs both the cost and the gain. For example, if the behavioural intention has strong attitudes or beliefs about a behaviour, a person is likely to behave in a certain way because there will be reward or punishment which results from the action taken. Behavioural intention directly induces the behaviour component.

A study conducted by Otieno et al. (2016) made use of the same theoretical framework to study technological devices and the adoption thereof. These authors postulated that this theory could be used to conceptualise any human related behaviour.

> The Theory of Reasoned Action has been compared with other theories and has proven to be a fairly robust theory for innovative adaptation upon a few additions of other variables such as facilitating conditions, awareness of innovations by users, social pressure and user readiness.
>
> Otieno et al (2016:1)

The versatility of the theory is what makes this theory competitive and relevant in other disciplines. However, this theory also has its shortcomings. According to Littlejohn and Foss (2009:828), “scholars have questioned the effectiveness of attitudes and subjective norms constructs to explain behavioural intentions and behaviours”. The authors argue that there are other variables besides “attitudes and subjective norms that influence behavioural intention and behaviour” (Littlejohn and Foss, 2009:826). Littlejohn and Fishbein (2009:828) added the ‘perceived behavioural control’ component to the model. “The perceived behavioural control component during the cognitive process-determines the aptitude of an individual to do a task” (Littlejohn and Fishbein, 2009:828). The two theories are similar, but differ with the addition of this new component. The term, the Theory of Reasoned Action summed up, was coined to expound the internal and external influencers of behaviour which pertain to decision-making (Littlejohn and Foss, 2009:826). The new model excludes behaviours that are impulsive, habitual, or scripted”. It is rather used to describe behaviours where the individual has the ability and can choose to either perform a certain behaviour or not. For example, an individual can decide to drop out of college and rather opt for employment.

2.4.2 Planned Behaviour Model

This is a classical theory that originates from the Theory of Reasoned Action (Fishbein & Ajzen, 1975). According to Huang and Chen (2015:1686), “the model was designed to demonstrate and understand the process of decision-making and actual behaviour”. The added construct, is perceived as behavioural control. According to Ajzen (2002:666), “the addition of this variable was to measure or evaluate an individual’s control over adopting behaviour or changing behaviour”. This theory has also been extended to accommodate situations where people had an inadequate amount of power over certain behaviours. The perceived behavioural control component indirectly influences behaviour. However, it also contributes to the intent of an individual, based on the level of control that an individual has over their behaviour. According to Ajzen (2011:1113), “the Theory of Planned Behaviour has become the most famously used model in prediction of human social behaviour in many areas”. What differentiates this theory from the Theory of Reasoned Action (Fishbein & Ajzen, 1975) is the added construct of perceived behavioural control and its greater ability to predict behaviour with more accuracy. This construct was added to overcome the limitations that the Theory of Reasoned Action (Fishbein & Ajzen, 1975) had in predicting behaviour. Figure 2.2 depicts a structural diagram of the Theory of Planned Behaviour (Ajzen & Fishbein ,1980).

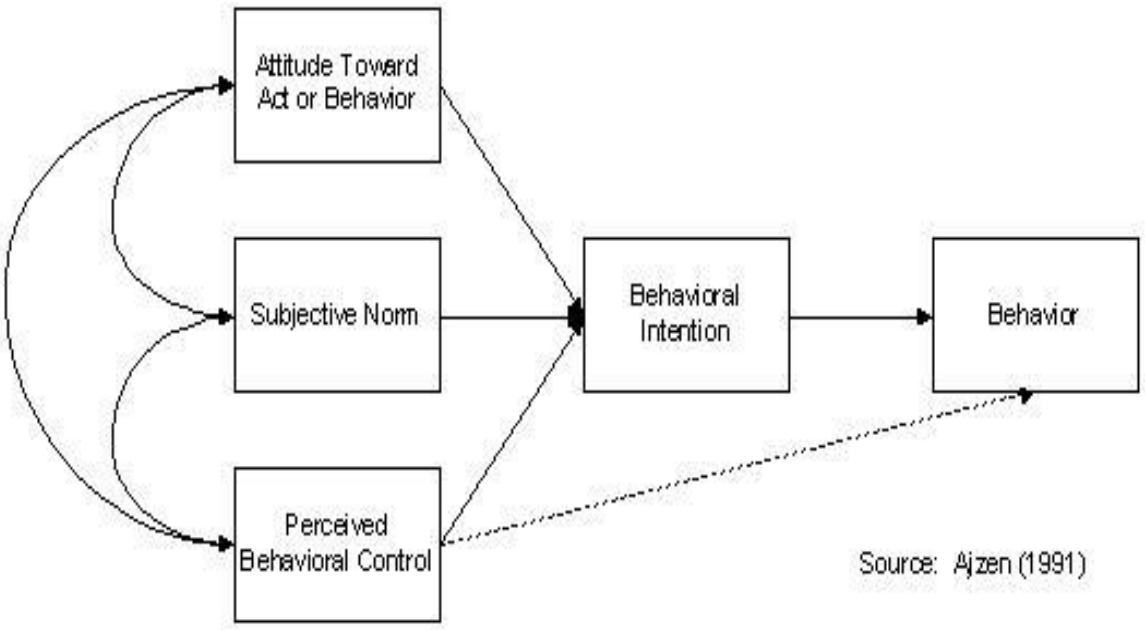


Figure 2.2: Theory of Planned Behaviour Model (Ajzen, 1991:287)

“The Theory of Reasoned Action is limited in its predictability because an individual is presumed not to be under full contravention control” (Chang, 1998:1827). However, the Theory of Planned Behaviour (Ajzen,1991) was used by this study to predict future behaviour. Chang (1998:1998) conducted a study within a business context to predict unethical behaviour, when comparing these two theories. The results proved the Theory of Planned behaviour more effective than the Theory of Reasoned Action. The researcher made use of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) in this study. One of the key objectives of the research was to empirically determine the relationship between “attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention” (Littlejohn and Foss, 2009:826) of the University of Limpopo students towards the health communication campaigns, held on campus.

Madden et al (1992), views perceived behavioural control as the most powerful construct of the model. First, the component has two arrows pointing directly towards behavioural intention and actual behaviour. Secondly, this component is directly linked to behavioural intention and displays an indirect link towards actual behaviour. Madden et al. (1992:2), stated that the “perceived behavioural control is described as an exogenous variable that has both a direct effect on behaviour and an indirect effect on behaviour through intentions”. This variable has to do with individual control and choice that is exercised in the selection of a specific behaviour. When a person has high levels of control over their behaviour, the behavioural intention will be higher, thus behavioural change may take place. The opposite is true, with a poor level of control over a certain situation. Moreover, every human being is entitled to make their own choice. This factor and others enable an individual to act. According to Vincent et al. (2015:901), “this model explains decision-making when the behaviour in question is subject to the influence of factors beyond an individual’s control”. The authors allude to that fact that the theory is only relevant if an individual is subjected to external influences. When an individual is influenced by internal factors, the model will not apply.

The central argument made by these various authors is that the TPB model is not absolute. Lim et al. (2016:4) stated: “In the TPB model, an individual’s behavioural beliefs affect their attitudes. Subsequently, normative beliefs affect control beliefs which make up the behavioural control construct”. They suggest that the model’s

variables have deterministic factors within themselves. The process of decision/choice making is most likely made when one variable influences another. For example, when one considers making the attitude variable, an individual might have a negative or positive attitude towards a particular event. Therefore, the attitude affects the subjective norm variable and however positive, the subjective norm is also affected. This process continues with other variables and inevitably, behaviour is affected/influenced. However, this theory does not account for impulsive behaviour and spontaneous action that human beings enact on a daily basis.

2.5 MODERN CONCEPTUALISATION OF THE THEORY OF PLANNED BEHAVIOUR

Historically, social science models of behaviour have been well researched, in an attempt to explain behavioural change and what influences certain behaviours or makes one take decisions to perform a behaviour. The Theory of Planned Behaviour (Ajzen & Fishbein, 1980) has contributed extensively to this notion. Conner and Norman (2005:3) asked if "it was possible to determine and understand how health behaviours are developed?". This would assist scholars to understand what drives human behaviour. This gap of understanding has led to extensive research, particularly in the areas of health and social cognitive models. Social cognition theories of health behaviour illustrate significant predictions of intention when related to execution of an action or behavioural change. This study is similar to the latter authors' work. It is vital that supplementary research work be done to determine further variables and attributes that may be significant in the performance of a desired action. This section of the literature review critiques modern studies where the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) was used for the betterment of society and to understand human behaviour.

A study was conducted in 2014, on the intentions of university students to become entrepreneurs, upon completion of their degrees. The sample population students from various rural areas in Limpopo, all registered at UL. This model was used to investigate their future intentions to become entrepreneurs. Malebana's (2014) study focused on testing the entrepreneurial intentions of rural students, and the researcher stated that:

> The Theory of Planned Behaviour was used to predict whether these students would develop intentions to start a business and to test the validity of the entrepreneurial intention questionnaire in a South African context
>
> (Malebana, 2014:130)

Malebana's (2014) objectives are similar to those of this study. The researcher's objectives are to empirically determine how students participate in health communication campaigns and to empirically determine and explain the relationship between the 'attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention' (Littlejohn and Foss, 2009:826) of students towards the health communication campaigns at the University of Limpopo. The similarity in these two studies is in the need to identify the determinants of behavioural intention of the different behaviours. 'The author sought to make endorsements for policy makers, business leaders and scholars' (Malebana, 2014:130). The overriding aim of the research project was to appeal to these stakeholders to create support systems and programmes that would nurture and stimulate entrepreneurial thinking.

Upon completion of the study, the results resonated with the principles of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980). 'The findings of this study proved that the three predecessors of entrepreneurial intention predict the intention of the respondents to start a business' (Malebana, 2014:137-138). These results have proven the effectiveness of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) in measuring behavioural intention. According to Malabane (2014:138), "this study's findings has proved that attitudes have a higher explanatory power than the other components on the intention of starting a business". The author suggested that a culture of entrepreneurship should be cultivated in the rural areas in the Limpopo. Attitude-centred approaches should be used to alter behaviour or intentions. These efforts would soon be integrated into the educational programmes in schools. 'The author further recommended employing the Theory of Planned Behaviour in monitoring the effectiveness of learning programmes, with regard to the entrepreneurial intentions of learners' (Malebana, 2014:139).

Over the years, this model has frequently been used to predict entrepreneurial intention in various South African institutions of higher learning. Myers (2014), Malebana (2014) and Gird & Bagraim (2008) are all scholars that conducted studies that predicted entrepreneurial intention and they all managed to predict future

behaviour using this model. They found the theory to be sufficient in explaining behavioural intentions of this particular behaviour, in this specific context. Equally, scholars in other fields have also proven the effectiveness of this theory.

> Azjen's model does not suggest that the combination of each of the variables ultimately make a significant contribution towards behavioural intention. However, the relationship of these constructs is prone to be different from the behaviour, environment and population.
>
> Myers (2014:70)

The work of the following authors tested the ability of the theory to predict behaviour, related to condom use. According to Jemmott et al. (2007:677), "the decision to choose this model was based on the assumption that it could assist the researcher to understand the country's adolescent's sexual risk behaviour". "This study focused specifically on testing whether the variables of this model could predict the use of condoms among Xhosa-speaking adolescents" (Jemmott et al, 2007:678). The study also tested a range of variables to see if they could be a function of predictive moderators. The study by Jemmott et al. (2007:682) made use of the theory of Planned Behaviour (Ajzen & Fishbein, 1980) to explain the behaviour or practice of condom use.

> This study suggests that the model of Planned Behaviour can help to explain the social psychological dynamics of important sexual risk behaviour among Xhosa-speaking adolescents.
>
> Jemmott et al. (2007:682)

The common idea between this study and the researcher's is that the Theory of Planned Behaviour is being used to decrease the spread of HIV/AIDS and STI's. 'This theory is a conceptual framework that has ability to impact communities and in turn incite change in sexual behaviour of young people' (Jemmott et al, 2007:682).

Traditionally studies which have employed the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) are empirical in evidence and a vast range of behaviours have been studied. Another study was conducted by Barber (2011:34) who critiques the consideration of the concept of rationality in the process of decision-making. Barber (2011:32) argues that not all behaviours are well reasoned or well thought through. To verify this the author gives an example of a couple that wants to have a child. First, their intentions are high and thereafter they manage to conceive. However, behaviours that are outside the established goal are a reality and occur daily. Barber (2011:31) stated: "unintended childbearing by definition, does not fulfil individuals' or couples'

goals of delaying or avoiding childbearing". This thus begs the question of the readiness of the couple, the motivation to comply and other external constructs and factors that are beyond this theory. These other "factors" are unfortunately not accounted for in the theory. It is beyond the model to presume that behaviour is logical, rational and at all times well-reasoned. However, what the theory assures is that behaviour within one's ability can be controlled and indeed adopted. According to Barber's study (2011:32), "individuals may hold illogical, obstructive, false or any other type of beliefs". Further, it was argued that individuals may hold unbecoming intentions to behave in ways that are irrational". This shortcoming makes the researcher aware that intentions should be measured promptly prior to behaviour in order to achieve accurate results. Barber (2011:33) stated: "Instead, it is illustrative to take a step back and attempt to understand how the less proximate determinants affects those more proximate".

The following study was conducted on how pregnant women could prevent their babies from being infected by HIV/AIDS. Pregnant women are given great care from the early stages of pregnancy at local clinics. During these early stages, should the woman be infected with the disease the clinic nurse will help the mother prevent the child from getting the disease. According to Mirkuzie, Sisay, Moland and Astrom (2011:1), "healthcare programmes provide women with scheduled HIV counselling and testing in order to monitor access to the prevention of mother-to-child HIV transmission (PMTCT) services". Mirkuzie et al. (2011), tested the behavioural intentions of testing for HIV/AIDS guided by the model used in this study". "The theory also gave an account for intended and actual HIV testing at Addis Ababa, the capital city of Ethiopia" (Mirkuzie et al, 2011:3). The study used questionnaire interviews to collect data. Mirkuzie et al (2011), used the Theory of Planned Behaviour's (Ajzen & Fishbein, 1980) to draw up the questionnaire for the research project. Every variable of the model was measured and tested according to the objectives.

Mirkuzie et al. (2011), alludes that the shortcoming of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) is ineffective to a given extent. "For starters the low variability in the data collected, over 90% of women were tested" (Mirkkuzie et al, 2011:10). The question then becomes, what can be done to improve the effectiveness of the theoretical framework? A summative research approach in this regard can be used to

improve the effectiveness of health messages guided by the Planned Behaviour model. The following are brief findings made by Mirkuzie et al.

> However, most external variables did not maintain their statistical significance when the TPB components were considered, suggesting that the TPB provided a fairly accurate description of the intention formation process related to HIV testing in both groups considered.
>
> Mirkuzie et al. (2011:8)

In the following study, the author conducted a study that aimed to predict the amount of graduation and drop out of students in university and at college level. It is important that students graduate so that they can get a good job to improve their lives. Fitchen et al. (2016:39) argues that there's a difficulty in measuring the intention of dropping out and graduate during the academic year. However, there are academic support programmes that students can affiliate prevent high drop-out rates. The following are considerations to be made in the planning of health campaigns before they commence.

> During the academic year, it is important that these institutions identify students that need extra academic support. Support can be provided in the form of remedial classes, mentorship programmes and other programmes to prevent drop-out.
>
> Fichten et al (2016:39)

These programmes thus should work well in improving the intention of graduating. The TPB model can also assist in identifying the intention of dropping and the reasoning behind this behaviour. It is apparent that the Theory of Planned Behaviour (Ajzen & Fishbein, 1980) also acts as a tool to contribute in solving social issues especially in institutions of higher learning.

2.5.1 HEALTH COMMUNICATION CAMPAIGNS IN DEVELOPING COUNTRIES

Much of the literature in this section is dedicated to health interventions in less developed countries. The term 'health promotion' in the first part of the review section is used as an umbrella term which categorises health communication campaigns and health promotion as one such intervention. A study in South Africa conducted by Van der Broucke, Jooste, Tlali, Moodley, van Zyl, Nyamwaya, Tang in (2010:6), aimed at strengthening the health promotion strategy of the country. 'One of the relevant objectives that support this study was to encourage the development of gears that monitor and assess health interventions' (Van der Broucke at al., 2010:6). With

monitoring and evaluation strategies in place, comes accountability. More than this, health promoters are able to measure progress and make adjustments accordingly. The article further critiqued the project and the health issues in the country and explained how the project could contribute to a revision of the health system in various provinces.

To understand the current state of and be able to measure health communication campaigns at the University of Limpopo; an understanding of health communication campaigns and health promotion intervention strategies on a national scale, is necessary. In an article written by Van der Broucke et al. (2010), findings present the developments and shortcomings of the project and the output of other interventions prior to this project. According to Van der Broucke et al. (2010:7) cite the "limited support from role-players in health promotion in Africa, and the incomplete certification of best practices for health promotion as the key issues". Health campaigns could be used to act as a monitoring tool to identify such illegal practices. "It can be concluded that there is a gap in the monitoring and measuring of health interventions such as health communication campaigns" (Sood et al., 2014:83). Guilkey and Hutchinson (2011:93) present reasons why the evaluation of health communication campaigns in third world countries remains a challenge. The following authors provide allude to human errors that occur during health campaigns.

> The above mentioned authors argue that health communication campaigns use mass media and cover large target populations which require randomised controlled research designs. Evaluation techniques which include data that is collected once require self-reported recall of exposure to the campaign, presenting the likelihood of recall bias or other issues of sample selection.
>
> (Guilkey & Hutchinson, 2011:93)

The above constraints indicate that re-strategising is called for, as to how health campaigns can be better evaluated. According to Guilkey and Hutchinson (2011:93) "an accurate evaluation of a health campaign should provide medical services on site, together with the attendance of healthcare workers in community services". This creates a challenge in the distribution of healthcare service delivery. The results of measuring a health communication campaign can be used in one of two ways: either the health team can capitalise on the positives and achieve accelerated results or they can improve and rework the campaign design and release steady results. In contrast, before the measurement of a health communication campaign, an examination of the

significance of the campaign in that particular context will justify the importance of evaluating it, despite the challenges involved.

Van der Broucke et al. (2010:15) stated that “the framework has proven to be useful in identifying and assessing the main elements of health promotion capability in the African continent”. Several goals were accomplished with the completion of the project. “First, it was able to develop human and intellectual capacity in both Mpumalanga and the Free State where the projects were implemented” (Van der Broucke et al., 2010:12). Second, the project helped to introduce major changes to policy changes that elevated health promotion. The following authors allude to the components that contribute to the success of a health campaign.

> The aims of the project were successfully attained: sponsors who were involved in this project witnessed a considerable rise in the capacity for health promotion in terms of networking, knowledge transfers and problem-solving capacity, and an increase in some aspects of infrastructural capacity for health promotion.
>
> Van der Broucke at al. (2010:13)

In a much broader context, a study was conducted by Kaler (2009) titled “Health Interventions and the Persistence of Rumours: The Circulation of Sterility Stories in African public health campaigns”. Rumours are stories and snippets of stories, exchanged between individuals who may be afraid, doubtful and uncertain. They spread easily and quickly in an attempt to seek validation. Fear also influences rumours and hinders people from seeking proper medical attention. Rumours are often created by individuals who are uninformed about a particular health issue in a community. This article explored reasons for negative rumours around the issues of sterility as a health intervention programme, which was conducted in different countries. According to Rutenberg and Watkins (as cited in Kaler 2009:713), “the operational and academic literature on public health typically treats “myths and rumours” as irrational residues, as the by-product of people’s lack of accurate knowledge about new technologies and new practices”. This could be a possible reason why rumours continue to spread. Rumours need to be treated holistically, together with health issues. Literature should focus on solutions for health interventions including health communication campaigns that can treat these ‘myths and rumours’.

A similar study was conducted by Rutenberg and Watkins, in 1997, that focused on conversations that take place outside clinic grounds. The authors were guided by the following questions in their study:

> When women talk with each other about family planning outside the clinic, are they only spreading "myths and rumours"? If the nurses do indeed give good information about family planning, why isn't that enough? Why would a women instructed by a nurse want to talk to the cleaner as well?
>
> (Rutenberg and Watkins, 1997:206)

That this particular family planning health promotion, an intervention programme, was able to prompt discussions within the community at all, is positive. Often health workers struggle to encourage social debate around health issues and the treatments that are available. However, on a more negative note, harmful rumours were exchanged amongst these women. Rutenberg and Watkins (1997:206) reported that: "to answer these questions, findings are used from a recent study that examines the role of informal social interaction in influencing ideas about family size and the use of family planning in rural Kenya". The findings showed that these women talked about the side-effects of family planning, which inhibited them from using the for family planning options that were available. Informal, social interactions are part of mental treatment of health issues in small communities. To conclude, health communication campaigns should be used as platforms where 'health talks' override rumours and convey accurate information about family planning and other health options or issues.

Literature which focuses on global health communication campaigns is considerable and they all have a common goal, to influence behavioural change. Perhaps a change in strategy would yield better results? When measuring health communication campaigns Noar (2006) emphasises that a theoretical framework should guide the life of a health communication campaign. Sood et al. (2014:83), stated that: "it is widely believed that health communication campaigns achieve modest results rather than strong impacts". This statement alludes to the fact that there is a gap in health promotion but more specifically in the efficiency of health communication campaigns. Moreover, it is suggested that the gap is more common in developing countries. The goal of this study was to contextually place this gap within the guiding ethics of the Theory of Planned Behaviour (Ajzen & Fishbein, 1980). The researcher planned to challenge this gap within the context the study, by first investigating the current state of the target population.

2.5.2 THE ROLE OF INTERPERSONAL COMMUNICATION IN HEALTH COMMUNICATION CAMPAIGNS

Communication in health intervention programmes is an 'ongoing' process that is both stakeholder and audience-centred. Communication in the context of health promotion deals with selling an idea. Therefore, this idea should be well packaged and needs to be well received to ensure that the intended message reaches the targeted audience. According to Schiavo (2007:21) "health communication campaigns were designed to impact on wide variation of needs defined by policy makers, constituent. Executing these campaigns involves continues communication with stakeholders". This process is long-term and the guiding principles aim to alter health behaviour. It is important that health workers not only conduct research during health interventions but also engage with the target audience and learn from their experiences, both good and bad. Schiavo provides a different aspect to the meaning of communication.

> Communication is a relationship business. Good relationships should be maintained with important stakeholders and representatives of target audiences, health organisations, administrations, and other important associates of the extended health promoters.
>
> Schiavo (2007:21)

The establishment of these relationships will result in better results from health communication campaigns.

It follows that in order to establish a good relationship, good interpersonal communication skills are required. Health communication campaigns in different media provide a setting where audiences have an opportunity to interact with healthcare workers. One that is specific to this study is the 'tent set-up' where health promoters advertise and campaign and the audience is welcome to engage with the promoters on a one-to-one basis. 'A health promoter's role is to engage intended audiences in interpersonal interactions so that they can explain, recommend, and encourage health behaviour or practice' (Schaivo, 2007:101). This process is constant and serves as a therapeutic function to address fears, rumours and myths that some individuals might have, about certain health issues. An immediate feedback to enquiries and a response to treatment is mandatory from health promoters and is also advantage of interpersonal communication. The continuous feedback will ensure that there is understanding and acceptance of the information received. According to Schiavo (2007:6), "another important role of communication is to create a receptive

and favourable environment in which information can be shared, understood, absorbed, and discussed by the programme's intended audiences". The goal is that the intended audience talk about the health issue and the program constructively. This evokes active and positive health practices and is the overall aim of the campaigns.

Typically, health communication campaigns should have the ability to be more effective than other forms of communication such as outdoor signage and advertisements. 'Health communication campaigns expose high proportions of large populations to messages through routine uses of existing media, such as television, radio, newspapers and exposure to these messages is generally passive' (Wakefield et al, 2010:1262). Generally, these messages do not evoke any response from the target audience. For a message to be heard, understood and be effective, communication has to at least be two-way. Health communication campaigns have proven to be versatile because 'not all health communication takes place within a healthcare setting' (Rootman, 1996:2). Health communication campaigns create an alternative, interactive and wider platform where health messages could be communicated, particularly to the youth. Health communication campaigns at the University of Limpopo comprise several activities planned on the annual calendar. These activities range from interviews on the University radio and distribution of pamphlet to 'tent set-ups'. These 'tent set-ups' are facilitated by trained health personnel who impart information about health options and issues. The health personnel are trained nurses, peer councillors and educators. These campaigns have reduced the distance and have personalised communication and interaction between the health promoter and the participant. There is two-way communication which assures clarity of information and feedback to participants. Health conversations of this nature start with the mass media and follow through to health communication campaigns and extend even further to reach communities. In such settings, social research could be conducted in order to evaluate the effectiveness of these campaigns. Health promoters in this context act as tools of persuasion to enhance the behavioural change of their audience.

2.6 APPLICATION OF THE THEORY OF PLANNED BEHAVIOUR AT THE UNIVERSITY OF LIMPOPO

The Theory of Planned Behaviour has been used across the world and most of the work done that is has been selected for this study is community-based. The research problem in this study highlights that too little literature exists on health communication campaigns at the University of Limpopo. However, what research has been completed has been limited to HIV/AIDS. This study aims to contribute to literature in this area; and evaluate the impact of these campaigns and make recommendations towards better health communication campaigns. A study was conducted at the University of Limpopo, Medunsa campus, by Maponyane (2012) that examined the attitudes, and beliefs which encompass the variables found in the Theory of Planned behaviour. These underlying variables form part of the Theory of Planned Behaviour and act as enablers of behaviour. 'The author investigated the students' knowledge, attitudes and behaviour of students towards sexual health' (Maponyane, 2012:3). However, the author does confirm that having a strong knowledge of sexual health does not necessarily translate into positive sexual behaviour amongst the target group of his study.

South African women who are living with HIV/AIDS face challenges about which that even their closest family members are unaware. A study by Malatji, Makhubele, and Makofane (2014:409), conducted in Mankweng, Limpopo reveals that one of the major difficulties South African women face, is disclosing their HIV status. Malatji et al., (2014:409) analysed that it is difficult for woman, living with HIV and AIDS, to disclose their status. 'The study used the Theory of Eco-systems to try to comprehend the fear of women opening up about a positive HIV status to the next person' (Malatji et al, 2014:411). Women who are infected by the disease generally choose not to disclose their HIV status for different reasons. These reasons include fear and other barriers as the author claims, 'these barriers include: infidelity, rejection, discrimination, physical or emotional violence from a partner' (Malatji et al, 2014:411). These fears prohibit women from talking about their positive HIV status to their loved ones. Keeping quiet about a health issue such as this can create emotional distress, which can become anxiety. 'The accumulation of this stress in turn causes the epidemic to reach the full blown Stage 4 quicker' (Malatji et al, 2014:415). The important debate in the article by Malatji et al. (2014:418), is that culture and beliefs, the negative connotations and stigma attached to HIV/AIDS, that exist in the community make women unwilling to reveal their status.

> How these particular women choose to reveal their status is usually influenced by cultural, community beliefs and values regarding the causes of the diseases, learned patterns of responses to illness, social and economic contexts and social norms (Mechanic, 2001)
>
> Malatji et al. (2014:418)

The authors ascertained that the average woman conforms to community norms. She would rather save face and not reveal her HIV status in order to maintain harmony in her family and community. How women can break out of these confines, remains an issue, because their culture is what they know and have learned and it is a natural inclination to stick to it.

This study suggests that the fear of disclosing ones status is fuelled by the stigma that is attached to the epidemic. According to Malatji et al. (2014:420), “research needs to be done surrounding stigmatisation related to HIV on a community base level”. More needs to happen to fight the stigmatisation that is attached to HIV/AIDS in South African communities. When this problem is addressed, it will be easier for women to disclose their HIV status. In turn, the eradication of the epidemic will become a reality. The authors recommend ‘that women who are diagnosed with this illness ought to be trained to become promoters and distributors of anti-retroviral drugs, and become pre and post-test counsellors’ (Malatji et al, 2014:420).

A study conducted at the University of Limpopo campus in 2014 sought to investigate the attitudes and the culture surrounding the testing of students for HIV/AIDS. ‘The population of the study consisted of 15 individuals who occasionally consulted at the University’s health centre clinic’ (Jali, et al. 2014:28). Much like the previous study, this study also concluded that fear of stigmatisation did not make them test positive, it only stopped them from being tested. ‘The main aim of this study was to evaluate and understand the existing attitudes and culture of voluntary counselling and testing’ (Jali et al, 2014:28). Much of the literature discussed in this research asserts that the majority of people diagnosed with the disease, are young. According to Jali et al. (2014:29), “a 45% portion of young males below the age of 24 are likely to be diagnosed with HIV”. This means almost 50% of this age group range is infected. The problem health workers have is that not all of these individuals know their status. This is because young people would rather not test because of the stigmatisation that surrounds the disease.

The literature and articles explored by Jali et al. (2014:35) maintain that the individuals did not fear the HIV test, but they were afraid of being found positive. Not only did they fear receiving their HIV positive results, but also the stigma attached to positive result. The previous article explored and discussed the fear women had, and their reluctance to disclose their positive status, because of the stigmatisation. These are the common findings that have emerged from multiple HIV/AIDS research studies. According to Jali et al. (2014:35), one participant stated that 'I choose not to go test for HIV. I am worried about what people might say and think of me". The participant is most likely afraid of the stigma that is attached to testing. 'What the youth does not know is that by virtue of testing negative, you will be relieved and at ease' (Jali et al,2014:34). It should be the same when an individual tests positive. The HIV positive individual will learn to live a healthy life and continue with their life.

Voluntary testing is regarded as integral if the HIV/AIDS epidemic is to be eradicated. According to Jali et al. (2014:28-29), "counselling and testing is implemented on a worldwide scale". This kind of testing is important in developing countries where information illiteracy is a reality. Voluntary testing is available at any private or public clinic in South Africa. The test is normally conducted by a trained professional who will counsel an individual before and after the test takes place. Jali et al. (2014:29) noted that even if the results are negative an individual should be encouraged to take necessary precautions against the disease. This technique is also an efficient way of preventing the spread of the disease. Amongst all the barriers highlighted in the study Jali et al. (2014:37), maintains that the fear of stigmatisation is the most significant barrier. 'The authors allude that the stigma attached to HIV/AIDS status is a negative consequence for prevention of the disease' (Jali et al,2014:37). The problem then becomes how do HIV/AIDS health strategies address the issue of stigma and other barriers in order to eradicate them in the community? The current situation means that individuals are reluctant to undergo voluntary HIV/AIDS testing.

2.7 SUMMATIVE EVALUATION STRATEGIES

Evaluating a health communication campaign will not only monitor the extend of the success or failure of a campaign but it will hold relevant stakeholders accountable. Evaluation allows the health promoters to draw up learning outcomes and adjust future campaigns.

> Throughout the lifespan of a campaign, the following needs to take place: during the formative stage, health workers need to collect required health details and information about the participants; followed by procedure assessment to evaluate implementation as the campaign unfolds, and lastly summative evaluation to measure campaign impact.
>
> Atkin and Freimuth (2001:53)

The Theory of Planned Behaviour will be instrumental in the evaluation process. The researcher employed summative evaluation to assess the success of the health communication campaign, based on quantified campaign objectives, which are grounded in the Theory of Planned Behaviour. The summative evaluation strategy will assist the researcher to determine the impact, if any, by means of the health communication campaigns. “The theory will identify important constructs and provide measurement guidance of these constructs” (Littlejohn & Foss, 2009:91).

One of the problems with health communication campaigns is audience resistance. ‘The challenge might be the inability to reach the audience and engage their attention to the messages’ (Atkin & Freimuth, 2001:54). This could be true as the meeting point of the audience and the campaign is the delivered message whether the medium be a television advert, a billboard poster or a pamphlet handout. However, the message might be well constructed, but the means of delivery might prove ineffective. Therefore, a proper evaluation process, coupled with a theoretical framework can assist in determining the areas in which campaign design needs to be improve to guarantee a greater, more effective impact.

2.8 THE THEORY OF PLANNED BEHAVIOUR

The researcher aimed to measure behavioural intention which would in turn explain behavioural change with regards to the health communication campaign messages, at the University of Limpopo. Subsequently, the researcher empirically measured how students both participated in and subscribed to the health communication campaigns on campus. The researcher used the Theory of Planned Behaviour to determine which variables contributed the most towards behavioural change. Besides testing the theory, the researcher was also able to measure the impact of the health communication campaign on campus. The results assisted the researcher to draw conclusions and make recommendations that could help in message development of

the future health campaign messages. The Theory of Planned Behaviour also guided and assisted in the achievement the objectives of this study. According to Littlejohn and Foss (2009:828), “this model offers detailed information on how to improve the content of a campaign to target a specific population which is the most useful application of the theory”.

2.9 CONCLUSION

The literature discussed so far indicates the emphasis on the need to evaluate health communication campaigns. This study’s goal was to measure the effectiveness of the introduction of health communication campaign messages on the UL student community. The introduction of health issues in South Africa has prompted new, strategic ways of communicating healthy solutions to a variety of different role players. Health communication campaigns form part of the health interventions of the annual health calendar. According to Sood et al. (2014:81), the discipline of health communication is slowly moving towards the advancement of a universal theory to understand health behaviour and social change, as conceptualised by Storey and Figueroa (2012). For this reason, this study challenged the role of health communication campaigns and their impact on their target audience. The researcher has made recommendations as to where health promoters should improve to better improve participation during health communication campaigns. The modern conceptualisation of Ajzen and Fishbein’s model proves in theory its effectiveness. The studies in the literature discussed have confirmed that results drawn obtained from these studies have proved the model to be usable. They also demonstrate the process and nature of the cognitive process of decision-making; and with the help of the summative evaluation, the researcher was able to determine the impact made by health communication messages on UL students. The literature also highlighted interpersonal communication to be an important aspect of health communication campaigns. Communication is viewed as an ‘on going’ process, which proceeds straight from the health promoter into communities. Therefore, health communication campaigns should be strategic in their message development to ensure accurate and truthful messages to reach the community.

Over the years, scholarly work surrounding the Theory of Planned Behaviour has demonstrated how the theory has shaped research methodology. It was suggested in

the literature that this theory could assist in evaluating and measuring health communication campaigns universally. This theory has guided the formulation of the questions in the methodology chapter. Likewise, the theory has guided the selection of the choice of data collection instrument. In conclusion, the validity of the theory has been demonstrated repeatedly in the literature review by the different authors.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter Two reviewed international and local research surrounding health communication campaigns. Subsequently, the researcher identified the significance of evaluating the impact made by these campaigns. The literature has revealed that the application and results drawn from studies using this model were empirical in the majority of the studies reviewed. In particular, the research stressed that research in health communication should include theoretical components and include measurable results. Consequently, the research methodology was selected so that the research could yield measurable results. The researcher chose the quantitative method. This assisted the researcher to measure behavioural intention following the introduction of health communication campaigns at the University of Limpopo. This approach was found suitable to enable the researcher to draw empirical results from this research project.

This chapter is divided into three main sections. The first section presents the methodological orientation, which includes a historical discussion of classical paradigms. Secondly, the researcher briefly discusses the three broad research approaches available to the researcher. The second part of this chapter comprises the research design. This section outlines the methods the researcher used to collect data. The last section is comprised of procedures related to descriptive and inferential statistics, best suited to the study.

3.2 METHODOLOGICAL ORIENTATION

Academic research aims to create and contribute to the body of existing knowledge. The methodology used in this study was chosen so that it would enable the researcher to empirically measure change in behaviour, in relation to health communication campaigns held at the University of Limpopo. This influenced the researcher to use a method that would produce measurable results. Traditionally, ways of generating knowledge present us with three dominant research traditions. These traditions are a lens through which we see the world around us. They are also foundations that shape the methodological orientation for academic research projects. The theory presents three research traditions, namely positivism, interpretivism and critical realism. ‘These

traditions differ with regards to the aims of research' (du Plooy-Cilliers, Davis, & Bezuidenhout, 2014:34). They have helped shape how research and knowledge has been conducted and still created. The tradition influenced the researcher to use the epistemological position of positivism. Du Plooy-Cilliers et al (2014:22) "stated that in the positivist paradigm, researchers conduct philosophical studies that require them to draw knowledge from sciences and experience". To attain such data or evidence a quantitative method was used. An examination of selected paradigms has been provided, before the discussions of the positivist tradition in the next section. A review of selected paradigms has been provided, then later particular attention has been drawn to the positivist paradigm as the paradigm of choice, used to guide this study.

3.2.1 Classical Research Paradigms

Historically, research paradigms are formed from assumptions. Over the years, scholars have debated, developed and refined the research paradigms to best suit today's social setting and the processes that contribute to the body of knowledge. These three classical research traditions are, according to McGregor and Murnane (2010:419), "a collection of ideas and assumptions, that shape the reality for a community that shares them". Blaikie (2010:96) stated: "They are the source not only of theoretical ideas but also of ontological and epistemological assumptions". These concepts assist social researchers to frame and conceptualise research design and questions in order to generate knowledge.

The classical research paradigms cannot be understood in isolation. The word 'classical' in this context refers to the paradigm's traditional nature and to show that they have been used frequently over a long period of time. According to Rehman and Alharthi (2016:57): "a paradigm is a basic belief system and theoretical framework with assumptions about ontology, epistemology, methodology and methods". A paradigm dictates how researchers should position their work. It also 'influences what should be studied and how it should be studied, how the work should be presented and how results should be interpreted' (du Plooy-Cillers et al.,2014:19). From this, it can be deduced that the following research paradigms compromise of the following concepts: ontology, epistemology, methodology and methods. The researcher has singled out the positivism paradigm because it was the one used in this research project.

3.2.2 Interpretivism

The interpretivism research ideology was established in response to the shortcomings of the positivist paradigm. It opposed the positivist approach, in its approach towards constructing knowledge. Du Plooy-Cilliers et al (2014:27) are of the view that human beings cannot be studied the same way objects are studied in the natural sciences, since human beings evolve, owing to the environment which influences them constantly. This school of thought rests on an understanding that individuals are influenced by their external environment. The following author explains how the concept of reality is perceived by human beings.

> Social reality is regarded as the product of its inhabitants; it is a world that is interpreted by the meanings participants produce and reproduce as a necessary part of their everyday activities together.
>
> Blaikie (2010:96)

Interpretivists believe that knowledge is formed through participatory interactions; including the belief that knowledge is subjective in nature. A researcher, who conducts a study, using this paradigm would then become part of the study in order to understand the phenomenon. For example, when a researcher studies a particular behaviour in a village, that researcher would live with the people, do what the villagers do, conform to their customs and be immersed in the life of that village, if they are to properly understand their behaviour. Through this immersion, they would begin to understand and ultimately make sense of their behaviour and be able to report the results in an objective manner.

In addition, the participatory nature of the interpretivists' paradigm is rooted in interpretation. The researcher aims to construct knowledge on the basis on interpretation guided by the systematic research process. Maree (2016:60) stated that "a more sceptical view of interpretation holds that there are no stable grounds for judgement, and thereby runs the risk of floundering in a quagmire of subjectivism and relativism". Subjectivism and interpretation cannot be detached from one another. Interpretation comes from a human's perspective, which is bound to be subjective.

3.2.3 Critical Realism

Critical realism evolved as a result of the perceived shortcomings of both the interpretivist and positivist paradigms. Critical realism also has the nature of both the traditions already discussed. According to du Plooy-Cilliers et al (2014:31), “the critical realists proposed that our knowledge of authenticity and how things are or ought to be is a result of social conditioning”. ‘Social conditioning’ suggests that culture could be the phenomenon that contributes to knowledge creation. It also speculates that knowledge creation is not enough, unless it also empowers individuals in the society. According to Rehman and Alharthi (2016:57) “it is assumed that a reality exists, but it has been shaped by cultural, political, ethnic, gender and religious factors which interact with each other to create a social system”. This belief created the impression that knowledge is derived from experience. The way of life of a particular group of people and that truth is relative. Therefore, it can be said that in this paradigm, knowledge is fluid and that knowledge comes as a results of social construction. In the same way the fluidity is derived from social conditioning and if knowledge comes about as a result of social construction it will, therefore, be fluid.

Academic scholars in all three paradigms have an ethical responsibility. In the critical realism paradigm, their responsibility is to ‘transform social relations by exposing, critiquing and changing any unjust practices in society’ (Du Plooy-Clliers et al., 2014:31). This mandate has ensured that adequate, standardised knowledge is circulated in the academic realm. Du Plooy-Cilliers et al (2014:66) are of the opinion that the purpose of research is to ‘liberate people through the empowerment that the knowledge generates and imparts’. This kind of liberation is intellectual or cognitive. Scholars in support of this paradigm believe knowledge should free people from myths and untruths. They believe that existing knowledge has always been constructed in the social context to empower people.

3.2.4 Positivism

This paradigm was criticised by the interpretivists and prompted the emergence of post-positivism. Positivism rests in the belief that reality can be constructed objectively through the lens of scientific research. According to du Plooy-Cilliers et al (2014:24), “positivists advocate the application of natural sciences methods to study certain phenomena, including social phenomena”. Positivist researchers believe that truth is

derived from scientific research alone and that scientific methods must be used to gather data. This kind of research is empirical in nature and aims to measure results. Empirical research 'is concerned with phenomena that can be confirmed through observation and experience, as opposed to the application of theory or logic' (du Plooy-Cilliers, et al., 2014:21). Subsequently, researchers have the task of attaching meaning to this data. Rehman and Alharthi (2016:53) are of the view that "positivists attempt to understand the social world like the natural world. In nature, there is a cause-effect relationship between phenomena, once established, they can be predicted with certainty in future". In the same way, the researcher aimed to predict which variable of the model would contribute to behavioural change.

The main aim of a positivistic study is to forecast, regulate and influence phenomena; in natural and social settings (du Plooy-Cilliers et al., 2014:65). This paradigm supports the objectives of this study which are as follows; to predict behavioural intention using a model that explains the behavioural change process. The overall goal of his study was to evaluate behavioural intention following the introduction of health communication campaigns at the University of Limpopo. In addition, in this paradigm, researchers believe that evidence should be able to be detected by human senses. That is data that can be quantified and manipulated. According to Blaikie (2010:97), "positivism regards reality as consisting of discrete events that can be observed by the human senses". They believe that all knowledge should be derived from what human beings can sense.

3.2.5 The Three Approaches to Research

The following approaches to research came about as a result of the above philosophical assumptions. These approaches provide specific processes and procedures for scholars to undertake in their research enquiry. Creswell (2014:3) stated that 'research methods are there to guide the procedures of data collection, analysis, and interpretation'. Therefore, this section gives an account of the data collection steps taken by the researcher. All necessary steps in between data collection and analysis, such as sample size and target population are included. The researcher provides reasons why the quantitative approach best suits the study's objectives and questions. Below are the three broad research approaches explained briefly.

3.2.6 Qualitative Research Approach

This approach is humanistic in nature. According to Merriam and Tisdell (2016:6), 'scholars who follow this approach are interested in what people think and feel about their experiences, what they think about their world around them and what connotations they attach to their experiences'. Knowledge is acquired through human interaction. Through these interactions, researchers make sense of these experiences what they are interested in and how they think about a subject matter. Mohajan (2018:24) argued that 'qualitative research is a form of social action that stresses the way of people interpret, and make sense of their experiences to understand the social reality of individuals'. Mohajan (2018:24) concurs with Merriam and Tisdell (2016:6), that that knowledge is socially constructed by means of human interaction in our daily lives.

The reason this study uses the quantitative research approach is tied to the researcher's objectives. However, a qualitative approach would have allowed for more in-depth knowledge. 'Qualitative research methods have to do with seeing experiences through the participant's eyes' (du Plooy, 2014:173). This requires the researcher to become part of the research and ultimately become subjective in nature. Denzin and Lincoln (2002:8) state that "the word qualitative implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured (if measured at all) in terms of quantity, amount, intensity, or frequency". A qualitative study tries to make sense of a phenomenon using observations to draw conclusions. These observations derive from the study's participants. 'Qualitative researchers believe knowledge is socially constructed because they seek answers from social experience' (Denzin & Lincoln, 2002:8). Thus, meaning is given to such data and knowledge results.

The research approaches exist to help scholars to contribute to the body of knowledge. Mohajan (2018:24) was of the opinion that the goal of qualitative research is 'to describe and interpret issues or phenomena systematically from the point of view of the individual or population being studied, and to generate new concepts and theories'.

3.2.7 Mixed Method Research Approach

This approach is made up of a combination of both the qualitative and quantitative approaches. According to the mixed-method approach a study has a level of 'completeness' when this approach is used. According to Creswell (2014:4), "mixed methods research is an approach to inquiry that involves collecting both qualitative and quantitative data, integrating the two forms of data." This approach guarantees a 'wealth of information' and results since both approaches are used in data collection and analysis.

3.2.8 Quantitative Research Approach

A quantitative research orientation has to do with numbers. According to Bless et al. (2013:16), "the researcher investigates a social problem from the respondent's point of view. The focus of such a study is to determine what respondents think and feel about a particular phenomenon or issue". Similarly, Black (1999:215) agrees that "this involves trying to measure how intensely people feel about certain issues, as opposed to what they know or what they can do". Moreover, the researchers make sense of data or the reality that is interpreted from the respondent's reference. Such studies, including this one, attempt to understand a phenomenon in its natural context. Given the nature of a qualitative study it can be concluded that it almost becomes impossible for the researcher to remain objective. 'The personal involvement of the researcher is likely to be subjective' (Bless et al, 2013:17).

A quantitative approach can be a process of making sense of data with the use numbers or values. Denzin and Lincoln (2002:8) stated that "quantitative studies are interested in the measurements and analysis of causal relationships between variables". Conversely, qualitative studies try to make sense of a phenomenon using observations to draw conclusions. In the case of quantitative research, the study uses observations to guide the study. A hypothesis may be devised by the researcher, so as to test a phenomenon or a theory. According to Bless et al. (2013:16), "during the analysis stage, this method relies on numbers and statistics for interpretation. This is followed by a generalisation of data from the sample to the target population". After the collection of data, the data should be analysed with SSPS, to minimise human error and enhance the accuracy of the results. Quantitative methods fall within the positivism paradigm. Du Plooy-Cilliers et al (2014:26) argue that "positivists argue that

science should be based on empirical data drawn from direct observation". The quantitative approach by nature of being scientific, inevitably seeks objectivity. Thus, the method requires the researcher to test both the reliability and validity of the study to ensure that the study is objective.

The overall goal of the researcher in this study, was to quantity behavioural intention, following the introduction of health communication campaigns at the University of Limpopo. Given the context of this study, 2.5% of the students were chosen as a sample group. The researcher made use of the model of the Theory of Planned Behaviour with regard to this sample group. Creswell (2014:4) stated that "the quantitative method assists the researcher to test theoretical frameworks and scientific model by examining the relationship between variables". This statement supports the following research questions which included what is the relationship between 'attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention?' (Littlejohn and Foss, 2009:826).

3.3 RESEARCH DESIGN

This design was necessary to map out in detail the methods that were used to guide the collection of data and its interpretation. Blaikie (2010:13) stated that "a research design is a scientific report that is written by an individual or a team of researchers; and is used to guide or map-out the how the researcher collected data and which approaches are to be used to analyse the data". This 'technical document' assisted the researcher to roll out suitable methods to analyse the findings, answer the research questions and test the hypotheses. 'The most critical challenge that scholars face when engaging in research is bearing in mind to conceptualise the aim of research' (du Plooy-Cillers, et al., 2014:72). The research design was moulded by the goals of the study to ensure relevance and that appropriate steps were employed throughout the methodology chapter. Subsequently, the research's research design was shaped by the theoretical concepts and objectives of this study.

3.3.1 Survey design: Cross-Sectional Study

This type of survey design allowed the researcher to collect data for the research project. According to Blaikie (2010:107), "this design is most useful when used in studies aimed at exploring the nature of an occurrence, beliefs or social issues, by collecting data once

from a particular population". The aim of this study was to determine which variable most contributes to behavioural change, at a particular point in time. Surveys are generally employed to convey a view of how things appear at a particular time (Kelley et al., 2003:261). However, the disadvantage was that the researcher was unable to measure change over a period of time. To measure this, the researcher would have had to collect data twice using a Longitudinal study or the Before-and-After study design.

3.3.2 Correlation Design

Correlational design was chosen because of the objectives of this study. One of the research questions was to empirically measure the relationship between the variables cited in the Theory of Planned Behaviour, of students with regards to the health communication campaigns held at the University of Limpopo. Bless et al. (2013:57) stated that "it requires the researcher to determine the relationship between the constructs of any model, this study is termed correlational research". Moreover, the researcher wanted to determine which variable made the largest contribution towards behavioural change, from the range of variables. According to (Kumar, 2011:10), in Du Plooy Cilliers et al (2014:76), "the main goal of correlational research is to establish whether a relationship, association or interdependence between two or more aspects of a situation exists". Furthermore, correlational studies assume that these variables are interdependent. In the same way, the one variable is affected by the others. These variables are classified as dependent and independent.

3.3.3 Research Objectives and Hypothesis

The overall aim of his study was to measure behavioural intention following the introduction of health communication campaigns held at the University of Limpopo. "The combination of attitudes and beliefs, subjective norms, perceived behavioural intention and behavioural intention together can help determine future behaviour" (Vincent et al:2015, 901). The research sought to determine which variable would contribute most to behavioural change. Objectives of this study were:

- To empirically measure the intention to participate and subscribe to the health communication campaigns at the University of Limpopo.
- To empirically determine the relationship between the attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention of

students to the health communication campaigns held at the University of Limpopo.

3.3.4 Research Questions

The following are questions posed by the researcher for purpose of this study.

- What is the intention of students' participation in health communication campaigns at the University of Limpopo?
- What is the relationship between attitudes and beliefs, subjective norms, perceived behavioural control and the behavioural intention of students towards the health communication campaigns held at the University of Limpopo?

The following hypotheses were tested:

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention ($p>0.05$)

H_a: All variables do not significantly contribute towards behavioural intention ($p<0.05$)

Hypothesis 2: Attitudes

H_0: If levels of attitude increase, behavioural intention will increase($p<0.05$).

H_a: If levels of attitude decrease, behavioural intention will decrease($p>0.05$).

Hypothesis 3: Subjective norms

H_0: If levels of subjective norm increase, behavioural intention will increase($p<0.05$).

H_a: If levels of subjective norm decrease, behavioural intention will decrease($p>0.05$).

Hypothesis 4: Perceived behavioural control

H_0: If levels of perceived behavioural control increase, behavioural intention will increase($p<0.05$).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease($p>0.05$).

3.3.5 Hypotheses Testing

A hypothesis is a calculated guess or an uncertain premise made about the relationship between constructs. These are called directional hypothesis because 'they assert a direction to the differences between means' (Reinard, 2006:147). The

model used in this study was chosen to understand how the students subscribed to health communication campaigns and to gauge their intention to participate. The model attempted to test four hypotheses. 'These hypotheses identified the relationship among factors as independent variables that impact on and increase the likelihood of the intended behaviour (Al-ghaith, 2015:3).

3.3.6 Research Setting

The above concept refers to the context, place or venue where the researcher conducts the study. The researcher collected data in lecture halls, during class time. Material was handed out to students before or after lectures, depending on the individual lecturer. The lecturer in charge of the class was present during data collection, to maintain order at all times.

3.3.7 Target Population

The researcher chose as the target population the University of Limpopo students who were enrolled for the academic year 2018, across all faculties to participate in this study. The sample size of the study was calculated and presented below. The statistics were provided by the Institutional Planning Division of the University of Limpopo (Steynberg, 2017) (Annexure D).

3.3.8 Sample Techniques

The researcher made use of Stratified Random Sampling system. According to Reinard (2006:33) "one of the advantages of this sampling method, it allowed the researcher to control the subjects' background influences that were not randomly distributed across a general population". The strata also included a category for both male and female participants. This sampling method required the researcher to first make calculations to establish an accurate sample. First, a sample size with a 95% confidence level was calculated. This was done by means of Sloven's formula (Tejada & Punzalan, 2012:131).

The sample size was calculated as follows:

$$n = \frac{N}{1+Ne^2}$$

$$n = \frac{20\ 679}{(1+20\ 679)(0.05)^2}$$

$$n = \frac{20\ 679}{(20\ 680)(0{,}0025)}$$

$$n = \frac{20\ 679}{51{,}7}$$

$$n = 399.98 \approx 401$$

Figure 3.1: Sloven's formula (Tejada & Punzalan, 2012:129)

This study required a sample group, comprised of 401 students. However, a total of 517 questionnaires were distributed to allow for spoilt papers. One hundred and sixteen, questionnaires contained missing values and these were discarded. Only 401 questionnaires were ultimately valid and used for the data interpretation and analysis. As per Sloven's formula (Tejada & Punzalan, 2012:129), the sample of the population makes up 2,5% of the entire university student population, at a 95% confidence level.

Secondly, the strata sampling size was calculated in terms of the enrolment of students in faculty and school and gender according to 2,5% of the entire population (c.f. Slovin's formula above with a 2,5% sample representing the 95% confidence level.). These figures are depicted below in Table 1. An examination of Table 1, indicates the inclusion of 15 males and 22 females were required from the Faculty of Health Sciences. The class selected was that closest to the required number from every school and faculty to complete the stratified sample. This means that a total of 517 students were required to complete the survey. According to Black,1999:121, the above procedure was implemented to ensure that identified groups were represented in alignment with their characteristics in the populace. As a result, the researcher followed the modus operandi as outlined by Black (1999:121).

Faculty and School Name	Gender		Sum	2,5% Sample		2,5% Sample size
	Male	Female		Male	Female	
Health Science	588	896	1484	15	22	37
Health Science	558	826	1420	14	22	36
Medicine	30	34	64	1	1	2
Humanities	3098	4060	7158	77	102	179
Education	1546	1701	3265	37	43	80
Humanities	120	134	254	3	3	6
Lang and Comm Studies	833	1342	2175	21	34	55
Social Science	581	883	1464	15	22	37
Management and Law	2892	3330	6222	72	83	155
Accountancy	989	1077	2066	25	27	52
Economics and Management	940	1300	2240	24	33	57
Graduate School of leadership	73	103	176	2	3	5
Law	811	836	1647	20	21	41
Management and Law	39	54	93	1	1	2
Science and Agriculture	3057	2750	5815	67	69	136
Agric and Environmental Science	695	920	1615	17	23	40
Maths and Computer Science	911	440	1351	23	11	34
Molecular and Life Science	592	746	1338	15	19	34
Physical and Mineral Science	757	535	1292	19	13	32
Science and Agriculture	102	117	219	3	3	6
Sum	9635	11044	20679	241	276	517

Table 3.1: Sample Size

3.3.9 Data Collection

The researcher used questionnaires as a data collection tool. ‘These kinds of questionnaires are completed with the researcher helping any of the respondents’ (Bless et al, 2013:194). The following authors define data collection.

> The breadth of coverage of many people or events means that it is more likely than some other approaches to obtain data based on a representative data sample, and can therefore be generalised to a population.
>
> Kelley et al. (2003:262)

One of the underlying goals of the study was to 'map out' the status of health communication campaigns at the University of Limpopo. The researcher drew up a questionnaire in order to identify and empirically measure behavioural change. 'Questionnaires are intended to provide a glimpse of phenomena' (Kelley et al., 2003:261), This then complements the study's objectives for testing a hypothesis.

Throughout the data collection process the researcher handed out both consent forms and questionnaires to all respondents. The questionnaire was divided into two subsets. The first section contained demographic information which was followed by a five point Liket-scale, detailing the variables taken from the theoretical framework, which guides this study. Furthermore, the researcher deemed it fit to use closed-ended questions so that results would provide both greater uniformity of responses and an easier process for analysis (Babbie, 2001 in Ramaano, 2011:12). Du Plooy-Cillers et al (2014:152) stated that "likert scales are useful to assist one to quantify questionnaire responses. Generally, students are prepared to tick boxes as opposed to writing long sentences". Questionnaires were distributed to the entire sample of 517 students, who were from across all faculties.

Throughout the period of data collection, a number of steps were taken. Firstly, a breakdown of statistics of the entire student community was sought from the Institutional Planning Unit. The statistics were in an Excel format and indicated how many students were enrolled for which module; and how many were enrolled for which course code. Course code numbers probably translated into the class sizes. This made it easier to randomly suitably sized classes and calculate the number of respondents that the researcher would need to match the required sample size. Second, a total of twelve letters were written to all directors of schools, to request permission to collect data from the selected classes which had been randomly selected, based on their suitable size. The directors granted their permission and referred the researcher to the relevant course coordinators of each of the classes. Questionnaires and consent forms were handed out, sometimes before and at other times, after the commencement of the lecture, depending on the preference of the individual lecturers. Before questionnaires were distributed, the consent form was explained, and guidelines provided for completion and signature on the questionnaire. The respondents were all given the questionnaires at

the same time and about 20 to 30 minutes' time was allowed for them to complete the questionnaire.

3.3.10 Pilot Study

A pilot study of ten academic staff members, randomly chosen, was conducted, prior to data collection. This was undertaken to check the suitability of the questionnaire as an instrument of data collection for this study. Respondents understood the questions and answered all the questions appropriately. The academic staff members did not participate in the actual study. Problems that came to light with the questionnaires were language errors and the use of ambiguous language. These were corrected and improved. These suggestions and recommendations were discussed with the supervisor and changes were made to the questionnaire. The pilot study responses did not form part of the analysis.

3.3.11 STRUCTURE OF THE QUESTIONNAIRE

The questionnaire was comprised of the following two sections:

- Demographic
- Likert-scale

Demographic information was included to provide a clear description of the sample group. Studies have proved that there is a scientific effect on placing demographics in the beginning or at end of a questionnaire. The placement of the demographics section in the questionnaire is relevant to the role of demographics in the study. The demographic data section was placed in the beginning of this questionnaire because 'demographics are an important part of the analysis' (Gilovich et al., 2006 in Hughes, Camden, and Yangchen, 2016: 139). The researcher wanted to understand if there was a relationship between the demographics of the sample and their behaviour. 'Whether the identity was causing the individual to act a certain way or whether something was causing the individual to carry the behaviour' (Hughes et al.206:138). Questions that were asked pertained to gender, age (16 to 28+) and an indication of the faculty to which the student belonged. A five point Likert scale, was used which included six subsections. Respondents indicated their level of agreement or disagreement with a tick in the block next to the statement or question asked (du Plooy-Cilliers et al, 2014:159).

One of the objectives of the study was to empirically determine the relationship between 'attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention' (Littlejohn and Foss, 2009:826) of the students towards the health communication campaigns held at the University of Limpopo. 'This involves attempting to measure and quantify how people think or feel about a certain phenomenon or issue, instead of what they know or are able to do about it' (Black,1999:215). These variables were included and tested because they contribute to behavioural change. Black (1999:216) states that 'research into attitudes, opinions and beliefs', provides an in-depth knowledge to impacts on decision-making skills and highlights 'actions in groups of people 'who share similar characteristics'. Measuring these variables fulfilled the aim of the study, which was to measure behavioural change in relation to the health messages of the health communication campaigns.

The next section of the questionnaire comprised the following sections:

- Section B required the respondents to indicate their degree of agreement or disagreement next to the statements. The rating of attitudes ranged from options of 'strongly agree' to 'strongly disagree'. This section measured the student's attitudes and beliefs of students towards the health communication campaigns, messages displayed by health promoters.
- Section C measured the normative beliefs and subjective norms, these were social pressures that exist and continue to exist amongst the population. The questions asked surrounded what influenced to their actions.
- Section D measured perceived behavioural control. This section examined the factors that influenced the students' perception of their intention to listen to the health communication campaign messages.
- Section E measured the behavioural intention of the participants, whether they intended to participate or not. This last variable ultimately translates into behavioural change.

The entire questionnaire comprised closed-ended questions, which required the respondent to only tick or cross in their choice of the most correct box.

The following hypotheses were tested:

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention ($p>0.05$).

Ha: All variables do not significantly contribute towards behavioural intention ($p<0.05$).

The above hypothesis tested the following in Section E of the questionnaire:

Item 22	I intend to participate in the health communication campaigns in the future.
Item 23	I will participate in health communication campaign on campus often in the near future.
Item 24	I dislike the message design of the health communication campaigns on campus.

Hypothesis 2: Attitudes and Beliefs

H_0: If levels of attitudes increase, behavioural intention will increase ($p<0.05$).

Ha: If levels of attitude decrease, behavioural intention will decrease ($p>0.05$).

This hypothesis tested the following in Section B in the questionnaire:

Item 5	I appreciate health communication campaigns around campus because they educate students.
Item 6	I think and believe that health communication campaigns are good for me.
Item 7	My cultural background influences my decision to participate in health communication campaigns.
Item 8	I would participate in health communication campaigns together with my classmates and friends.
Item 9	I would participate in health communication campaigns because they offer free testing for HIV/AIDS, STIs and TB.
Item 10	I am tired of hearing about health messages on TV, radio and Billboards.
Item 11	I am tired of being asked to test for HIV/AIDS, STIs and TB.
Item 12	I think health communication campaigns are a good initiative to mobilise new health strategies offered by the health institutions.
Item 13	I believe that health communication campaigns can contribute to the decline of health disease statistics in the country.
Item 14	I would participate in health communication campaigns because they are endorsed by big credible institutions for e.g HEAIDS.

Hypothesis 3: Subjective norms

H_0: If levels of subjective norm increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of subjective norm decrease, behavioural intention will decrease ($p>0.05$).

This hypothesis tested the following in Section C of the questionnaire:

Item 15	People who are important to me think I should participate in health communication campaigns.
Item 16	My choice for participating in health communication campaigns is influenced by my friends.
Item 17	My decision to participate in health communication campaigns is influenced by radio advertisements.
Item 18	My decision to participate in health communication campaigns is influenced by health messages?

Hypothesis 4: Perceived behavioural control

H_0: If levels of perceived behavioural control increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease ($p>0.05$).

This hypothesis tested the following in Section D of the questionnaire:

Item 19	Deciding to participating in health communication campaigns is entirely within my control.
Item 20	Whether or not I participate in health communication campaigns, it's my decision.
Item 21	I am free to decide to participate in a health communication campaign on campus.

3.4 DATA ANALYSIS

The first section to be analysed contained the procedures related to descriptive and inferential statistics. The researcher coded the questionnaires and captured it into SPSS, as follows: A 5-point Likert scale was used with measures from 'strongly agree' to 'strongly disagree'. The analysis was completed in line with the objectives already presented. This was undertaken to test the theory on the sample group and make general conclusions extended to the entire population about pre-existing 'attitudes, beliefs, subjective norms, perceived behavioural control and behavioural intentions' (Littlejohn and Foss, 2009:826) of the students towards the health communication campaigns.

According to McDonald and Headlam (2002:8) in Afagebegee (2016:187), “the process of research requires the researcher to quantify variables or objects or talk to people”. The researcher aimed to quantify variables that belonged to the theoretical framework chosen for the study. This further allowed one to test the hypotheses and made it possible to deduce conclusions from the study’s findings. “Quantitative research also is deductive in its reasoning” (du Plooy, 2014:86). The researcher applied statistical analysis. The data was analysed with the use of SPSS statistical software, version 25. Seale (2012:329) stated that “SPSS has proven to be efficient and convenient for researchers because of the various options it offers for the numerical or graphical presentation of data”. The results will reflect the impact of the health communication messages on the sample group drawn from their responses to the questionnaires. The variables of the Theory of Planned Behaviour model were used in the data analysis process. Various statistical test was used for analysis and the interpretation in the chapter. Cronbach’s Alpha was applied to tests the reliability of the scale, descriptive statistics, Pearson Coefficients, while correlation regression analysis were performed.

3.4.1 Descriptive Data

Descriptive statistics were representative of the sample size which was chosen for this study. ‘Descriptive data assist the researcher to be able to categorise information and give it meaning’ Reinard (2006:5). The concept of descriptive data is contained its name. It assisted the researcher to categorise the information. ‘Furthermore, quantitative data requires the research to use the measure of central tendency or measure or variance’ (du Plooy, 2014:235). ‘Measures of central tendency were used to calculate the averages which were; the arithmetic mean, the median and the mode’ (Willemse, 2009:61). In this study, the statistical mean was used as the measure of central tendency for the Likert-scale items of the questionnaire. A standard deviation was used as a measure of variance, relating to spread. Again, mean scores were used to measure the constructs, ‘attitudes, subjective norms, perceived behavioural control and behavioural intention’ (Littlejohn and Foss, 2009:826) of the Theory of Planned Behaviour model. The measure of the mean was drawn from frequency tables generated from the SPSS® (Statistical Package for Social Science) computer program. The 5 point Likert scale items were coded as follows: 1) “Strongly agree”, 2) “Agree”, 3) “Undecided”, 4) “Disagree” and finally 5) “Strongly disagree”.

3.4.2 Inferential Data

The second quantitative analysis tool which was used was inferential statistics. Here, the researcher can make comments about the sample but with descriptive data can extend, these to the larger population. The following author concurs that 'such data assists the researcher to summarise and make sense of the data collected' (Reinard, 2006:5). Inferential data allowed the researcher to draw conclusions about the population from the information provided by the sample. 'The samples were drawn using the probability sampling method of populations with specific characteristic' (Reinard, 2006:5) and Willemse (2009:5) stated that "inferential statistics is a process of making an estimate, prediction or decision about a population based on sample data". 'This kind of data is used to make decisions about the population' (Willemse, 2009:5). Furthermore, the researcher then was able to generalise the results to the entire population.

3.4.3 Correlation Analysis

This is a measurement of the relationship between constant variables. Correlations were used to identify which variables of the Theory of Planned Behaviour contributed most towards behavioural change. The concept of behavioural change in this study implies that the students would indicate their intention to participate in the health communication campaigns. To achieve this, the researcher had to identify the independent variable, which causes other dependent variables to change. Pearson Correlations were used here to "identify the degree to which scores on different variables coexist" (Reinard, 2006:88). This comparison allowed the researcher to notice the relationship that existed between the variables.

3.4.4 Multiple Regression Analysis

Regression is a statistical process that has been used to identify both independent and dependent variables. This process takes place in empirical studies in order to test a hypothesis. In the same way, the researcher used the regression model to predict the relationship between the variables contained in the theory, chosen as the theoretical framework for this study: attitudes, subjective norms, perceived behavioural control and behavioural intention. Regression is a data mining technique used to fit an equation to a dataset (Gupta, 2016:27). According to Glass and Hopkins (1984:131) in Reinard (2010:346), "multiple regression is a method to predict the value of a dependent variable

Y from two or more optimally combined independent variable". Multiple regression was used to analyse the variables and evaluate which of them contributed most to the model. Data was regressed multiple times according to the existing outliers to ensure improved results. The researcher presented these procedures in the following steps:

Step 1: Normality Testing

In the process of regression testing collinearity is important. Collinearity was examined specifically for VIF, the indicator of collinearity. Blaike (2003:171) is of a view that 'when sets of predictor variables are highly correlated, the regression procedure is unable to sort out the contributions of each one'. Predictor variables are the independent variables, which the researcher tries to establish and collinearity tested the variance between them. The researcher examined which was the Variance Inflation Factor (VIF). Specific to this study, the acceptable level was for a VIF of below 2. Since all variables scored well below 2, there were clearly no collinearity problems. In the chapter that deals with analysis, the researcher discusses in detail which variables showed high levels of significance and which ones were deleted. Subsequently, the researcher further examined the normality of the descriptive data set. This process informed the researchers decision to make use of Spearman or Pearson's Correlations.

Step 2: Reliability Test

In the second procedure, the researcher had to test the Cronbach Alpha and this process excluded the demographic data. This reliability test included items that formed part of the Likert-scale questions. The Cronbach Alpha tests for scale reliability (internal consistency). Consequently, the exclusion of demographic data was appropriate and was not categorised in a scale format. Internal consistency relates 'to the logical use of ideas and constructs in the development of a theory'. A theory's constructs ought to relate to one another or have a causal link between them, there has to be a logical relationship. If this is not the case, then there is no consistency between these variables. According to Churchhill and Brown (2006) in Knabe (2009:124), 'Cronbach's Alpha value of 0.7 is commonly accepted'. Therefore, if the Cronbach is low the variables fail to contribute to the model. The examination of n=20 variables did not provide acceptable internal consistency and only indicated a Cronbach score of 0.626. This low score revealed that there were too many variables under examination in a complex model.

This encouraged the researcher to remove the indirect Cronbach Alpha estimates which were below 0.626. Refer to Step 3 for the process used to remove these variables.

Step 3: Listwise deletion

After a low/poor Cronbach Alpha score, the researcher applied the Listwise deletion as presented in Step 2 during the calculations of Cronbach Alpha. Pallant (2016:119) is of the view that "if your scale's overall Cronbach Alpha is too low (e.g. 0>7) and you have checked for incorrectly scored items, you may need to consider removing items with low items-total correlations". In the same way that items were deleted to achieve a higher Cronbach score, the researcher applied the same process in the Pearson Correlations and Regression calculations. Items that did not contribute towards the model, therefore, were also deleted. Initially, there were thirty-two items, both descriptive and inferential item questions, but the researcher ended up with nine items which contributed to the model. These items were made up the conceptual model that is presented in Chapter Four.

Step 4: Pearson Correlations

The purpose for using Pearson Correlations (r^2) was to measure the relationship between continuous variables. This process was also undertaken to observe where the highest correlation lay amongst the questions derived from the theory's variables. Also correlations were used to identify which variables of the Theory of Planned Behaviour contributed the most towards behavioural change. This calculation allowed the researcher to see which variables did not contribute to the model, were insignificant and should be deleted. When testing for correlations, what is important is the significance (sig) column. If sig is lower than 0,05, then it shows a significant correlation. The results demonstrated significance levels below 0.05. What did emerge was that the majority of the correlations did prove to be significant. This indicated that the nine variables selected (see chapter 4) did contribute to the model, and as also occurred in Cronbach alpha. After examining the correlations, the data reduction with the Cronbach Alpha's calculation, the researcher continued with an analysis of the nine contributing variables.

Step 5: Multiple linear Regression Analysis

As a next step the researcher ran the regression using the nine variables with behavioural intention (Question 22) as the dependent variable. It obtained a r squared score of .274, which demonstrates that the independent variables explain 27,4% of the variation in the dependent variable. In regression terms this is a good figure, since one that is too high normally indicates collinearity, which would mean that regression would not be a suitable procedure. The researcher further observed the ANOVA scores. They revealed a significant value of 0.000, which indicated a score lower than 0,05 which makes the analysis significant.

Variables with high significance values were deleted while the remaining variables were included in the analysis. There was an r square score of .268, which demonstrated that the independent variables indicated 26,8% of the variation in the dependent variable. This was an acceptable score for regression. The low significance values indicated that all the variables had contributed to the model. The researcher had previously proved that collinearity was not a factor here and thus, it was not explored further.

Hypothesis Testing

The researcher examined Cronbach Alpha and Coefficient results on every variable of the Theory of Planned model. There were three hypotheses for every variable. After the correct regression model was run, the researcher checked the p> scores to either accept or reject the study's hypothesis. 'These hypotheses have identified the relationship among factors as independent variables that impact on and increase the likelihood of the intended behaviour (Al-ghaith, 2015:3). The P value represented the level of significance and which indicates if the H_0 should be accepted or rejected if:

- If $p < 0.05$ then H_0 is true.
- If $p > 0.05, 0.1$ then H_a is false.

The independent variables i.e. "attitudes and beliefs, subjective norm, perceived behavioural control" (Littlejohn and Foss, 2009:826), which belong to the Theory of Planned Behaviour model, were regressed on behavioural intention, which was the dependent variable. The hypothesis results are presented below:

- Attitude and Beliefs ($\beta = 0.185$, $p < 0.001$)

- Subjective norms (β = insufficient, p > 0.00)
- Perceived behavioural control (β = p < 0,132)
- Behavioural intention (β = p < 0,408)

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention (p>0.05).

H_a: All variables do not significantly contribute towards behavioural intention (p>0.05).

Hypothesis 2: Attitudes and Beliefs

H_0: If levels of attitudes increase, behavioural intention will increase (p<0.05).

H_a: If levels of attitude decrease, behavioural intention will decrease (p<0.05).

Hypothesis 3: Subjective norms

H_0: If levels of subjective norm increase, behavioural intention will increase (p<0.05).

H_a: If levels of subjective norm decrease, behavioural intention will decrease (p<0.05).

Hypothesis 4: Perceived behavioural control

H_0: If levels of perceived behavioural control increase, behavioural intention will increase (p<0.05).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease (p<0.05).

These results show that attitudes and perceived behavioural control are significant and both relate to behavioural intention. Therefore, Hypothesis1, Hypothesis3 and Hypothesis4 were accepted. The model summary indicated an adjusted R squared reading of .263, from which it can be deduced that there is a 26.3% fraction of the dependent variable, which explains the independent variables. This was an acceptable score for regression. However, the subjective norm was shown to be insignificant, so the Hypothesis 2 was rejected.

3.5 RELIABILITY OF THE RESEARCH INSTRUMENT

When a researcher questions whether the data collected is accurate, reliability is to be considered. Bless et al. (2013:221) view reliability as the extent to which measures that are observable, that represent a theoretical concept, are correct and constant over repetitive observation. This has to do with consistency of the data. ‘To test the reliability

of the study, should two researchers conduct the same study at different time periods using the same methodology or instruments; would the same results be drawn?' (du Plooy-Cilliers et al, 2014:254). Data was quantified to draw the same results. Reliability was significant because the researcher aimed to generalise the findings. Hardy and Bryman (2004:22) stated that"reliability is concerned with the consistency of a variable". The researcher made use of the Cronbach Alpha instrument on SPSS to test likert-scale questions. Black (1999:279) states that "Cronbach's coefficient α is a sensible indicator of the internal consistency of instruments that do not have right-wrong (binary marking) schemes".

Cronbach Alpha's scores were found to be low, so the researcher, made use of listwise deletion. Pallant (2016:233) is of the view that "listwise exclusion is used when a researcher wants to refer only to a subset case that provided a full set of results". In this study, the researcher wanted to include only those variables that were significant and that contributed to the model. Listwise deletion is a process of eliminating items to improve the Cronbach Alpha scores. In the same way, the researcher eliminated items that had a low Cronbach Alpha coefficient which demonstrated a low correlation between these items. Initially, there were thirty-two items, both descriptive and inferential, but the researcher only ended up with 9 items which had a high correlation between them and which contributed to the model. Therefore, the score was acceptable and also indicated internal consistency. In total a combination of 11 items were removed.

Reliability Statistics	
Cronbach's Alpha	**Number of items**
.705	9

Table 3.3: Cronbach's Alpha – Reliability Test

3.5.1 Validity of the research instrument

Validity is more complex than reliability. The researcher focused on the two kinds of variant validity, i.e. internal and external. Internal validity focuses on how the 'design affects the outcome of the hypothesis' (du Plooy, 2014:90). "On the other hand, external validity focus on the extent to which findings can be generalised" (du Plooy, 2014:90). The researcher tested the accuracy of the data collected, by means of the construct

validity. This is used for measuring abstract concepts such as attitudes, which are found and applied to this study. According to Bryman & Cramer, (1990:72), internal validity is employed when a scholar is required to illustrate the inference about the hypotheses from a relevant theory". Thus, this method assisted the researcher accept or reject the hypothesis by determining its validity. In addition, Reinard (2006:137) stated that "validity assessments permit researchers to identify any biases that would prevent ever identifying what is actually being measured". "A study is regarded valid if the research design answers the research probes" (du Plooy-Cilliers et al, 2014:256). In order to ensure validity, the study's questionnaires were constructed with reference to the theoretical framework selected for this study.

Furthermore, within construct validity there are sub-dimensions. The researcher used the predictive validity method of construct validity. According to Drost (2011:119), "predictive validity refers to the ability of a test to measure some event or outcome in the future". Upon completion of data analysis, this method assisted the researcher to determine the level of behavioural intention of the sample group. The researcher ensured that the nature of questions asked in the data collection method did not narrow the respondent's answers, as was a possible weakness identified in the pilot study. This was also undertaken to ensure objectivity. Black (1999:98) stated that "the lack of objectivity of questions would reduce the overall validity of an instrument by biasing responses". This would then mean that results would not be significant and valid.

3.6 SIGNIFICANCE OF THE STUDY

The focus of this study was to assist the University of Limpopo Management and the Centre for Health to formulate relevant health strategies to improve the current health policy at the University. The researcher drew up a survey that was completed by participating students from across all faculties. The finding of the study revealed that new elements should be included in their approach to health communication campaigns at the University of Limpopo, if they were to strategically address health issues of the student community. These findings also showed that improved techniques were required that would better attract the student community to health initiatives advocated by the Health Centre Clinic. This would mean better, healthier, daily decisions could be made by the student body. The findings also demonstrated

the critical variables that can improve the reactions responses and results after the health campaign period.

This study has contributed to current knowledge of health communication campaigns at the University of Limpopo. The study was conducted in accordance with the application of the Theory of Planned Behaviour to evaluate the impact of health communication campaigns on the students of the University of Limpopo. The results were significantly substantial to be added to the repository archive of the University and be available to other universities in the country.

Subsequently, the researcher tested the Theory of Planned Behaviour by examining the significance of each of the variables that contributed to behavioural change. This allowed the researcher to understand how the model works to predict health behaviour and how messages from health communication campaigns and conversations around health communication campaigns should be cultivated in order to initiate behavioural change. These messages and conversations took place between health promoters and student participants. The researcher concluded that health messages should be strategically developed by well-trained health promoters, versed in the confines of a theoretical framework. Also, the study empirically measured the pre-existing attitudes and beliefs that contributed towards either participation or non-participation in health communication campaigns at the University. Last, the study also helped determine the relationship between the “attitudes, subjective norms, perceived behavioural control and behavioural intention” (Littlejohn and Foss, 2009:826) involved with regards to the health communication campaigns at the University.

3.7 ETHICAL CONSIDERATIONS

The researcher reflected on several ethical considerations to prepare for the process of data collection. Firstly, the researcher’s proposal was presented to the School of Languages and Communication committee for approval where both the researcher and supervisor were present. Secondly, upon approval the proposal was examined by the Higher Degrees Faculty committee. Thirdly, the researcher applied for ethical clearance from TREC (Turfloop Research Ethics Committee) before commencement of data collection. Fourthly, the researcher applied for and received a letter from the Registrar that gave consent for the researcher to use students of the University of Limpopo from all faculties, as participants in this study. Ethical considerations are

fundamental, especially in the area of health communication, since information disclosed could be sensitive and confidential in nature. These steps and measured are further explored.

3.7.1 Permission to conduct the study

When human beings are the subjects of a research study, ethical concerns and issues arise. As a results, the researcher sought for ethical clearance certificate from TREC. Secondly, the researcher obtained a letter from the gate keeper, which allowed for data collection to take place. Thirdly, the researcher sought permission from the directors, across all schools, in all the faculties. Subsequently, the directors referred the researcher to the relevant course coordinators who taught the specific classes that had been identified as of a suitable.

3.7.2 Voluntary Participation

The researcher emphasised that participation in this study would be strictly voluntary. Secondly, there would be no penalties should an individual decide to withdraw from the study. According to Kelley et al. (2003:263), “the researcher is required to provide each respondent with an explanatory letter which include the following; information of the organisation, research setting, the researcher’s contact name and address and the aims of the study”. This (Appendix C) was handed out, together with the questionnaires. It indicated the importance of participating and how the results might contribute to the existing health communication knowledge at the University of Limpopo. It was also pointed out by the researcher that no rewards would be given to participants upon completion of the data collection.

3.7.3 Informed Consent

Informed consent is consensus that is established between the researcher and the participant. Fouka and Mantzorou (2011:2) stated that “informed consent seeks to incorporate the rights of autonomous individuals through self-determination”. These authors support the notion of the researcher and participant establishing an understanding of what is expected from both parties. This was achieved with the informed consent letter. First, the researcher presented the purpose of the study and gave detailed procedures that would follow the collection of data. The form also highlighted the benefits of participation. A consent (Appendix B) form was attached to each of the questionnaire that was handed out to all participants. Guidelines were

drafted on how to fill out the self-administered, questionnaires to ensure that the researcher obtained adequate, useful results.

3.7.4 Anonymity and Confidentiality

Anonymity and confidentiality are important or the participants to make them feel confident and willing to participate. According to Fouka and Mantzorou (2011:6), “the anonymity is hidden when the subject’s identity cannot be associated with personal responses”. Therefore, the researcher explained in the consent form that the data collected would not reveal the identity of the student. According to Levine and Robert (as cited in Fouka & Mantzorou, 2011:6), “confidentiality refers to the freedom given to respondents; their ability to provide and withhold as much information however they choose”. Informed consent highlighted that students were free to contribute whatever information they wanted.

3.8 CONCLUSION

The methodology used in this study was designed to enable the researcher to empirically measure any change in student behaviour to the health communication campaigns at the University of Limpopo. Firstly, the researcher presented the historical contextualisation of classical research paradigms, defined them and related them to this study. The researcher also gave an account of how these paradigms influenced the research methodology used in studies. Next, the three research approaches were discussed in detail, and the researcher indicated why the quantitative approach was the most applicable and had been selected for this study. This research design was necessary to outline the details of the methods that were used to gather data analysis and interpret the results. This section also presented the structure of the questionnaires and related it to the theoretical framework of this study.

Furthermore, the data analysis section comprised two major subsections, namely; descriptive and inferential statistics. Particular attention was given to inferential statistical analysis. Various statistical tests were discussed and implemented as indicated in the following chapter, and their importance for analysis and interpretation in this study was discussed. These tests were as follows: Cronbach’s Alpha was applied to test the reliability of the scale; Pearson Coefficients calculations were done and Correlation analysis and Regression analysis were performed to determine the independent variable.

A rigorous procedure (c.f 3.4.5) was performed prior to the Regression to test the hypotheses in this study. The last section of this chapter explained the significance of this study and ethical considerations that had been taken into account during the data collection period.

In review, research approaches and methods used aligned with the theory chosen as a framework for this study. Researcher methods used in this study were employed specifically to empirically measure change in behaviour following health communication campaign messages at the University of Limpopo. This study made use of a quantitative research method given the large nature of the community. Also, the sample size included students from all four faculties at the University. Although this study was limited to a sample of current students, it may be regarded as a step forward in establishing factors that might influence behavioural change and responses to health communication messages delivered by health campaigns across all Universities in South Africa. In the next chapter, the findings about the “attitudes, subjective norms, perceived behavioural control and behavioural intention” (Littlejohn and Foss, 2009:826) factors will be discussed.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

The purpose of this study was to evaluate the impact of the health communication campaigns held at the University of Limpopo. More specifically, this study empirically measured change in behaviour following these health communication campaigns. Results were drawn from the sample size of 401 students' responses to a questionnaire. Following the methodology process previously described, this chapter presents both descriptive and inferential statistical data; in the format of tables, scatter plots and graphs. In the first section of the chapter the researcher has discussed the questionnaire responses, demographic statistics and summary descriptive statistics. The statistical tests that were employed were; Cronbach Alpha, Correlations, and Regression. The researcher concludes with a conceptual model that includes both the major findings and contributions of this study. The total analysis was carried out by of Statistical Package for Social Science (SPSS) 25 software package.

4.2 DESCRIPTIVE STATISTICS

Here the researcher has presented descriptive data, according to the hypothesis, model and literature. 'Descriptive data assists the researcher to categorise information and give it meaning' Reinard (2006:5). Data gathered was presented in the form of histogram graphs. Data was subjected to frequency counts and was presented both in frequencies and percentages. The researcher surveyed 517 students to allow for some spoilt papers, which were discarded and excluded from inclusion in the study. 116 questionnaires had missing values. These too were discarded. Only 401 valid questionnaires were used for interpretation and analysis in the study. The demographics of the 401 participants are shown below: Demographics statistics were captured from the questionnaire in Section A and represented in graphic format (histograms). Each subsection of the demographic data contains an explanation below the graphs. This information has been extracted from the SPSS.

4.3 STRUCTURE OF THE QUESTIONNAIRE

Apart from the pilot study of 10 individuals, a total of 517 questionnaires were distributed. Of these 401 were valid so that the information was captured and used for analysis. The questionnaires used in the pilot study were for trial purposes only and this information was not included for analysis. The questionnaire was structured in

sections (Annexure A). Section A, which was at the beginning of the questionnaire was comprised of demographic data. Questions were asked which pertained to gender, age and an indication of the faculty in which the student was registered, Section B's questions were related to the study's theoretical framework. Section B to section F were Likert scale items contained Section B (attitudes and beliefs) had a set of 10 questions; Section C (subjective norms) had a set of 4 questions; Section D (perceived behavioural control) and E (behavioural intention) both consisted of three questions. Questions from section B to E were coded and were answered according to a 5-point Likert scale that measured responses as follows: 1 – strongly agree, 2 – agree, 3 – neutral, 4 – disagree, 5 – strongly disagree.

Annexure A indicates questions drawn from the researcher's survey questionnaire. These questions were categorised according to the study's hypotheses as shown. These hypotheses tested by the use of questions which belonged to the Theory's constructs. This allowed the researcher to observe how each of the constructs contributed towards the model. The researcher presented this data and interpreted the results according to the hypothesis, model and literature.

The following hypotheses were tested:

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention ($p>0.05$).

H_a: All variables do not significantly contribute towards behavioural intention ($p<0.05$).

The above hypothesis tested the following in Section E of the questionnaire:

Item 22	I intend to participate in the health communication campaigns in the future.
Item 23	I will participate in health communication campaign on campus often in the near future.
Item 24	I dislike the message design of the health communication campaigns on campus.

Hypothesis 2: Attitudes and Beliefs

H_0: If levels of attitudes increase, behavioural intention will increase($p>0.05$).

H_a: If levels of attitude decrease, behavioural intention will decrease($p<0.05$).

This hypothesis tested the following in Section B of the questionnaire:

Item 5	I appreciate health communication campaigns around campus because they educate students.
Item 6	I think and believe that health communication campaigns good for me.
Item 7	My cultural background influences my decision to participate in health communication campaigns.
Item 8	I would participate in health communication campaigns together with my classmates and friends.
Item 9	I would participate in health communication campaigns because they offer free testing for HIV/AIDS, STIs and TB.
Item 10	I am tired of hearing about health messages on TV, radio and Billboards.
Item 11	I am tired of being asked to test for HIV/AIDS, STIs and TB.
Item 12	I think health communication campaigns are a good initiative to mobilise new health strategies offered by the health institutions.
Item 13	I believe that health communication campaigns can contribute to the decline of health disease statistics in the country.
Item 14	I would participate in health communication campaigns because they are endorsed by big credible institutions for e.g HEAIDS.

Hypothesis 3: Subjective norms

H_0: If levels of subjective norm increase, behavioural intention will increase ($p>0.05$).

H_a: If levels of subjective norm decrease, behavioural intention will decrease ($p<0.05$).

This hypothesis tested the following in Section C of the questionnaire:

Item 15	People who are important to me think I should participate in health communication campaigns.
Item 16	My choice for participating in health communication campaigns is influenced by my friends.
Item 17	My decision to participate in health communication campaigns is influenced by radio advertisements.
Item 18	My decision to participate in health communication campaigns is influenced by health messages?

Hypothesis 4: Perceived behavioural control

H_0: If levels of perceived behavioural control increase, behavioural intention will increase ($p>0.05$).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease ($p<0.05$).

This hypothesis tested the following in Section D of the questionnaire:

Item 19	Deciding to participating in health communication campaigns is entirely within my control.
Item 20	Whether or not I participate in health communication campaigns, it's my decision.
Item 21	I am free to decide to participate in a health communication campaign on campus.

4.4 SECTION A: Demographics questions

Demographic data was collected so that the researcher could describe the sample group. The identity of participants informed the 'readers whether the findings were specific to that one sample, or if they could be generalised to a larger group of people' (Hughens et al. 2016:138). The researcher wanted to understand if there was a relationship between the identity of the participants and their demographics. The following authors provide some of the errors that may occur during data collection.

> Researchers collect demographic information to answer research questions, which sometimes involves analysing demographic information to determine whether identity is causing an individual to do a specific thing or if something is causing an individual to adopt a certain identity.
>
> Abdelal, Herrera, Johnston, & McDermott (2009:402)

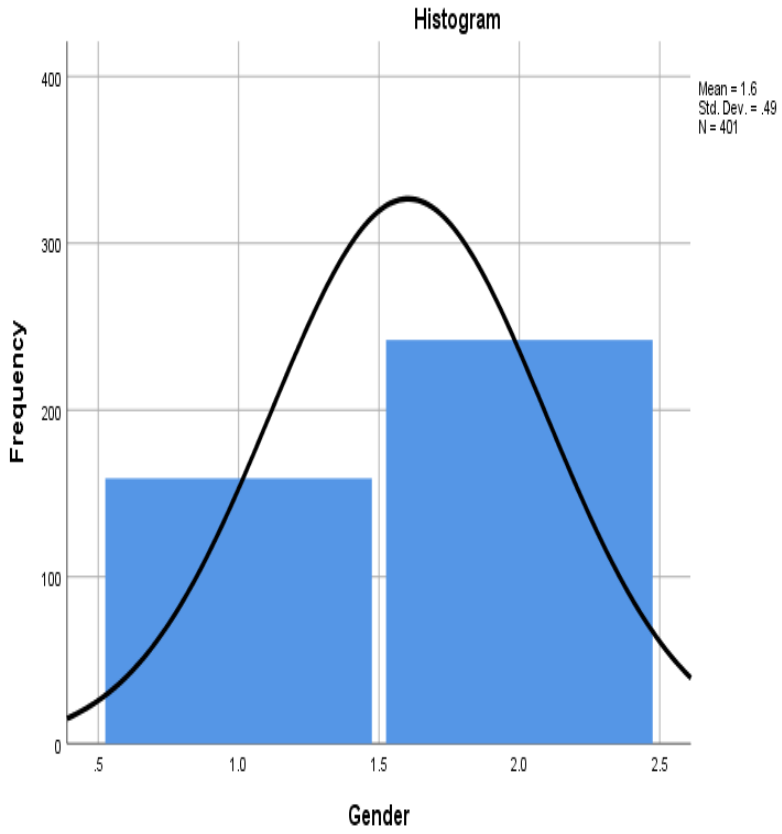
Traditional demographic profiling has been centred on large groups in order to find a common trend. For the purpose of this study, demographic information was important as it gave a clear description of the sample size of the student populace who were surveyed so that the researcher could identify any trends in the data.

Gender

The histogram that follows represents the total sample size of both male and female participants, a total of 401 participants in total. These findings emerged:

- 242 (60.3%) Female participants
- 159 (39.7%) Male participants
- All participants of the target group of the project were African and registered students.

The gender of the participants was unequal; more females were included than males. This indicated that there were fewer male students in the classes which were surveyed, so the results would not be a true reflection for both genders. These numbers also indicated the greater willingness of females to participate. The gender imbalance had an impact, since fewer males participated



Code	Age
1	Male
2	Female

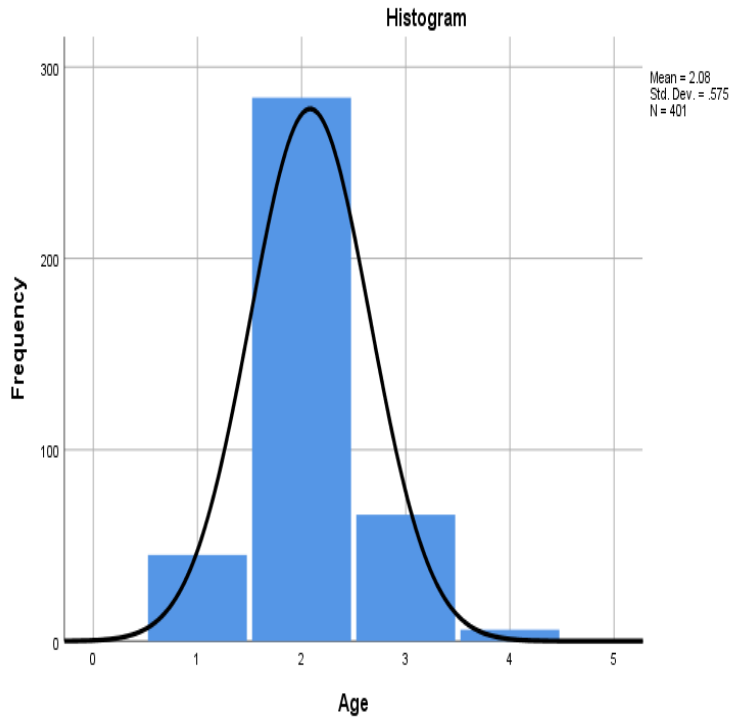
Figure 4.1: Gender

Age

The age-range frequencies and percentages were as follows:

- 45 students between the ages of 16-19 years made up 11.2% of the target group
- 284 students between the ages of 20-23 years comprised of 70.8% of students
- 66 students between the ages of 24-27 years comprised of 16.5% years
- 6 students over the of ages 28+ years made up of 1.5%

The majority of students who participated were between the ages of 20-23 which made up a total of 284 students (70.8%). In South Africa learners usually attend university at age of between 19 and 24 years to obtain a first qualification. This explains why the majority of students who participated were of this category. Students in this age group were likely to have been on campus for some time and should have been well acquainted with the health campaigns. The findings were most likely generalised to this particular age group, since they made up more than 50% of the participants. The histogram that follows, presents a normal curve which is skewed to the left, but the normality assumption is not violated. (See Figure 4.2)



Code	Age groups
1	16 – 19
2	20 – 23
3	24 – 27
4	28+

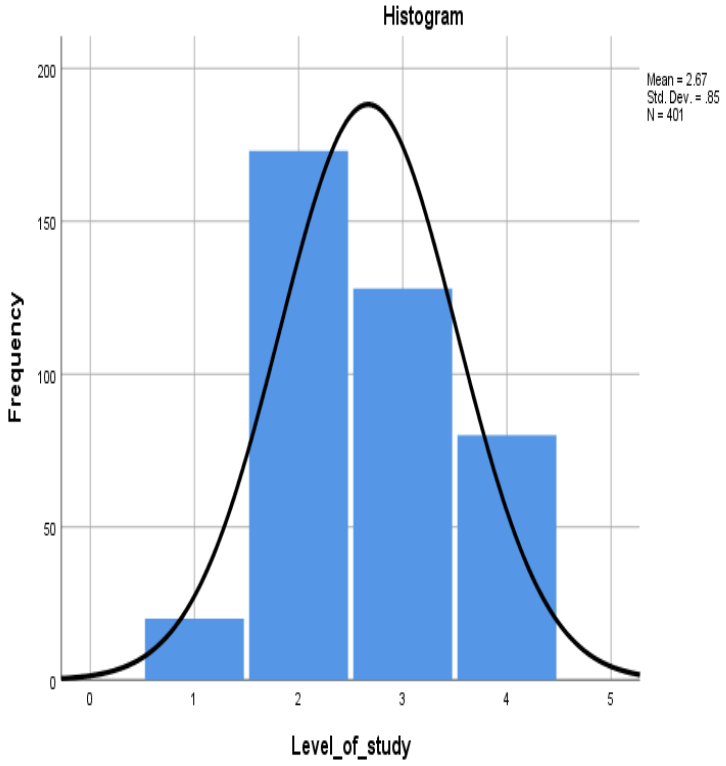
Figure 4.2: Age

Level of study

Below is a histogram that presents data for level of study, presented in both frequency and percentages:

- 20 (5.0%) level 1 students participated
- 173 (43.1%) level 2 students participated
- 128 (31.9%) level 3 students participated
- 80 (20.0%) level 4 students participated

The majority 173 (43.1%) of students that participated were level 2 students, while 31.9% of participants were from level 3. This exposed the reality that class sizes were large in number at this level of study. Also in can be concluded that second-year students participated more than any other level on the health communication campaigns. (See Figure 4.3)



Code	Level of Study
1	1
2	2
3	3
4	4

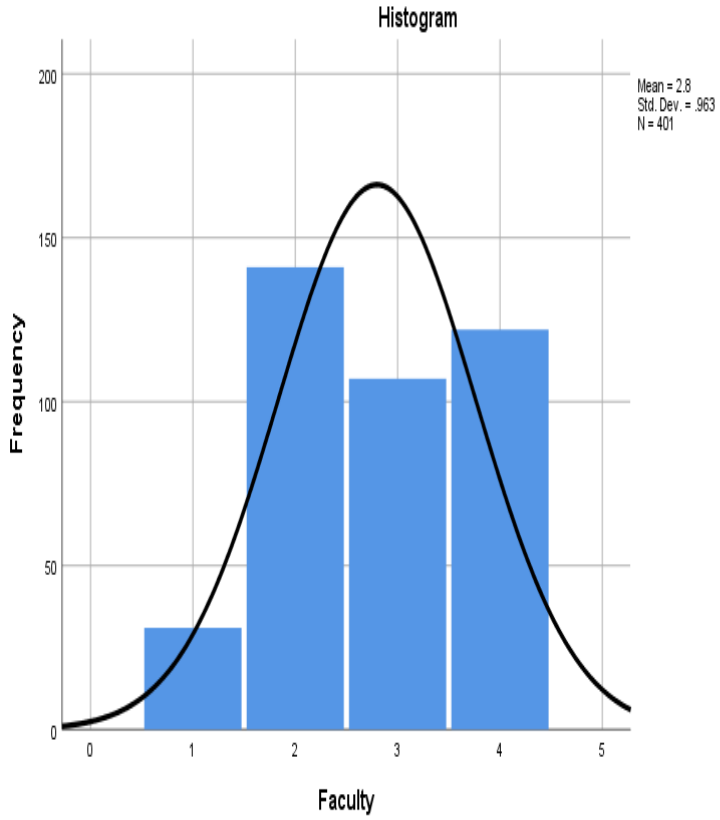
Figure 4.3: Level of Study

Faculty

Below is a histogram that presents the number of students belonging to the four faculties.

- 31 (7.7%) Health Science Faculty
- 141 (35.2%) Humanities Faculty
- 107 (26.7%) Science and Agriculture Faculty
- 122 (30.4%) Management and Law Faculty

The majority of the students that participated came from the Humanities faculty and the fewest came from the Health Science faculty. These statistics are a true representation against the sample size calculated in the previous chapter (see Figure 3.1: Sloven's formula). Table 3.2 on the Sample size in the methodology chapter clearly indicates that the faculty of Humanities had more registered students than any other faculty. (See figure 4.4)



Code	Faculty
1	Health Science
2	Humanities
3	Science and Agriculture
4	Management and Law

Figure 4.4: Faculty

4.5 SECTION B: Likert Scale items

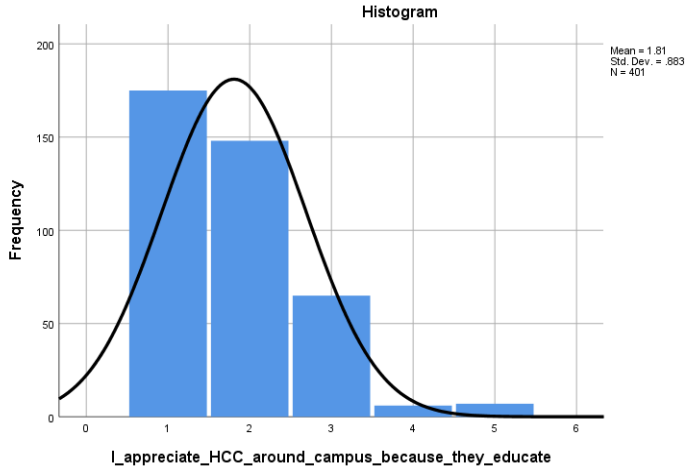
In this section, the researcher presented the likert-scale responses as follows: Strongly agree, Agree, neutral, Disagree, Strongly disagree. The descriptive paragraphs discuss the results, which contain the outliers which participants selected (agreed, strongly agreed, disagreed and strongly disagreed). The neutral responses were not reported because these participants did not strongly agree or disagree with the questions.

Attitudes and Beliefs

Item 13: I appreciate health communication campaigns around campus because they educate students.

- 175 (43.6%) strongly agreed
- 148 (36.9%) agreed
- 65 (16.3%) neutral
- 6 (1.5%) disagreed
- 7 (1.7%) strongly disagreed

All the students had an existing attitude towards the health communication campaigns that has been derived from their personal experiences. When an individual had a negative attitude towards a health message, there is a possibility that, that person will choose to ignore other health messages and other health campaigns. A majority of 175 (43.6%) strongly agreed and 148 (36.9%) agreed that they appreciated the health communication campaigns because they educated students about health issues. These were positive results, which meant that they believed that the health communication campaigns were there to make a positive impact. A minority of 7 (1.7%) participants strongly disagreed and only 6 (1.5%) disagreed and indicated that they did not view the health communication campaigns as beneficial. Attitude scores appear is positively skewed to the left, but not enough to violate the normality assumption.



Code	I appreciate HCC around campus because they educate students
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

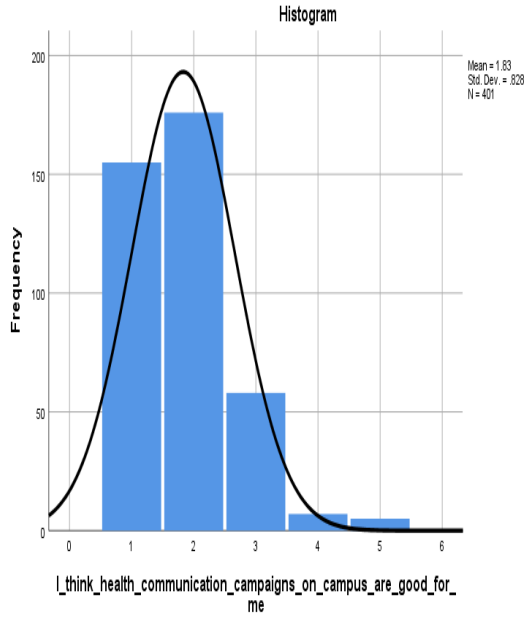
Figure 4.5: Attitudes and Beliefs1

Item14: I think and believe that health communication campaigns are good for me.

This histogram shows that the participant believe that health communication campaigns are positive and to their benefit.

- 155 (38.7%) Strongly agreed
- 176 (43.9%) Agreed
- 58 (14.5%) Neutral
- 7 (1.7%) Disagreed
- 5 (1.2%) Strongly Disagreed

The majority, 155 (38.7%) strongly agreed and 176 (43.9%) participants agree that they think and believe that health communication campaigns are good for them. This is a positive response from the participants as this proves that they are willing to be educated about the epidemics and that health communication campaigns have an impact and more work still needs to be done. The opposing minority consisted of 5 (1.2%) participants that strongly disagree and 7 (1.7%) who disagreed and indicated that they thought and believed that health communication campaigns are not good for them. The negative response stems from a negative attitude towards these campaigns.



Code	I think and believe that health communication campaigns good for me
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

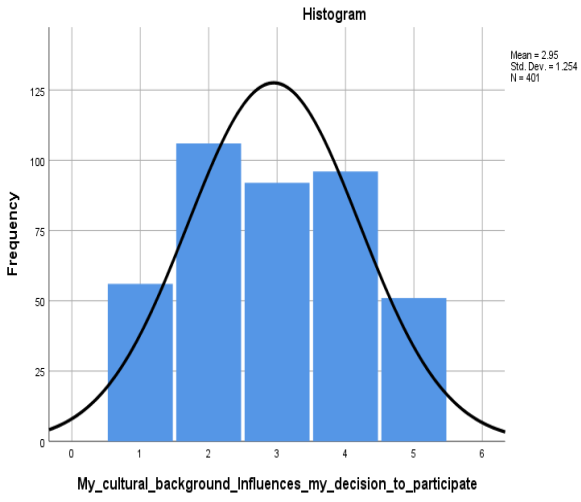
Figure 4.6 Attitudes and Beliefs

Item 15: My cultural background influences my decision to participate in health communication campaigns.

This histogram indicates the influence of cultural background on their decision to participate in health communication campaigns or not.

- 56 (14.0%) strongly agreed
- 106 (26.4%) agreed
- 92 (23%) neutral
- 96 (23.9%) disagreed
- 51 (12.7%) strongly disagreed

Culture results from learnt attitudes and beliefs that have been instilled in an individual, from early childhood. Culture also informs behaviour and the values people live by. Fiftysix (14.0%) of the participants strongly agreed while 106 (26.4%) participants agreed that their cultural background influences their decision to participate in health communication campaigns or not. These participants appear to be culture conscious. On the contrary, 51 (12.7%) strongly disagreed and 96 (23.9) disagreed that their cultural background had any influence on their decision to participate.



Code	My cultural background influences my decision to participate in health communication campaigns
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

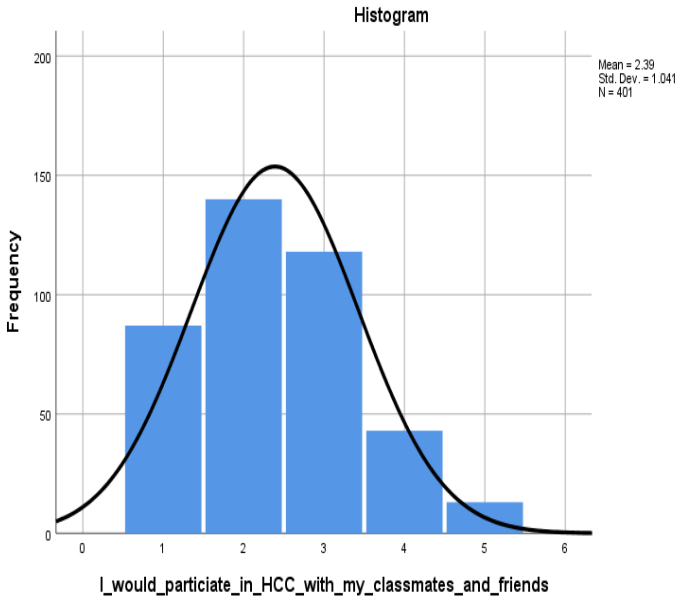
Figure 4.7: Attitudes and Beliefs3

Item 16: I would participate in health communication campaigns together with my classmates and friends.

This histogram indicates whether these participants would participate in health communications together with their classmates and friends.

- 87 (21.7%) strongly agreed
- 140 (34.9%) agreed
- 118 (29.5%) neutral
- 43 (10.7%) disagreed
- 13 (3.2%) strongly disagreed

This question sought to explore the attitude of the participants towards collective decisions if they were influenced by their peers' decisions. A majority of 87(21.7%) strongly agreed and 140 (34.9) agreed that they would participate in health communication campaigns together with their classmates and friends. On the other hand, 13 (3.2%) participants strongly disagreed while 43 (10.7%) disagreed and which indicates that the latter group would not necessarily participate in health communication campaigns together with their classmates and friends.



Code	I would participate in health communication campaigns together with my classmates and friends
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

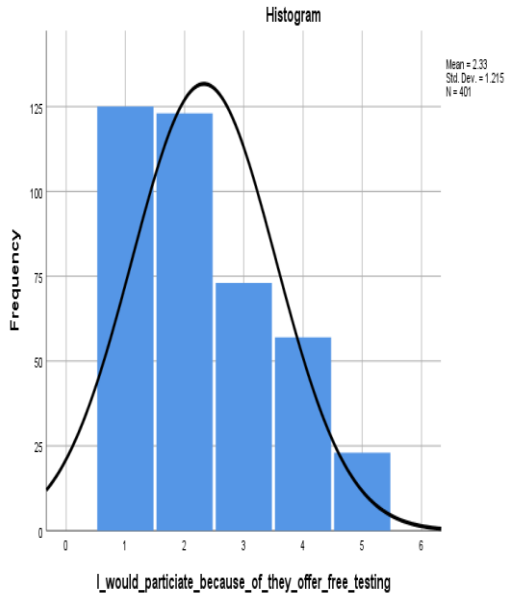
Figure 4.8: Attitudes and Beliefs4

Item 17: I would participate in health communication campaigns because they offer free testing for HIV/AIDS, STIs and TB.

The histogram presents information that shows whether participants would participate in health communication campaigns because they offered free testing for HIV/AIDS, STIs and TB.

- 125 (31.2%) strongly agreed
- 123 (30.7%) agreed
- 73 (18.2%) neutral
- 57 (14.2%) disagreed
- 23 (5.7%) strongly disagreed

The majority of 125 (31.2%) participants strongly agreed and 123 (30.7%) agreed that they would participate in health communication campaigns because they offered free testing for HIV/AIDS, STIs and TB. On the other hand, 23 (5.7) participants strongly disagreed and 57 (14.2%) disagreed that they would participate in health communication campaigns just because they offered free testing for HIV/AIDS, STIs and TB.



Code	I would participate in health communication campaigns because they offer free testing for HIV/AIDS, STIs and TB
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

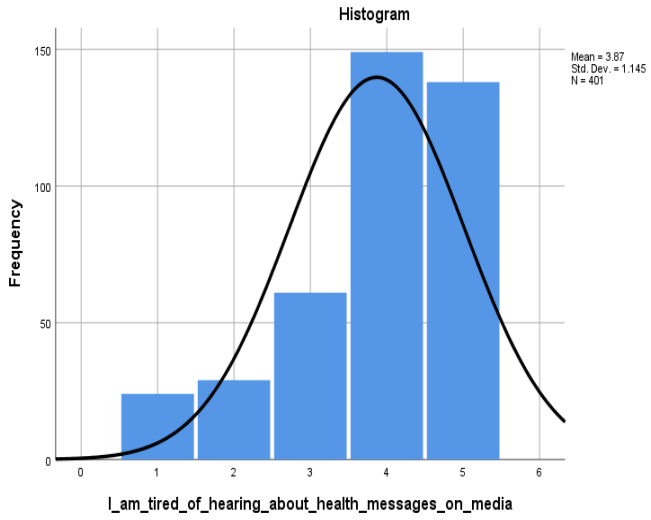
Figure 4.9: Attitudes and Beliefs5

Item 18: I am tired of hearing about health messages on media.

This histogram presents information that indicates whether participants were tired of hearing about health messages.

- 24 (6.0%) strongly agreed
- 29 (7.2%) agreed
- 61 (15.2%) neutral
- 149 (37.2%) disagreed
- 38 (34.4%) strongly disagreed

Health messages could be health advertisements on traditional media and main-stream medium. Literature confirms that there has been a large health message consumption with the rise of the epidemics spreading and that this has cause message clutter. Health communication campaigns have had to develop messages that could cut through this clutter. A majority response of 138 (34.4%) of the participants strongly disagree and 149 (37.2%) disagree that they are not tired of hearing about HIV and AIDS. This is a positive response from the participants as this proves that they were willing to be educated about the epidemic and that health communication campaigns such as these have an impact but more work still needs to be done. A minority 24 (6%) strongly agreed and only 29 (7.2%) disagreed that they are tired of hearing about HIV and AIDS health messages.



Code	I am tired of hearing about health messages on media
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

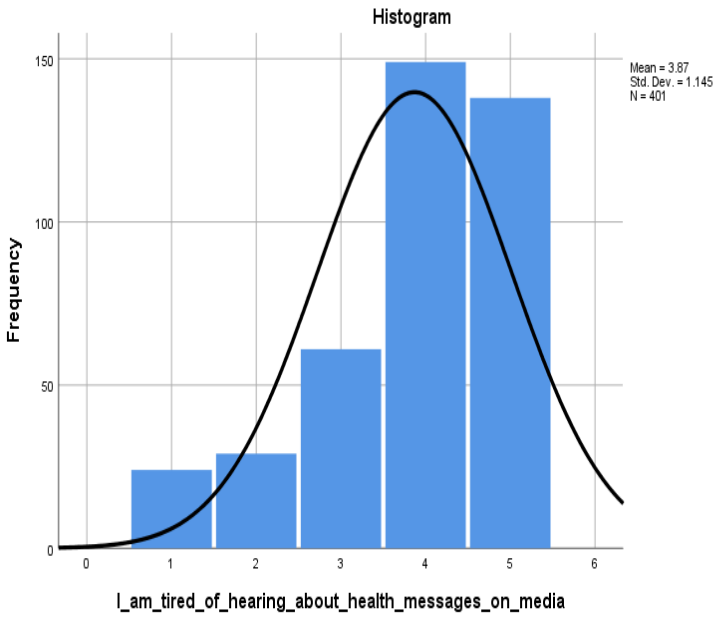
Figure 4.10: Attitudes and Beliefs6

Item 19: I am tired of being asked to test for HIV/AIDS, STIs and TB.

This represents results of participants to the question that indicated whether they were tired of being asked to undergo testing for HIV/AIDS, STIs and TB.

- 26 (6.5%) strongly agree
- 24 (6.0%) agree
- 70 (17.4%) neutral
- 135 (33.7%) disagree
- 146 (36.4%) strongly disagree

The highest percentage of 146 (36.4%), strongly disagreed, while 135 (33.7%) participants disagreed that they were tired of being asked to test for diseases. This is the message that most health communication campaign advocate. They test for HIV, TB, STIs, cancer and many other diseases. Since the response was mostly positive, it is clear that there is a need for health promotion interventions to assist the community to become aware of how important it is for them to undergo testing in order to know their status. On the other hand, only 26 (6.5%) of the participants strongly agreed and 24 (6.0%) agreed that they were tired of being asked to test for HIV/AIDS, STIs and TB.



Code	I am tired of being asked to test for HIV/AIDS, STIs and TB
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

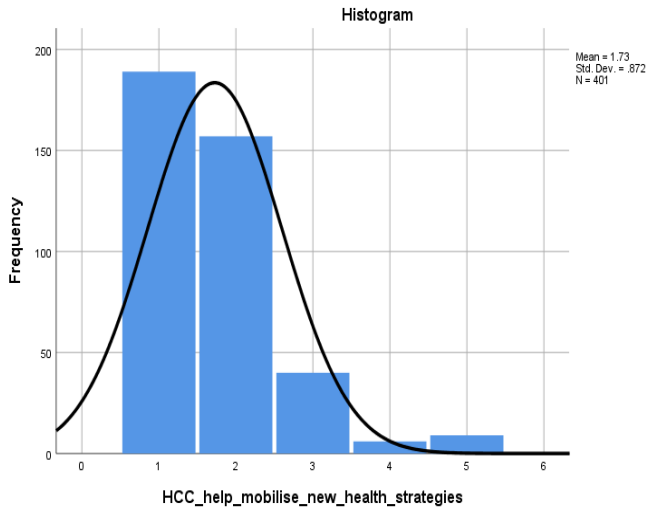
Figure 4.11: Attitudes and Beliefs7

Item 20: I think health communication campaigns are a good initiative to mobilise new health strategies offered by health institutions.

This histogram presents the participant's thoughts on whether health communication campaigns are a good initiative to mobilise new health strategies offered by health institutions.

- 189 (47.1%) strongly agreed
- 157 (39.2%) agreed
- 40 (10%) neutral
- 6 (1.5%) disagreed
- 9 (2.2%)strongly disagreed

The majority 189 (47.1) strongly agreed and 157 (39.2%) agreed that health communication campaigns were a good initiative to mobilise new health strategies offered by health institutions. Health communications campaigns are community-based and because of this, individuals get to hear first-hand information regarding health issues. The positive response by the majority of the participants is an assurance that these campaigns have an impact on the student community. A minority response of 9 (2.2%) strongly disagreed and 6 (1.5%) participants disagreed that the health communication campaigns were a good initiative to mobilise new health strategies.



Code	I think health communication campaigns are a good initiative to mobilise new health strategies offered by health institutions
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

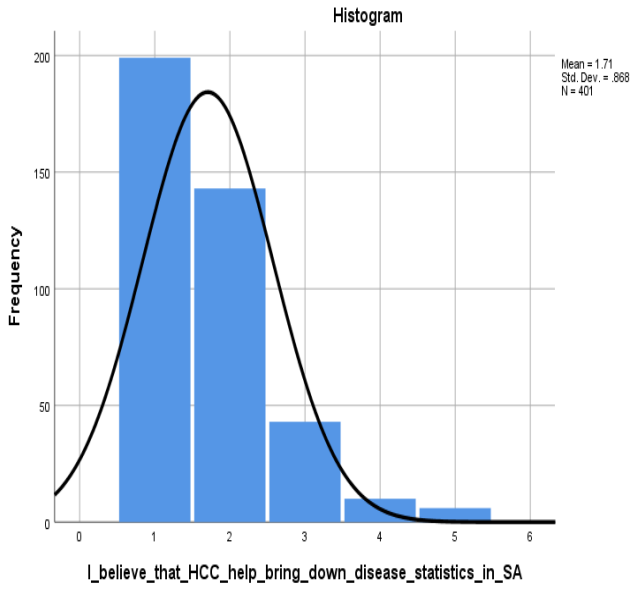
Figure 4.12: Attitudes and Beliefs8

Item 21: I believe that health communication campaigns can contribute to the decline of health disease statistics in South Africa.

This histogram presents participant's beliefs about the ability of health campaigns' to contribute to the decline of health disease statistics in South Africa.

- 199 (49.6%)strongly agreed
- 149 (35.7%)agreed
- 43 (10.7%) neutral
- 10 (2.5%) disagreed
- 6 (1.5%) strongly disagreed

One hundred and ninety-nine (49.6%) strongly agreed and 149 (35.7%) of the participants agreed that health communication campaigns could contribute to the decline of health disease statistics in South Africa. However, 6 (1.5%) participants strongly disagreed and 10 (2.5%) disagreed. This negative response by the minority of participants shows a negative attitude towards health communication in that they did not think health communication campaigns had a positive impact on the community.



Code	I believe health communication campaigns can contribute to the decline of health disease statistics in South Africa
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

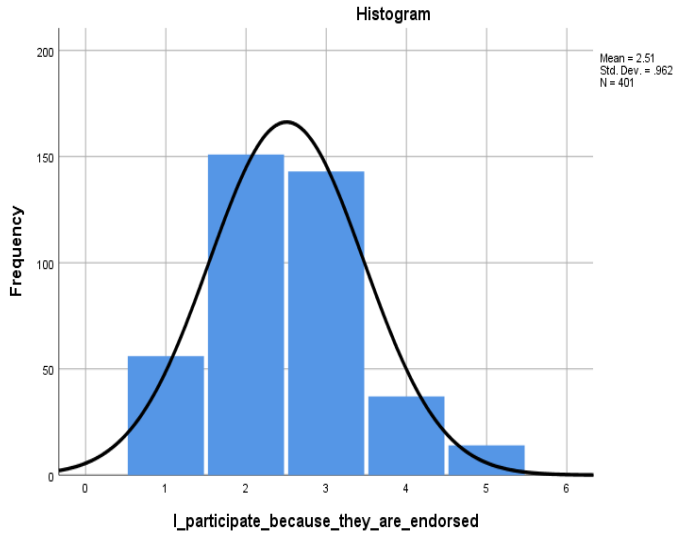
Figure 4.13: Attitudes and Beliefs9

Item 22: I would participate in health communication campaigns because they are endorsed by big credible institutions for e.g. HEAIDS

This histogram presented participants who were willing to participate in health communication campaigns because they were endorsed by big credible institutions.

- 56 (14.0%) strongly agreed
- 151 (37.7%) agreed
- 143 (35.6%) neutral
- 37 (9.2%) disagreed
- 14 (3.5%) strongly disagreed

A fair number of 56 (14.0%) participants strongly agreed and 151 (37.7%) agreed that they would participate in health communication campaigns because they were endorsed by credible institutions. On the other hand, 14 (3.5%) strongly disagreed and 37 (9.2%) disagreed and indicated that they would not participate in health communication campaigns for this reason.



Code	I would participate in health communication campaigns because they are endorsed by big credible institutions for e.g. HEAIDS
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

Figure 4.14: Attitudes and Beliefs10

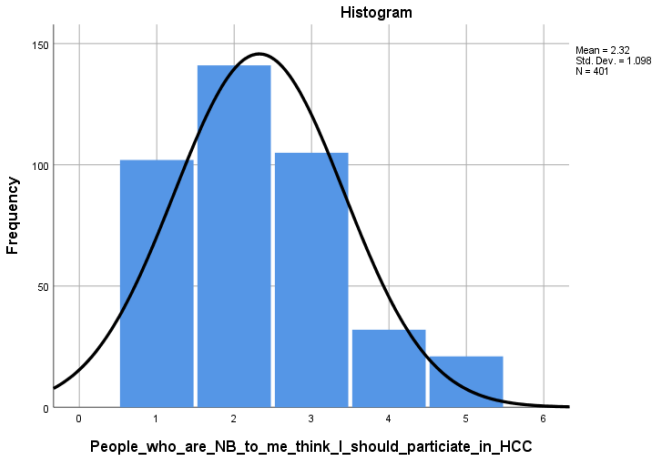
Subjective Norms

Item 23: People who are important to me think I should participate in health communication campaigns.

This histogram presents information about participant's thoughts on whether people who are important to them think they should participate in health communication campaigns.

- 102 (25.4%) strongly agreed
- 141 (35.2%) agreed
- 105 (26.2%) neutral
- 32 (8.0%) disagreed
- 2 (5.2%) strongly disagreed

A total of 102 (25.4%) strongly agreed and 141 (35.2%) agreed that people and peers who were important to them thought that they should participate in health communication campaigns. On the other hand, 21 (5.2%) participants strongly disagreed and 32 (8.0%) disagreed that people who were close or important to them thought that they should participate in health communication campaigns.



Code	People who are important to me think I should participate in health communication campaigns
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

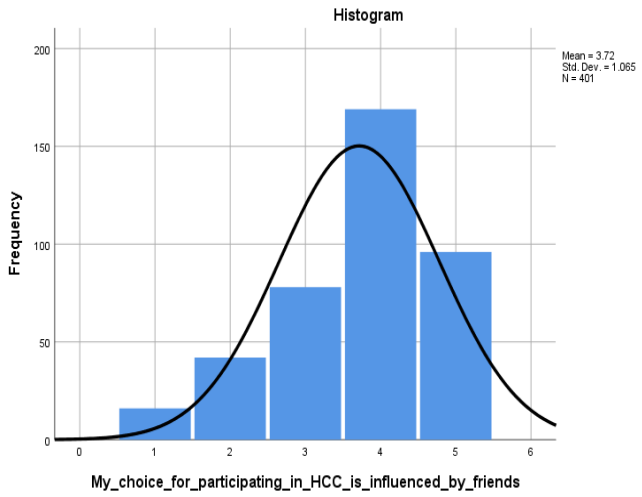
Figure 4.15: Subjective Norms1

Item 24: My choice for participating in health communication campaigns is influenced by my friends.

The following histogram presents whether the participants feel that their choice for participating in health communication is influenced by friends or not.

- 16 (4.0%) strongly agreed
- 42 (10.5%) agreed
- 78 (19.5%) neutral
- 169 (42.1%) disagreed
- 96 (23.9%) strongly disagreed

Ninety-six (23.9%) strongly disagreed and 169 (42.1%) disagreed that their decision to participate in a health campaign was influenced by their friends. This confirms that these participants think independently and would not make health decisions in consultation with their peers. On the other hand, 16 (4.0%) participants strongly agreed while 42 (10.5%) agreed that their choice to participate in a health campaign was influenced by their friends. These results showed that health decisions are private and personal to each individual. In other words, subjective norms would have a far less impact in the decision-making of these individuals than personal conviction.



Code	My choice for participating in health communication campaigns is influenced by my friends
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

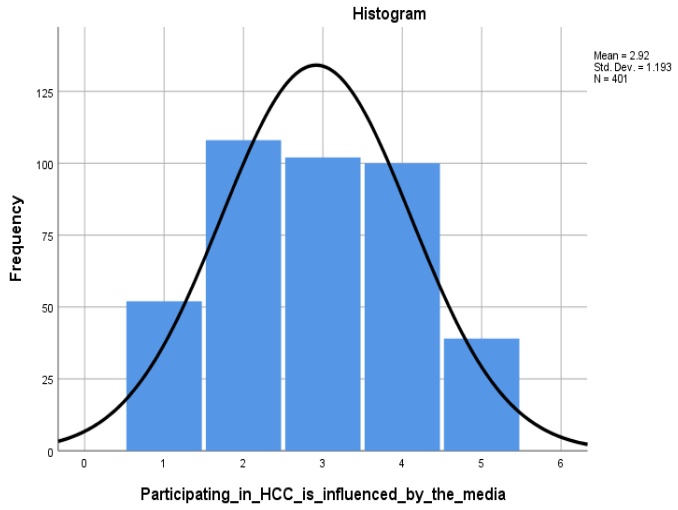
Figure 4.16: Subjective Norms2

Item 25: My decision to participate in health communication campaigns is influenced by the media.

This histogram presents information about whether a participant's decision to participate in health communication campaigns was influenced by the media or not.

- 52 (13.0%) strongly agreed
- 108 (26.9%) agreed
- 102 (26%) neutral
- 100 (24.9%) disagreed
- 39 (9.7%) strongly disagreed

The media is a tool that aims to create an impact to influence the public to be more aware of health issues. This, item sought to measure the impact of the media on the participants. A fair number of 52 (13.0%) participants strongly agreed and 108 (26.9%) agreed that their decision to participate in health communication campaigns was influenced by the media. On the other hand, 100 (24.9%) disagreed and 39 (9.7%) disagreed that their decision to participate in health communication campaigns was not influenced by the media.



Code	My decision to participate in health communication campaigns is influenced by the media
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

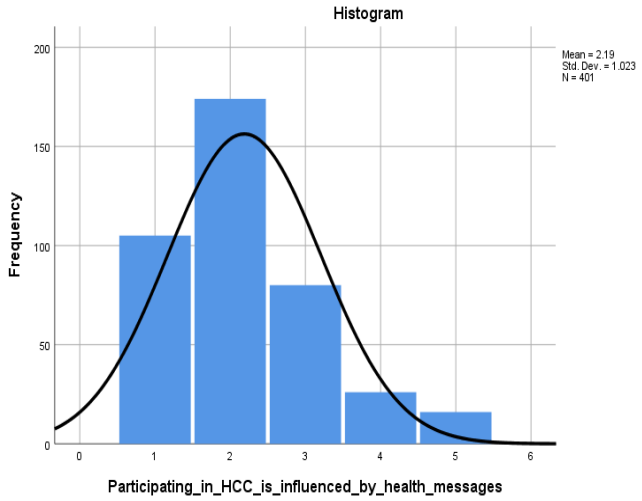
Figure 4.17: Subjective Norms3

Item 26: My decision to participate in health communication campaigns is influenced by health messages.

This histogram asked the question: whether the decision to participate in health communication campaigns was influenced at all by health messages.

- 105 (26.2%) strongly agreed
- 174 (43.4%) agreed
- 80 (19.9%) neutral
- 26 (6.5%) disagreed
- 16 (4.0%) strongly disagreed

Health messages aim to create an impact that encourages participation amongst the youth. This item sought to establish the impact that health messages had on these participants. A majority of 105 (26.2%) strongly agreed and 174 (43.4%) participants agreed that their decision to participate in health communication campaigns was influenced by the health messages. On the contrary, 16 (4.0%) participants strongly disagreed and 26 (65%) participants disagreed that their decision to participate in health communication campaigns was influenced by health messages.



Coding	My decision to participate in health communication campaigns is influenced by health messages
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

4.18 Table: Subjective Norms4

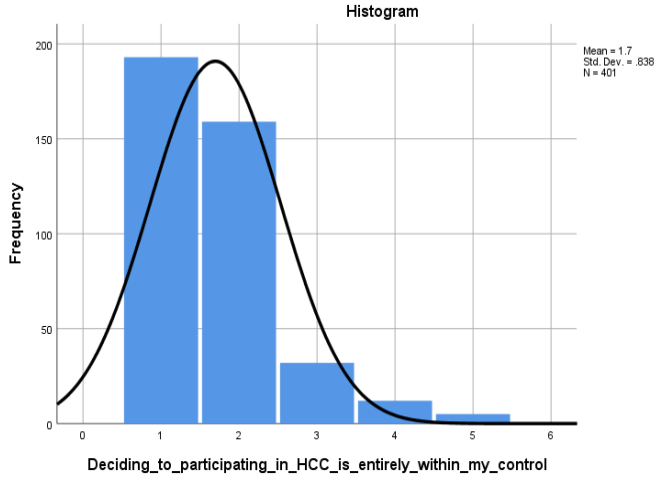
Perceived Behavioural Control

Item 27: Deciding to participate in health communication campaigns is entirely within my control.

This histogram presents the responses to the item of whether participants felt their decision to participate was totally within their own control.

- 193 (48.1) strongly agreed
- 159 (39.7%) agreed
- 32 (8.0%) neutral
- 12 (3.0%) disagreed
- 5 (1.2%) strongly disagreed

Perceived behavioural control has to do with the individual, who has the ability and self - efficacy to act in a certain way. Figure 4.19 shows that 193 (48.1%) of the participants strongly agreed while 159 (39.7%) agreed that participating in health communication campaigns was within their control. These are positive results that confirm that the participant's self-efficacy is high. They also show that the participants are aware that they can think for themselves. On the contrary, only 5 (1.2%) strongly disagreed and 12 (3.0%) agreed that deciding to participate in health communication campaigns was not within their own control. Health messages have the ability to persuade an individual to participant or not. For example, an individual will develop self-efficacy if they believe they understand a health message and they may choose to conform to it.



Coding	Deciding to participate in health communication campaigns is entirely within my control
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

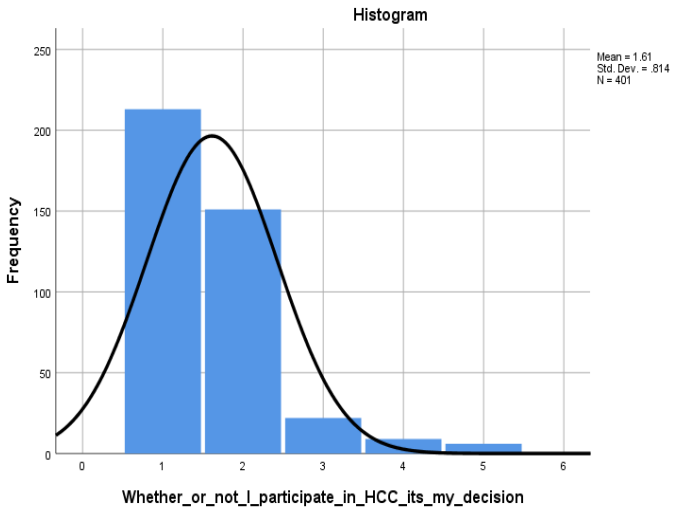
Figure 4.19: Perceived Behavioural Control1

Item 28: Whether or not I participate in health communication campaigns, it's my decision.

The following is a histogram that presents the question: Whether or not I participate in health communication campaigns, it's my decision.

- 213 (53.1%) strongly agreed
- 151 (37.7%) agreed
- 22 (5.5%) neutral
- 9 (2.2%) disagreed
- 6 (1.5%) strongly disagreed

This question sought to measure participants' personal conviction. Perceived Behavioural Control has to do with an individual ability and self - efficacy towards a give action. More than half of the respondents of about 213 (53.1%) strongly agreed and 151 (37.7%) agreed that whether or not they participated in health communication campaigns was their decision and theirs alone. These participants level of self – efficacy proves to be high. On the contrary, only 6 (1.5%) strongly disagreed and 9 (2.2%) disagreed that it was not their decision whether they participated in health communication campaigns or not.



Code	Whether or not I participate in health communication campaigns, it's my decision
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

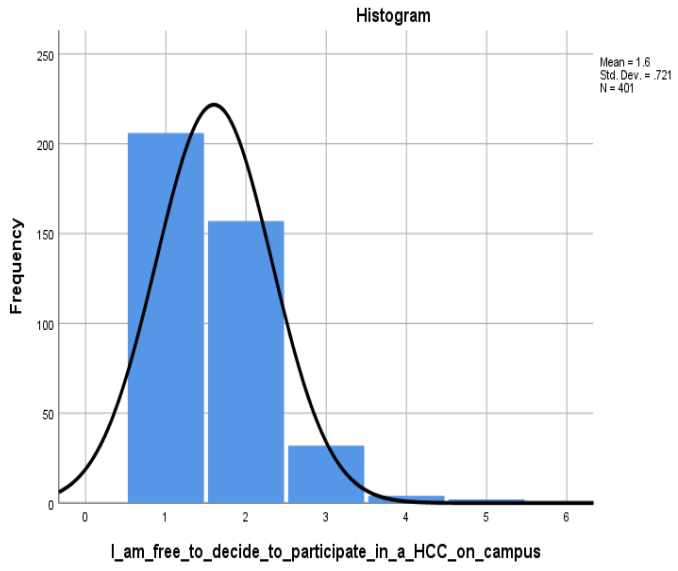
Figure 4.20: Perceived Behavioural Control2

Item 29: I am free to decide to participate in a health communication campaign on campus.

This histogram asked the question: whether the participants are free to decide to participate in a health communication campaign on campus.

- 206 (51.4%) strongly agreed
- 157 (39.2%) agreed
- 32 (7.9%) neutral
- 4 (1.0%) disagreed
- 2 (0.5%) strongly disagreed

The majority of students responded positively. Almost half of the participants, 206 (51.4%) strongly agreed and 157 (39.2%) agreed that they were at liberty to freely take part in health communication campaigns. On the contrary, 2 (0.5%) participants strongly disagreed and 4 (1.0%) participants disagreed that they were not at liberty to decide to partake in health communication campaigns on campus.



Code	I am free to decide to participate in a health communication on campus
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

Figure 4:21 Perceived Behavioural Control3

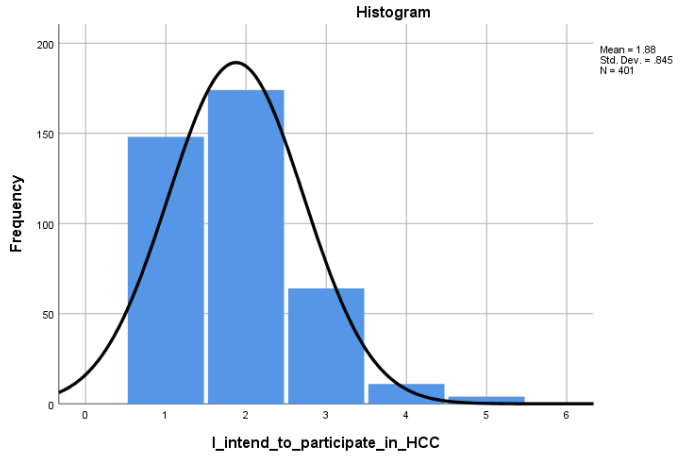
Behavioural Intention

Item 30: I intend to participate in health communication campaigns in the future.

This histogram indicates the response the item which was whether participant's intended to participate in health communication campaigns in the future or not.

- 148 (36.9%) strongly agreed
- 174 (43.4%) agreed
- 64 (16%) neutral
- 11 (2.7%) disagreed
- 4 (1.0%) strongly disagreed

The majority of 148 (36.9%) participants strongly agreed and 174 (43.4%) agreed that they did intend to participate in health communication campaigns in the future. In this model, behavioural intention is directly linked to behaviour or behavioural change. Therefore, this positive response indicates to the researcher that the likelihood of participation is high because the intention has been indicated. Only 4 (1.0%) of the participants strongly disagreed while 11 (2.7%) disagreed, which indicates that they do not intend to participate in health communication campaigns in the future.



Code	I intend to participate in health communication campaigns in the future
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

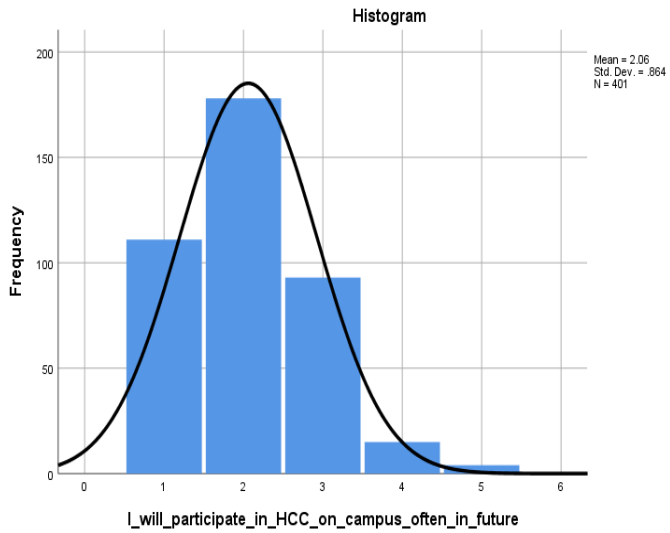
Figure 4.22 Behavioural Intention1

Item 31: I will participate in health communication campaign on campus often in the near future.

The histogram presents the results to the item that asked participant's if they were willing to participate in health communication campaign on campus often in the near future.

- 111 (27.7%) strongly agreed
- 178 (44.4%) agreed
- 93 (23.2%) neutral
- disagreed 15 (3.7%)
- strongly disagreed 4 (1.0%)

The majority of participants responded positively to this question. One hundred and eleven (27.7%) strongly agreed and 178 (44.4%) agreed that they would participate in health communication campaigns in the near future. On the other hand, only 4 (1.0%) strongly disagreed and 15 (3.7%) disagreed and indicated that they would not participate in these campaigns in the future.



Code	I will participate in health communication on campus often in the near future
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

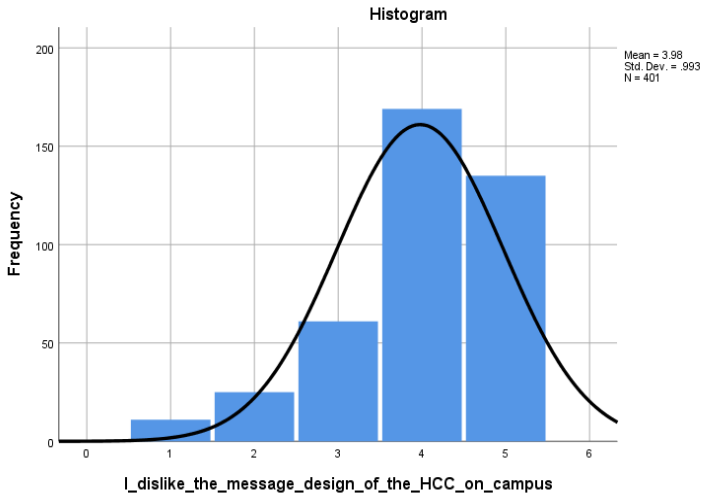
Figure 4.23: Behavioural Intention2

Item 32: I dislike the message design of health communication campaigns on campus.

This histogram presents the response to the item asked about whether participants liked or disliked the design of the messages used in health communication:

- 11 (2.7%) strongly agreed
- 25 (6.2%) agreed
- 61 (15.1%) neutral
- 169 (42.1%) disagreed
- 135 (33.7%) strongly disagreed

One hundred and thirty-five (33.7%) participants strongly disagreed and 169 (42.1%) disagreed. This indicates that they did not dislike the message design of the health communication campaigns on campus. This was a positive response, which indicates their interest in health messages and a willingness to further educate themselves about health issues. Only 11 (2.7%) of the participants strongly disagreed and 25 (6.2%) disagreed which indicates that they disliked the design of the messages used of health communication campaigns on campus. This was a negative response.



Code	I dislike the message design of the HCC on campus
1	Strongly agree
2	Agree
3	Neutral
4	Disagree
5	Strongly disagree

Figure 4.24 Behavioural Intention3

4.6 SUMMARY STATISTICS - DENSITY CURVES

Here follows a preliminary analysis and descriptive statistics of the variables, which include attitudes and beliefs, perceived behavioural control and behavioural intention. The values for Skewness and the Kurtosis indicators are low which, indicates that there are no outliers. This was followed by an examination of normality assumption. The researcher examined the normality distribution. The following histograms represent all the item that were included for regression.

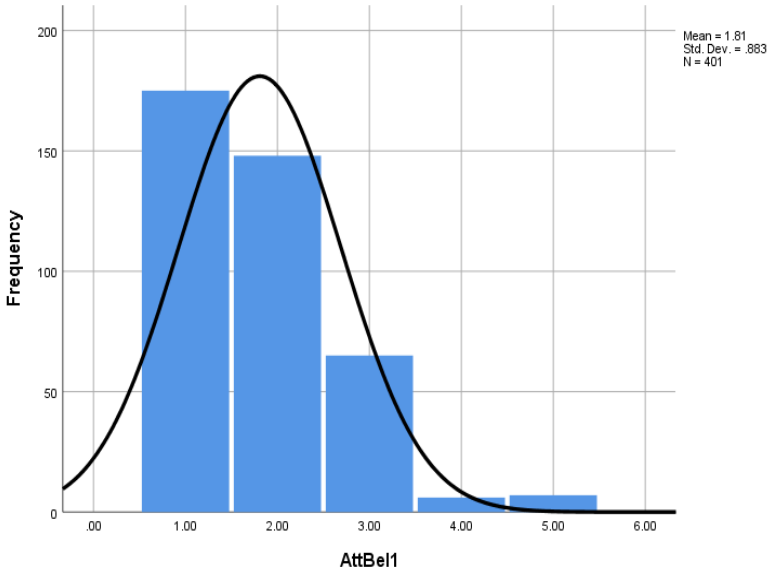


Figure 4.25: Positively skewed distribution of attitude and beliefs 1 variable

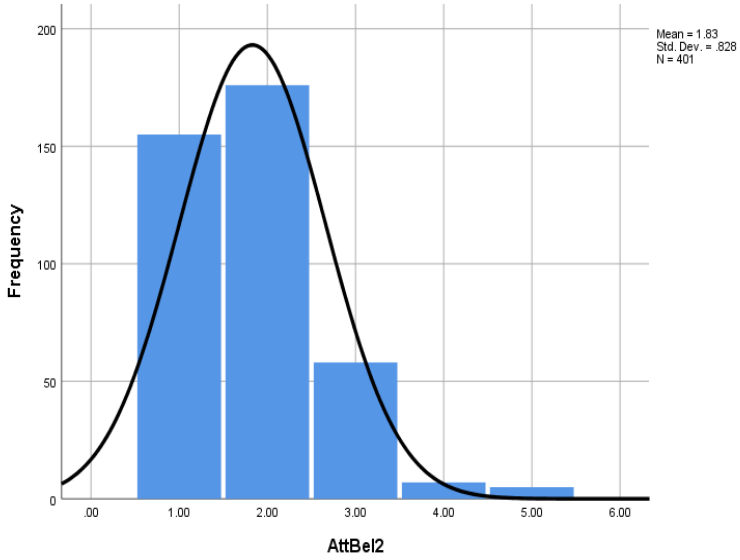


Figure 4.26: Positively skewed distribution of attitudes and beliefs 2 variables

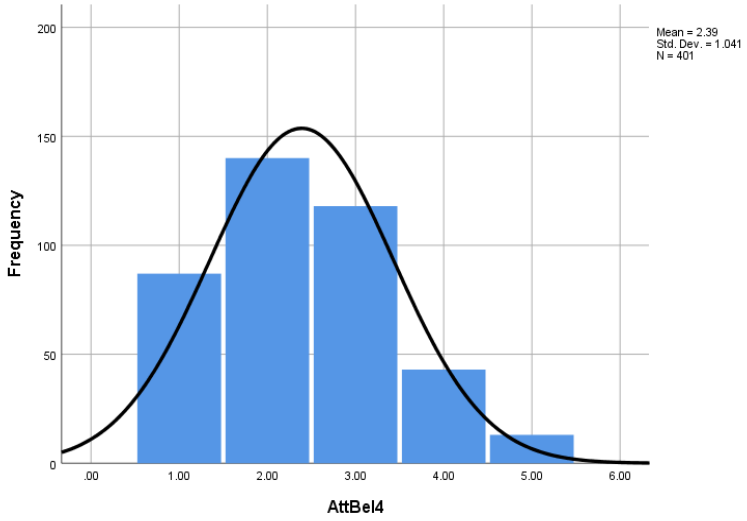


Figure 4.27: Positively skewed distribution of attitudes and beliefs 4 variable

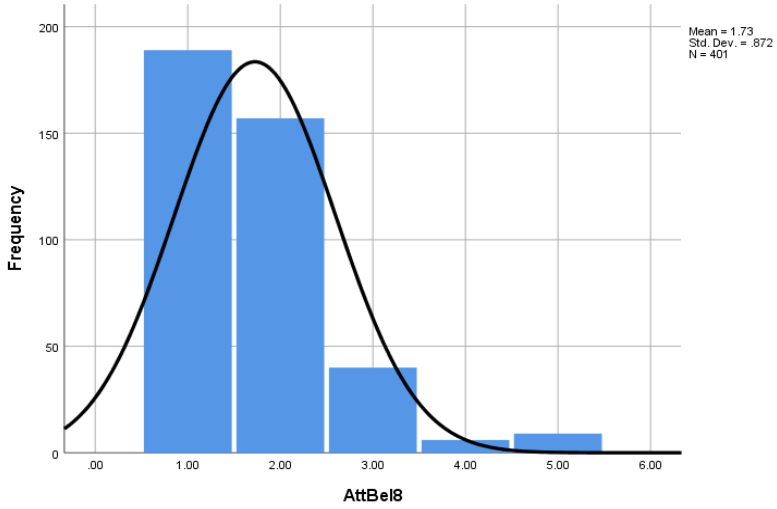


Figure 4.28: Positively skewed distribution of attitude and beliefs 8 variable

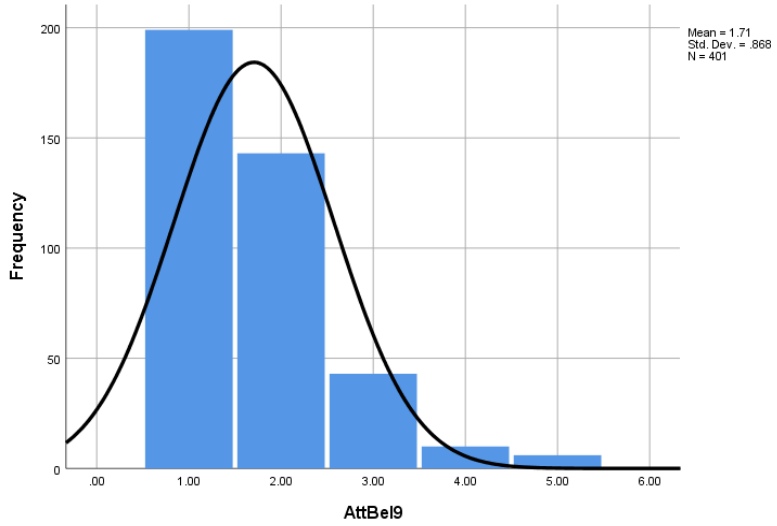


Figure 4.29: Positively skewed distribution of attitudes and beliefs 9 variable

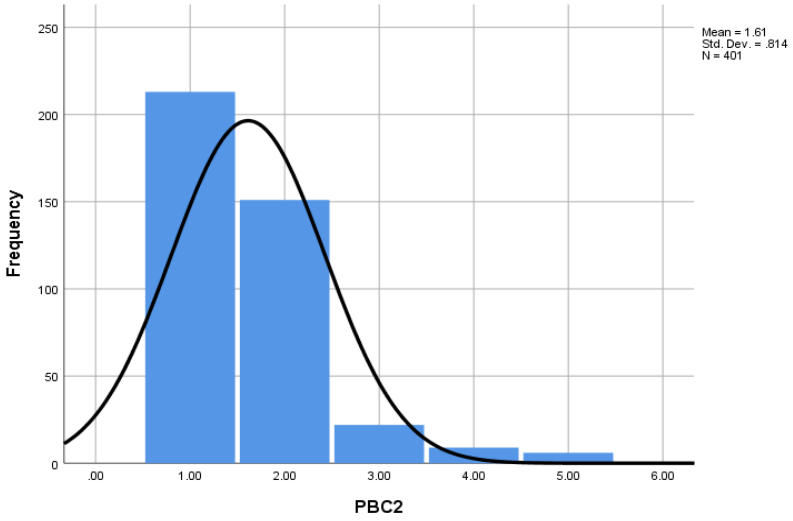


Figure 4.30: Positively skewed distribution of perceived behavioural control 2 variable

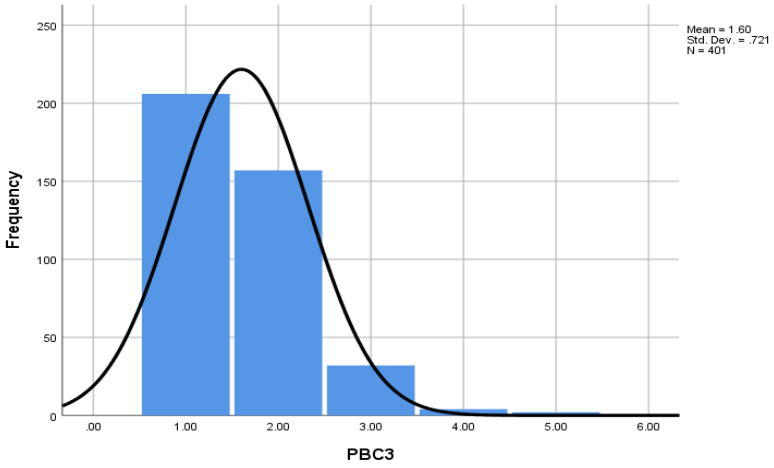


Figure 4.31: Positively skewed distribution of perceived behavioural control 3 variable

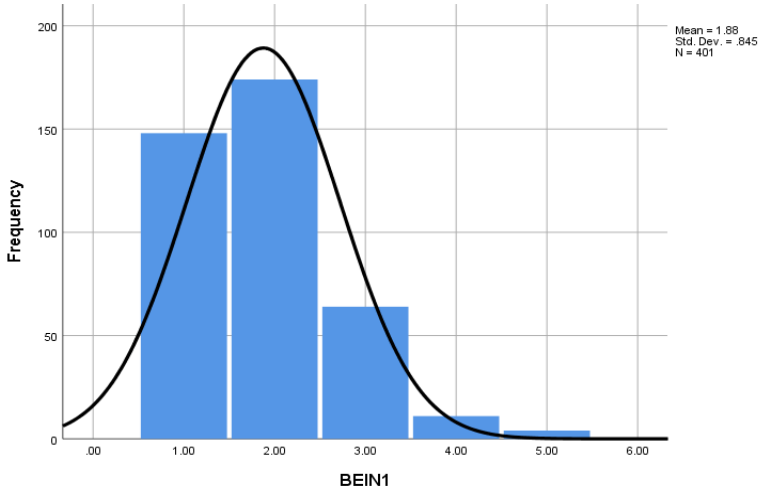


Figure 4.32: Positively skewed distribution of behavioural intention 1 variable

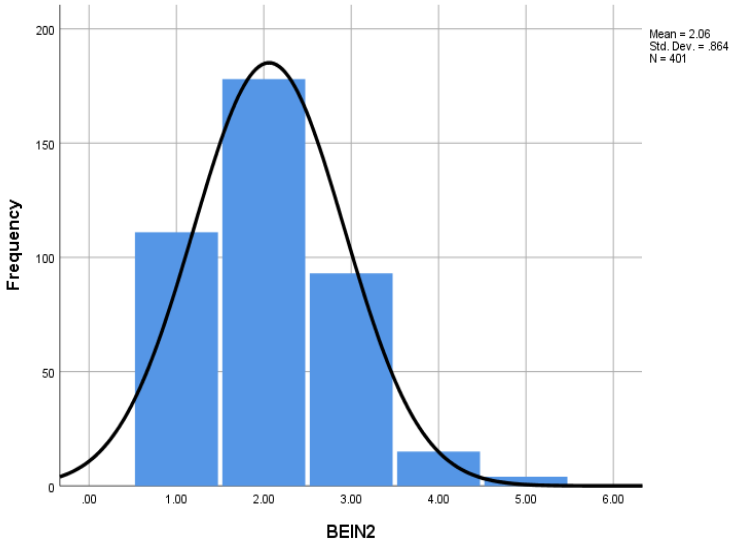


Figure 4.33: Positively skewed distribution of behavioural intention 2 variable

The above figures demonstrate positive skewed distribution.

4.7 INFERENTIAL STATISTICS

The purpose of the study was to apply Ajzen's (2011) theoretical framework and empirically measure change in behaviour following health communication campaigns. The researcher ran Regression to further analyse the data. The goal was to identify which variables of the Theory of Planned Behaviour contributed most towards behavioural change. The concept of behavioural change in this study implies that the students would participate in the health campaign. To achieve this goal, the researcher had to identify the independent variable. The independent variable would be the one that caused other variables to change. Correlations were used in the study to "identify the degree to which scores on different variables coexisted (Reinard, 2006:88)". This comparison allowed the researcher to identity the relationship that existed between the variables.

Although, descriptive data can be used to make comments about the population, inferential data can be used to make comments about the chosen sample size. A set of statistical programs were used on SPSS to analyse inferential data. Inferential, linear regression, was used to determine whether statistical significance existed or not. This step determined whether the research hypothesis was to be accepted or rejected. Multiple regression was also used to establish whether there was a relationship between the variables. Data from respondents was entered into the SPSS computer

program. Various statistical measures and tests were employed for this analysis; these measures and test included descriptive statistics; reliability test; Cronbach's Alpha; Correlations; total variance analysis; Multi – Collinearity diagnostic; Regression and Analysis (Black, 1999:274).

Case Processing Summary

		N	%
Cases	Valid	401	100.0
	Excluded[a]	0	.0
	Total	401	100.0

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

Figure 4.34: Case Processing Summary

4.8 RELIABILITY TESTING: CRONBACH'S ALPHA

A reliability test was performed for the Likert scale questions by means of Cronbach's Alpha (reliability coefficient). This was undertaken to test the reliability and internal consistency of the items in the questions. It varies between 0 and 1. According to the literature, 0.7 is an acceptable score which was confirmed by various scholars. Churchhill and Brown (2006) in Knobe (2012:124) stated that "Cronbach's Alpha was used for its internal consistency and ability to test attitudes questionnaires using scales such as rating and Likert". The researcher examined 20 variables, excluding demographics and all the items were tested for a Cronbach Alpha score. The results revealed a low, Cronbach Alpha. The researcher continued to delete variables (to allow for) an acceptable Cronbach Alpha score. The 9 remaining variables scored a Cronbach Alpha of 0.705. This score was acceptable and also indicated internal consistency. In total a combination of 11 items were removed. Here, is the Cronbach Alpha table:

Reliability Statistics	
Cronbach's Alpha	**Number of items**
.705	9

Table 4.1: Cronbach's Alpha

4.9 CORRELATION ANALYSIS

The focus in this section was to measure the relationship between continuous variables. Correlations were used to identify which variables of the Theory of Planned Behaviour contributed most towards behavioural change.

Step I: Multiple Regression

After examining the correlations, the data reduction with the Cronbach Alpha's calculation the researcher continued with an analysis of the 9 acceptable variables. Pearson Correlations were calculated and presented in columns and rows as has been indicated in the table 4.2. "The squared correlation indicates how strong the relationship is amongst the variables" (Tabachhnick & Fidell, 1989). Correlation is represented by an 'r'. Correlations represent the relationship between the variables. An example of this relationship is the one between subjective norms and behavioural intention variable. These variables must be normally related. As presented in the accompanying table, the 'r' value is always between -1 and +1. All the significant correlations below 0.05 show a positive correlation. This means that, the majority of correlations did prove to be significant, which indicates that the nine chosen variables contributed to the model, as was also the case in Cronbach's Alpha. The following table indicates these correlation results:

Correlations

		AttBel1	AttBel2	AttBel4	AttBel8	AttBel9	PBC2	PBC3	BEIN1	BEIN2
AttBel1	Pearson Correlation	1	.440**	.255**	.253**	.236**	.216**	.217**	.165**	.195**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.001	.000
	N	401	401	401	401	401	401	401	401	401
AttBel2	Pearson Correlation	.440**	1	.114*	.154**	.278**	.069	.091	.080	.196**
	Sig. (2-tailed)	.000		.022	.002	.000	.166	.067	.108	.000
	N	401	401	401	401	401	401	401	401	401
AttBel4	Pearson Correlation	.255**	.114*	1	.267**	.185**	.213**	.234**	.297**	.199**
	Sig. (2-tailed)	.000	.022		.000	.000	.000	.000	.000	.000
	N	401	401	401	401	401	401	401	401	401
AttBel8	Pearson Correlation	.253**	.154**	.267**	1	.385**	.171**	.267**	.154**	.138**
	Sig. (2-tailed)	.000	.002	.000		.000	.001	.000	.002	.006
	N	401	401	401	401	401	401	401	401	401
AttBel9	Pearson Correlation	.236**	.278**	.185**	.385**	1	.200**	.199**	.161**	.120*
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.001	.016
	N	401	401	401	401	401	401	401	401	401
PBC2	Pearson Correlation	.216**	.069	.213**	.171**	.200**	1	.452**	.151**	.097
	Sig. (2-tailed)	.000	.166	.000	.001	.000		.000	.002	.052
	N	401	401	401	401	401	401	401	401	401
PBC3	Pearson Correlation	.217**	.091	.234**	.267**	.199**	.452**	1	.209**	.083
	Sig. (2-tailed)	.000	.067	.000	.000	.000	.000		.000	.099
	N	401	401	401	401	401	401	401	401	401
BEIN1	Pearson Correlation	.165**	.080	.297**	.154**	.161**	.151**	.209**	1	.455**
	Sig. (2-tailed)	.001	.108	.000	.002	.001	.002	.000		.000
	N	401	401	401	401	401	401	401	401	401
BEIN2	Pearson Correlation	.195**	.196**	.199**	.138**	.120*	.097	.083	.455**	1
	Sig. (2-tailed)	.000	.000	.000	.006	.016	.052	.099	.000	
	N	401	401	401	401	401	401	401	401	401

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.2: Pearson Correlations Output

4.3 Table Pearson Correlations >0.05

Item	Item	Variable	Pearson Correlation
I appreciate health communication campaigns around campus because they educate Students.	I think and believe that health communication campaigns good for me.	Attitudes and beliefs	0.440
I think and believe that health communication campaigns good for me.	I appreciate health communication campaigns around campus because they educate Students.	Attitudes and beliefs	0.440
I think health communication campaigns are a good initiative to mobilise new health strategies offered by the health institutions.	I believe that health communication campaigns can contribute to the decline of health disease statistics in the country.	Attitudes and beliefs	0.385
Whether or not I participate in health communication campaigns it's my decision.	I am free to decide to participate in a health communication campaign on campus.	Perceived Behavioural Control	0.452
I am free to decide to participate in a health communication campaign on campus.	Whether or not I participate in health communication campaigns, it's my decision.	Perceived Behavioural Control	0.452
I will participate in health communication campaign on campus often in the near future.	I dislike the message design of health communication campaigns on campus.	Behavioural Intention	0.455
I dislike the message design of health communication campaigns on campus.	I will participate in health communication campaign on campus often in the near future.	Behavioural Intention	0.455

From this table the following can be deduced:

- The purpose of using Pearson Correlations was to see where the highest correlation lay amongst the questions derived from the theory's variables. Attitudes and Beliefs indicated a fair Pearson Correlations score of 0.440 between questions: *I appreciate health communication campaigns around campus because they educate students* and *I think and believe that health communication campaigns are good for me.* The majority of 175 (43.6%) strongly agreed and 148 (36.9%) agreed that they appreciated the health communication campaigns because they educate students about health issues.

- Perceived behavioural control had a Pearson Correlation score of 0.452 between questions: *whether or not I participate in health communication campaigns, it is my decision* and *I am at liberty to participate in a health communication campaign*

on campus. These correlations verify that the participants are aware of their freedom of choice to participate in health communication campaigns or nots.

- According to the summary of Pearson Correlations above, out of the 19 Likert scale questions, 19 combinations of questions showed a Pearson Correlation of 0.250 or higher with another question. This shows that items are fairly correlated and thus proves behavioural intention.

- Behavioural intention had a Person Correlation score of 0.455 from the questions: *I will participate in health communication campaign on campus often in the near future* and *I dislike the message design of health communication campaigns on campus*. The behavioural intention questions showed the highest correlations, as has been indicated the tables. This analysis has revealed that behavioural intention has outweighed the other constructs of the Theory of Planned Behaviour model. This means that the variable, behavioural intention, has proven to be the strongest factor in the determination of behaviour change in this study, which makes it the independent variable

4.10 REGRESSION ANALYSIS

The following section contains data that was further analysed. Multiple regression was used to analyse the variables “attitude and beliefs, subjective norms, perceived behavioural control and behavioural intention” (Littlejohn and Foss, 2009:826) and evaluate which of them had made the biggest contribution to the model. Data was regressed multiple times due to data reduction to ensure improved results.

4.10.1 Multiple Regression: Step I

The regression formula for regression and multiple regression are displayed below:

$$Y = a_0 + b_1\ x$$

$$Y = a_0 + b_1\ x_1 + \ x_2 + \ \ + bn\ x_n$$

The y is the dependent variable, a_0 is constant, b_1 is the slope of the regression line, X is the independent variable. For example, the relationship between attitudes, and beliefs and behavioural intention, were behavioural intention is dependent and attitudes and beliefs independent. This example is a linear regression. However, multiple regression can be defined as an association between a dependent variable and more than one independent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523[a]	.274	.259	.72759

a. Predictors: (Constant), BEIN2, PBC3, AttBel2, AttBel4, AttBel9, AttBel8, PBC2, AttBel1

b. Dependent Variable: BEIN1

Table 4.4: Regression Analysis - Placements

This table summarises the model presentation with appropriate analysis. The **R** signifies the multiple correlation coefficient with a range that lies between -1 and +1. The above R coefficient has a significance level of 0.523% which means that there is a positive relationship between behavioural intention and perceived behavioural control and attitudes. The model summary indicated an adjusted R squared reading of .274. There is a 27.4% portion that represents the variable that explains the independent variables. It should be noted here that the R square value is ignored and the adjusted Q square value has been interpreted since there are more than two variables.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.246	8	9.781	18.475	.000[b]
	Residual	207.520	392	.529		
	Total	285.766	400			

a. Dependent Variable: BEIN1

b. Predictors: (Constant), BEIN2, PBC3, AttBel2, AttBel4, AttBel9, AttBel8, PBC2, AttBel1

Table 4.5: ANOVA - Placements

The ANOVA table represents the F value which was a significant value of < 0.5 which made the analysis significant. This means that the dependent variable placement percentage is most reliable. The above ANOVA results demonstrate an insignificant Sig. value. This indicates that all slope coefficients are equal to 0. These results confirm that there is a correlation between the variables.

Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.441	.149		2.969	.003		
	AttBel1	.024	.049	.025	.501	.616	.719	1.391
	AttBel2	-.062	.050	-.060	-1.220	.223	.759	1.317
	AttBel4	.142	.038	.175	3.747	.000	.846	1.182
	AttBel8	-.006	.047	-.006	-.118	.906	.774	1.292
	AttBel9	.066	.047	.067	1.383	.167	.782	1.278
	PBC2	.007	.051	.006	.131	.896	.764	1.309
	PBC3	.140	.058	.120	2.399	.017	.744	1.344
	BEIN2	.401	.044	.409	9.119	.000	.919	1.088

a. Dependent Variable: BEIN1

Table 4.6: Regression Model – Coefficients

The coefficients table is important to explain the R square and the F values. The column entitled “Sig” indicates the significance level of correlation, and should be greater than 0.05 ($p<0.05$). Then the hypothesis proves that there is a zero (0) slope that should be rejected. The “Sig” column in the regression table indicates that all variables do not have a significance level, which is indicated by the quantitative relation $p<0.05$ (where the significance level is below 0.05), From these results it can be, deduced that all the variables do not correlate. The sig. values are read in conjunction with t-values. For this model:

- Attitudes and Beliefs1: (t=.501, p>0.001),
- Attitudes and Beliefs2: (t=-1.220, p>0.001),
- Attitudes and Beliefs4: (t=3.747, p>0.001),
- Attitudes and Beliefs8: (t=-0.118, p>0.001),
- Attitudes and Beliefs9: (t=1.383, p>0.001),
- Perceived Behavioural Control2: (t=0.131, p>0.001),

- Perceived Behavioural Control3: (t=2.399, p>0.001), and
- Behavioural Intention2: (t=9.119, p>0.001)

Collinearity Statistics

The above regression model coefficient table presents multi-collinearity scores. These coefficients have been examined specifically for VIF and indicator of collinearity. The acceptable level is a VIF of below 3. All the above variables scored well below 3. Therefore, there is no concern. A continuation to rerun the regression model would present acceptable, reliable and valid results that indicate that collinearity is not a problem. However, significance levels for attitudes and beliefs 1, 2, 8 and 9 were higher than 0.05. These items did not make a significant contribution to the model and had to be deleted. Thus, regression was rerun without them.

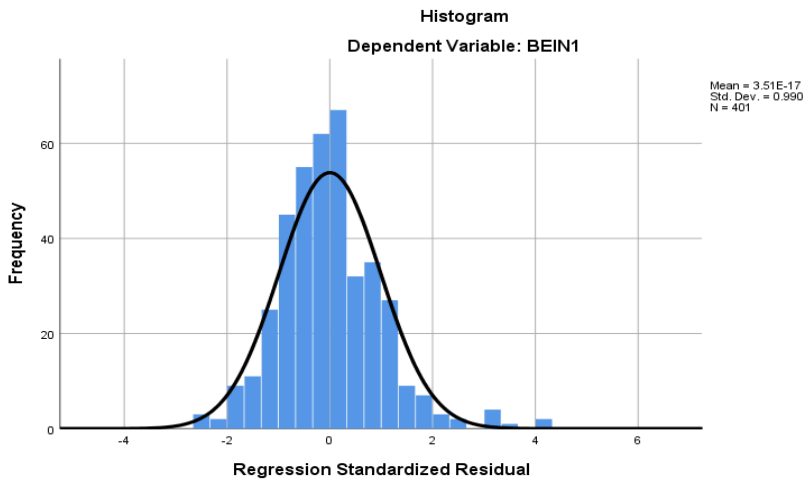


Figure 4.36: Regression Standardised Residual

Plots of residuals and homogeneity of error variance look identical to the plots of the preliminary model. The figure of residuals' results allowed the researcher to check the extent to which the residuals had been normally distributed. The figure indicate a normal distribution.

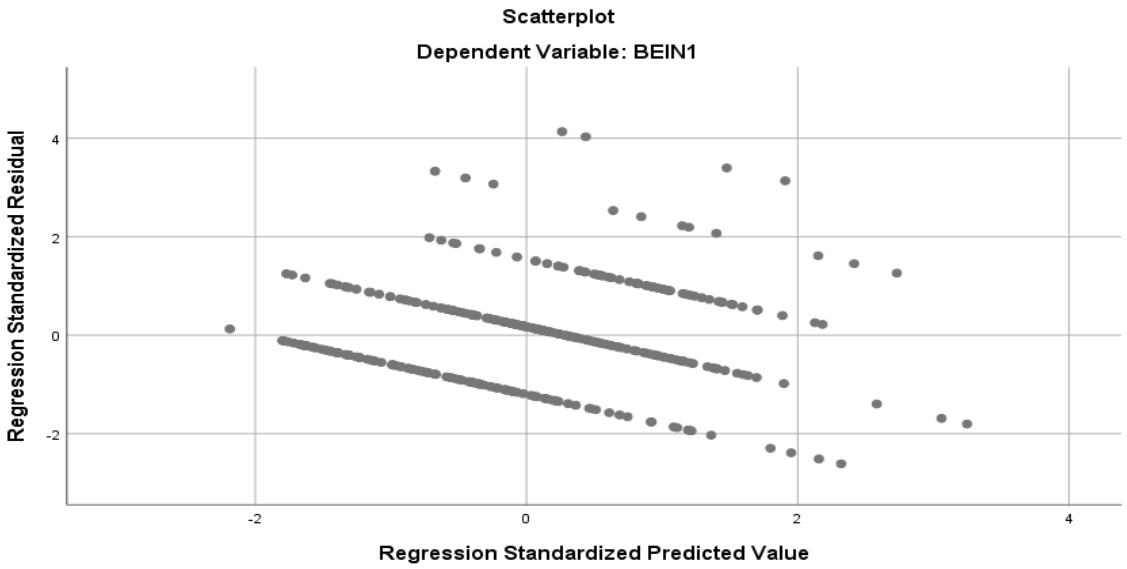


Figure 4.36: Regression Standardised Predicted Value

This figure presents P-P Plots for the behavioural intention variable that has outliers that were removed before regression was rerun.

4.10.2: Multiple Regression: Step II

In preparation for a rerun of regression the following variables were further removed: attitudes and beliefs 1, attitudes and beliefs 2, attitudes and beliefs 8 and attitudes and beliefs 9, perceived behavioural control and behavioural intention 2. The deletion of these variables was due to high significance values and the remaining variables were used in the analysis. The following table indicates the final results which were drawn from the regression model:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.518[a]	.268	.263	.72583

a. Predictors: (Constant), BEIN2, PBC3, AttBel4

b. Dependent Variable: BEIN1

Table 4.7: Regression Analysis-Placements

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.617	3	25.539	48.478	.000[b]
	Residual	209.148	397	.527		
	Total	285.766	400			

a. Dependent Variable: BEIN1

b. Predictors: (Constant), BEIN2, PBC3, AttBel4

Table 4.8: ANOVA - Placements

Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.447	.130		3.434	.001
	AttBel4	.150	.036	.185	4.108	.000
	PBC3	.155	.052	.132	2.998	.003
	BEIN2	.399	.043	.408	9.296	.000

a. Dependent Variable: BEIN1

Table 4.9: Regression Model – Coefficients

Model summary

The model summary indicated an adjusted R squared reading of 0.268, which indicates that there is a 26.8% fraction of the independent variables. This was an acceptable score for regression. The low significance values indicated that all the previously mentioned variables contribute to the model. The researcher has also proved that collinearity was not a factor.

ANOVA

The ANOVA table represents the F value which was a significant value of < 0.5 which made the analysis significant. This meant that the dependent variable placement percentage was very reliable. The ANOVA results point that the Sig. value is insignificant. This indicates that all slope coefficients are equal to 0. These results confirm that a correlation exists between the variables.

Coefficients

The researcher examined the coefficients table and interpreted the results which are presented as follows. The model coefficient table reports the coefficients for attitudes and beliefs, perceived behavioural control, behavioural intention and their significant values. The model coefficients have been used in the construction of a regression equation. A low significant value of >0.05 for attitudes and beliefs, perceived behavioural control and behavioural intention, indicates that they have a strong relationship with each other.

- The coefficient table demonstrates the dependent variable when all other variables = 0. In this case, the dependent variable, when all other variables are 0, contributes 44,7% of the construct.
- Slope of attitudes and beliefs = 0,15. For every 1 increase in attitudes and beliefs4, the behavioural intention increases by 0,15.
- Slope of perceived behavioural control3 = 0,155. For every 1 increases in perceived behavioural control3, the behavioural intention increases by 0,155.
- Slope of behavioural intention2 = 0,399. For every 1 increase in behavioural intention (dependent variable); behavioural intention2 increases by 0,399.

In review, specific variables that explain the model, were examined as follows. The dependent variable asks whether *"I will participate in HCC on campus in the future"* the independent variables ask *"I would participate in HCC with my classmates and friends"; "I am free to decide to participate in a HCC on campus"* and *"I dislike the message design of the HCC on campus"*. What is important to note here, is that clearly, of all the questions asked, it is the opinions of classmates and friends that matter more than anything else. Freedom of choice to participate in health communication campaigns is most important and furthermore, the current design of the health communication campaigns is unpopular with the students.

4.11 CONCEPTUAL FRAMEWORK AND HYPOTHESIS TESTING

The researcher examined Cronbach's Alpha and every variable of the Theory of Planned model. After the final regression model was run, the researcher checked the p> scores to either accept or reject the study's hypothesis. 'These hypotheses have identified the relationship among factors as independent variables that impact on and

increase the likelihood of the intended behaviour (Al-ghaith, 2015:3). The P value represents the level of significance it tells us to accept or reject the H_0 if:

- If $p < 0.05$ then H_0 is true.
- If $p > 0.05, 0.1$ then H_a is false.

The independent variables i.e. 'attitudes and beliefs, subjective norm, perceived behavioural control' (Littlejohn and Foss, 2009:826), which belong to the Theory of Planned Behaviour model were regressed as far as behavioural intention was concerned, which was the dependent variable. The results of the hypothesis are presented as follows (see Table 4.7.6):

- attitude ($\beta = 0.185$, $p < 0.001$)
- subjective norms (β = insufficient, $p > 0.001$)
- perceived behavioural control ($\beta = 0{,}132$, $p < 0.001$)
- behavioural intention ($\beta = 0{,}408$, $p < 0.001$)

These results showed that attitudes and perceived behavioural control are significant and relate to behavioural intention. Therefore, these variables contribute to behaviour. As a result, Hypothesis1, Hypothesis3 and Hypothesis4 were accepted. The model summary indicated an adjusted R squared reading of 0.263, from which it can be deduced that there is a 26.3% fraction of the dependent variable which explains the independent variables. This was an acceptable score for regression. However, since the subjective norm was proved insignificant, thus Hypothesis2 was rejected.

The overall aim of his study was to measure behavioural intention following the introduction of health communication campaigns at the University of Limpopo. 'The combination of attitudes and beliefs, subjective norms, perceived behavioural intention and behavioural intention together can help determine future behaviour' (Vincent et al: 2015, 901). The research sought to determine which variable would contribute most to behavioural change. The researcher used a conceptual framework, designed by the researcher, which made use of constructs that belong to the study's theory and that address a particular phenomenon. Camp (2001:4) defined a conceptual framework "as a structure which the researcher considers can best explain the natural progression of the phenomenon to be studied". This view proposes that a conceptual framework flows in a particular direction. It serves to investigate the relationship

between the constructs of a phenomenon of a study. Imenda (2014:189) views conceptual frameworks as models. Traditional models were presented as visual diagrams which have steps/stages; they have arrows that flow in a particular direction. Similarly, in this study, the researcher developed a conceptual framework towards behavioural change using the variables that belonged to the Theory of Planned Behaviour. This aspect allowed the researcher to understand and visualise the flow of the research. The final model with the regression weights is shown here.

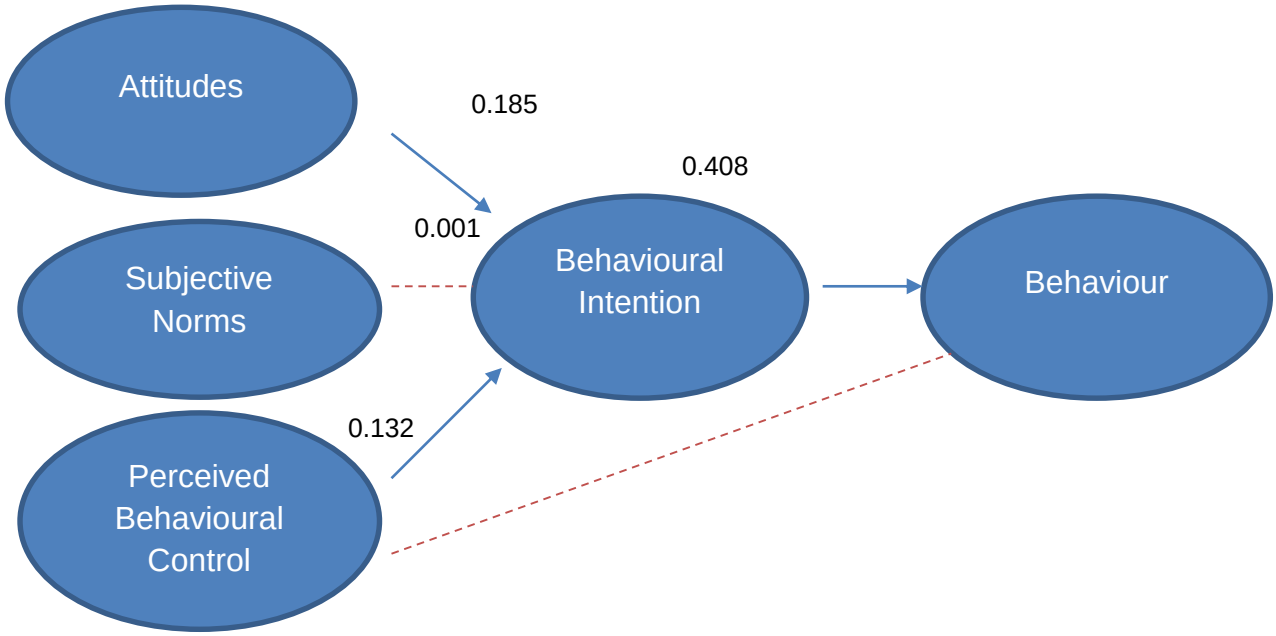


Figure 4.37: Conceptual Framework (TPB)

The above conceptual model demonstrates the Theory of Planned Behaviour's constructs and their contributions towards the model. This model was constructed, directly from the results of this study. The dotted line indicator represents a variable that has a direct and significant contribution towards the model; and the straight clear line indicator, with an arrow, represents a direct and significant contribution a variable has on the model. The significance values have also been displayed, next to the model. The purpose of this model is to demonstrate the level of intention to participate in health communication campaigns and to examine the relationship between the constructs of this theory.

In the questionnaire that was distributed to the participants, the researcher presented the following statements: *my cultural background influences my decision to participate in health communication campaigns.* In this context, 'attitudes' was defined as an "individual's disposition towards performing a specific behaviour or task, which can also be a positive or a negative evaluation of the behaviour. From this statement we can conclude that attitudes are socially constructed within the context of culture. According to Al-ghaith (2015:6) "previous studies have shown that attitude positively influences behavioural intentions". In the above model it is clear that participation of 'attitude' explanatory power had the second highest significance level after behavioural intention. These findings were consistent with those of Al-ghaith's (2015).

However, this study showed that subjective norms in this sample group were insignificant. This variable indicated an insignificant value of ($p<0.001$). These findings were not consistent with those of Yann Truong (2009), in his evaluation of the Theory of Planned Behaviour. In his study and other research, outside the realm of health communication, the subjective norm has proven that it has a positive contribution towards behavioural intention. One of the subjective norms items was as follows: *My choice for participating in health communication campaigns is influenced by my friends.* The majority of the participants responded as follows: 96 (23.9%) strongly disagreed while 169 (42.1%) disagreed that their choice to participate a health campaign was not influenced by their peers. This confirms that these participants think independently and would not make their personal health decisions, in consultation with their peers, friends or their family members. This kind of thinking is to be expected, within the context of a higher learning institution, where young adults, involved in further education, are considered old enough to think for themselves and this thinking is highly commendable.

The perceived behavioural control together with behavioural intention both indicated a strong regression weight. Perceived behavioural control has been defined as the ability of an individual to perform an action. The majority of the participants presented the following statements positively, with regard to both the perceived behavioural control and behavioural intention variable. It can be concluded that the Theory of Planned behaviour had, and will continue to have, the ability to predict future behaviour in health communication.

4.12 CONCLUSION

The findings of this study, as per the research questions, confirmed a positive response. According to the item: *I appreciate health communication campaigns around campus because they educate students*; the majority of 175 (43.6%) strongly agreed and 148 (36.9%) agreed that they appreciated the health communication campaigns, because they educated students about health issues. These were positive results, which indicated that most students believed that the health communication campaigns were there to make a positive impact. Health promoters need to continue to create a welcome environment that supports and assists youth. Subsequently, when asked to respond whether they intended to participate in campaigns in the future; the majority of 148 (36.9%) participants strongly agreed and 174 (43.4%) participants agreed. In this model, behavioural intention is directly linked to behaviour or behavioural change. Therefore, this positive response indicates to the researcher that the likelihood of participation is high, because the intention exists.

In review, the research presented both descriptive and inferential data in the form of both tables and graphs. In both the presentation of descriptive and inferential data, significant results were drawn. The researcher used the Theory of Planned Behaviour model, to structure questions, according to each of the model's constructs. This allowed the researcher to account for each contract and demonstrate how each contributed to the model. The theory postulates that behavioural intention predicts behavioural change or future behaviour. This is with the help of a combination of the variables: 'attitudes and beliefs, subjective norms and perceived behavioural control' (Littlejohn and Foss, 2009:826). The results of this study further confirmed that the attitudes and beliefs variable of the Theory of Planned Behaviour in this study proved to be a predictor of behavioural change.

CHAPTER 5: FINDINGS AND CONCLUSIONS

5.1 INTRODUCTION

The following section reviews work completed throughout the project. The researcher reflects on major findings, final conclusions and the recommendations of this study, emanating from the literature and data analysed in the relevant chapter. The researcher has identified limitations of the study. This is followed by a discussion of the research implications concerning health communication campaigns. Here, the researcher also discusses how health communication campaigns could work to achieve awareness amongst the student community. The researcher further elaborates on the impact of the health communication campaigns held at the University of Limpopo.

5.2 SUMMARY OF THE RESEARCH

The focus of this study was to evaluate the impact of health communication campaigns at the University of Limpopo. The researcher aimed to measure behavioural intention following the introduction of health communication campaigns. To achieve this, the researcher had to set feasible objectives to answer key questions of this study. The following were the research objectives:

- To empirically measure the intention to participate and subscribed to health communication campaigns at the University of Limpopo
- To empirically determine the relationship between attitudes and beliefs, subjective norms, perceived behavioural control and the behavioural intention of students towards the health communication campaigns at the University of Limpopo

To evaluate the impact of health communication campaigns, the researcher sought to understand how the human behavioural process takes place at a cognitive level. The Theory of Planned Behaviour postulates that, for the researcher to be able to predict future behaviour or for an individual to participate in a health campaign, several components came into play. ‘The combination of attitudes and beliefs, subjective norms, perceived behavioural intention and behavioural intention together, can help determine future behaviour’ (Vincent et al:2015, 901). The researcher used the model of Theory of Planned Behaviour to determine which variable contributed to most, towards behavioural change or rather future behaviour. The researcher was able to test the

theory on the target population and make conclusions on the impact of the campaigns. The Theory of Planned Behaviour was used not only to guide the literature in the study, but to also guide the methodology in the formulation of questions for data collection.

Historically, communication campaigns have striven to remain effective 'via coherent and systematic prevention activities at a community level' (Peltzer et al, 2012:5). However, literature and research findings surrounding health communication campaigns have only take place on an international level. The background of the research problem covered the gap between the message development of health communication campaigns and their impact. The background of this study focused on both international and provincial literature surrounding health communication campaigns. Although, much of the work done in South Africa surrounding health communication campaigns focused primarily on issues of HIV/AIDS, STIs and TB, literature did reveal that the development message is what determined the success of these campaigns.

The methodology used in this study was designed so as to enable the researcher to empirically measure behavioural change. This method had to produce measurable results. The researcher used the quantitative research approach and made use of questionnaires for data collection. The research population consisted of a total of 2,5% of the student population across all faculties. According to statistics provided by the Institutional Planning division at the University of Limpopo (Steynberg, 2017) (Annexure D) the number of registered students in 2017 was 20 679 in total. The sample size was calculated as per the 95% confidence level, using the Sloven's formula that produced the 2,5%. This percentage was equivalent to 401 students, who had to participate in this study. However, the researcher saw fit to survey 517 students to allow for the rejection of some, invalid, incomplete questionnaires, such as the116 questionnaires had missing values and which were discarded. Only, 401 questionnaires that were ultimately valid and used for data interpretation and analysis. The Stratified sampling method used was calculated in terms of the enrolment of students per faculty, school and gender at 2,5% of the total target population. Questionnaires were coded for easy analysis and data was analysed using the SPSS version 25 program. The findings were presented by means of tables and histograms, followed by discussion.

5.2.1. Objectives of the Study

This section presents the researcher questions which stemmed from the key objectives, outlined in the methodology chapter. The researcher selected specific items from the questionnaire that answered the research objectives. The following questions were measured using the Likert scale that indicated the following: 1 – strongly agree, 2 – agree, 3 – neutral, 4 – disagree, 5 – strongly disagree. These objectives are followed by descriptive statistics that the researcher presented and gave a brief description of each of the results.

Objective 1:

What is the intention of students' participation in health communication campaigns at the University of Limpopo?

According to this study's questionnaire, the question was formulated in order to answer this objective: *I intend to participate in health communication campaigns in the future.* The intention to participate in this context is understood as being that the individual would take the initiative to participate in any activity presented by a health communication campaign in the near future. This was one of the three questions that was classified under the behavioural intention construct of the TPB model. This question allowed the researcher to measure the level of intention of the target population towards participating in a health communication campaign. In accordance with the model used in this study, this fact would allow the researcher to predict participation behaviour, which could also be called future behaviour. Descriptive statistics confirmed that the amount of 148 (36.9%) participants strongly agreed and 174 (43.4%) participants agreed, that they did intent to participate in health communication campaigns in the future. However, 135 (33.7%) strongly disagreed and 169 (42.1%) disagreed and indicate that they did not intend to participate in health communication campaigns. Only 61 (15%) indicated a neutral result, which indicated they did not have an opinion on the question.

Objective 2:

What is the relationship between attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention of students towards health communication campaigns at the University of Limpopo?

Pearson Correlations were used to measure which variables were highly correlated and behavioural intention was with the highest coefficient of 0.455 between questions: *I will participate in health communication campaign on campus often in the near future* and *I dislike the message design of health communication campaigns on campus*. The results of these questions were positive, considering the coefficient indicator. It can be concluded that there is a willingness to participate in health communication campaigns in the near future. This also is an indicator that health communication campaigns have remained relevant and effective. Even so, in the literature the Theory of Planned Behaviour the model shows that there is an association between the behavioural intention and behavioural change variables. In addition, the theory also postulates that behavioural intention is the ultimate determinant of behavioural change and this study tested behavioural intention as the determinant of behavioural change. This analysis has thus revealed that **behavioural intention weighed more heavily than any other variables of the Theory of Planned Behaviour** model. Thus, behavioural intention has proven to be the strongest factor in the determination of behaviour change, for the context under study and is thus the independent variable.

5.3 MAJOR FINDINGS AND DISCUSSION

Significant results and discussions of the Likert-scale questionnaire responses, the hypothesis and the theoretical framework are discussed in this section.

The following hypothesis were tested:

Hypothesis 1: Behavioural Intention

H_0: All variables significantly contribute towards behavioural intention ($p>0.05$).

H_a: All variables do not significantly contribute towards behavioural intention ($p<0.05$).

Hypothesis 2: Attitudes

H_0: If levels of attitudes increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of attitude decrease, behavioural intention will decrease ($p>0.05$).

Hypothesis 3: Subjective norms

H_0: If levels of subjective norm increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of subjective norm decrease, behavioural intention will decrease ($p>0.05$).

Hypothesis 4: Perceived behavioural control

H_0: If levels of perceived behavioural control increase, behavioural intention will increase ($p<0.05$).

H_a: If levels of perceived behavioural control decrease, behavioural intention will decrease ($p>0.05$).

The Theory of Planned Behaviour model was constituted through the test of the 4 hypotheses which have been presented. These hypotheses identified the relationship amongst factors as independent variables that had an impact on participation. Each accepted hypothesis proved that the variable tested contributed to the model and acted as a dependable variable. Explanations were nomothetic and advanced via deductive reasoning.

The study's hypotheses were tested by means of multiple regression analysis. The findings affirmed that behavioural change was influenced by behavioural intention. The behavioural intention variable was also dependent on attitudes, subjective norms and perceived behavioural control. The latter were regresses on behavioural intention. As was shown in Table 4.7.6 the results were as follows: attitude ($\beta = 0.185$, standardized path coefficient, $p < 0.001$), perceived behavioural control ($\beta = p < 0{,}132$) these variables were found to be significant and contributed to behavioural intent. (table 4.7.2). Therefore, H1 and H4 were supported. However, results drawn from subjective norm indicate (β = insufficient, standardized path coefficient $p > 0.00$) were not significant at $p<0.001$ level. Hence, H3 were not supported. Thereafter, behavioural intention was regressed on actual behaviour. Results as in Table 4.7.2 indicated that behavioural intention was significant and contributed to behavioural change. The table indicated an (adjusted $R^2=0.263$): behavioural intention ($\beta = 0{,}408$, standardised path coefficient, $p < 0.001$. Thus, H4 was supported.

The main aim of this study was to evaluate the impact of health communication campaigns by testing the Theory of Planned behaviour on the study's sample. In the literature chapter, the researcher emphasised the importance of health awareness on a personal level, that was brought about by such health interventions. Moreover, the researcher aimed to cover the gap between the message development of the health communication campaigns and their impact. In an attempt to bridge this gap, health communication campaigns should develop messages that are focused on attitudes and

beliefs, subjective norms, perceived behavioural control and behavioural intention, in order to gain the attention and motivate individuals to participate in the health communication campaigns. This level of understanding has led to extensive research in health issues and social cognitive models. Social cognition theories of health behaviour, such as the Theory of Planned Behaviour illustrate significant predictions of intentions, related to performing an action or behavioural change. However, results of this study have proved that the subjective norms variable was not significant in the model.

The findings of this study asserted that behavioural change towards campaign participation was determined by behavioural intention which is in turn determined by the participant's attitude and perceived behavioural control. According to the results, all the hypotheses were supported, except the 3rd one which stated that: if levels of subjective norm increase, behavioural intention will increase. The model adopted in this study explains 26.3% of the variance in the behavioural intention.

In review the, presentation of descriptive and inferential data means that significant results were drawn. The researcher employed the Theory of Planned Behaviour model to measure behavioural intention following the introduction of health communication campaigns. The theory postulates that behavioural intention predicts behavioural change or future behaviour. Moreover, the combination of the variables: 'attitudes and beliefs, subjective norms and perceived behavioural control have a positive influence on behavioural change' (Littlejohn and Foss, 2009:826). In this study, **behavioural intention proved to be significant and positively related to behavioural change.** This strong relation between these two constructs has likewise been evident in many other studies such as those of Al-ghaith (2015) in an *article* entitled: using The Theory Planned Behaviour to determine the social network usage behaviour in Saudi Arabia; and Taylar and Tod (1995) understanding information technology usage: a test of competing models. Information Systems Research. Behavioural intention has always played a very substantive role in the latter scholars' work in predicting future behaviour. It is also evident in the literature studies that this theory has been used in different fields of study, to predict future behaviour.

In this study, however, subjective norms **did not** contribute positively towards behavioural intention. These results have proven to be contrary to what The Theory of

Planned Behaviour has deemed to be true about the subjective norm variable. The results of earlier studies have been proved that subjective norms have positively related to behavioural intention. Subjective norms represent the motivation to comply with any activity that is influenced by family and friends. **In this context, it can be concluded that university students are not swayed by their peers to participate in health campaigns or not.**

5.4 RESEARCH IMPLICATIONS

General campaigns have an ability to change a wide range of behaviours. More specifically, the primary objective of any health communication campaign is to disseminate information and create awareness about an epidemic. Moreover, it is to encourage individuals to participate and engage with health promoters about what they know or would like to know, about a disease. The purpose of health communication campaigns is to promote health consciousness. The results of this study appear to support the primary objectives mentioned here and as also advocated by these campaigns. The support stems from the evidence that shows that the target group of the study know about the campaign and they intend to participate in it, in the future.

The results of this study were positive and proved that the Theory of Planned Behaviour was most useful. In respect of the theory's variables, behavioural intention played a significant role in predicting future behaviour as the theory claims. Behavioural intentions act as a voice which outweighs cost and gain; a person is likely to enact a behaviour because there will be a reward or punishment. This suggests that public/private health promoters and practitioners of the health communication campaigns should develop and restructure their health messages. The results obtained from this study strongly suggest that the campaign should develop messages that are intention-focused. Messages that are centred on behavioural intention will guarantee participation in health campaigns. This is the indication of the results of this study.

5.5 LIMITATIONS OF THE STUDY

In review, the researcher has reflected on the shortcomings of this study and possible approaches that could have been explored. This study could have used both the formative and summative approaches to best determine the effectiveness of the health communication campaigns. The formative approach would have explored the

campaign's design at the beginning of the study. This would have allowed for deeper analysis in message presentation and message development. The summative approach would have indicated results at the end of the campaign period, which would have provided information which would been comparable. These two would have allowed the researcher to use a cross-sectional study. The researcher could then have collected data twice. This would have allowed the researcher to not only report on the impact of health communication campaigns but also to scrutinise their programmes.

This study lacked deep data. The researcher did not use a qualitative approach. This approach would have helped the researcher establish pre-existing attitudes and beliefs amongst the target group towards the health communication campaigns. The researcher would then have better understood how the attitude variable contributes towards behavioural intention which leads to behavioural change.

5.6 FURTHER RESEARCH

Further research should be conducted with the use of mixed-methods. This will allow the researcher to explore and understand the existing attitudes and beliefs, by means of in-depth interviews with the target population, rather than merely measuring their responses. Health campaign messages should strive to modify or change attitudes and beliefs before advocating for behavioural change, because change in behaviour is a process, and these two variables contribute most to behavioural intention. In recent times, individuals who come across health campaigns should do more than just accept the health messages. 'In actual fact initial audience attitudes towards health messages have a significant impact on the potential to achieve behavioural change' (Hanan:2003,147). The contribution and findings of this study would ensure behavioural change and active participantion in the health communication campaigns.

Summative evaluation has been used to measure health communication campaigns that are founded on outlined campaign objectives. These objectives are guided by theory (See Section 2.6). Further research should monitor health communication campaigns. This research would include both the formative and summative approaches and has the potential to explore and find the gap in message development This can mean that the message meaning and effectiveness. This problem has created an environment of disinterest in health communication campaigns and what they advocate, among

prospective participants, such as youth. Health campaigns should include follow up procedures. They should create ways to increase contact with their participants.

5.7 FINAL CONCLUSIONS

Research into focused message development should be explored. Health communication campaign messages should attempt to modify intention and beliefs, before advocating for behavioural change. 'Health campaigns aim to generate a response, strengthen existing beliefs or behaviour and convert one set of behaviour/beliefs to another or maintain relationships' (Hanan:2003,141). Health communication campaigns should integrate all these objectives into a health message, slogan or motto. Similarly, they should break through the clutter of existing attitudes and beliefs towards these campaigns. In order to bridge the gap, health communication campaigns should develop messages that are attitude and beliefs focused, in order to attain the attention and encourage individuals to participate in health campaigns.

Health communication campaigns should consider referring to theory, such as the Theory of Planned Behaviour to inform their message development. An understanding of how behavioural change takes place could health promoters when they develop messages. These messages should align with each component of the theory but still strike a balance, so that participants adopt the desired action advocated by the health campaign. This should be followed by monitoring and an evaluation strategy. According to Snyder (2007:32), "after reviewing the overall effectiveness of campaigns, the lessons are organised around three critical elements of campaign planning: goals, strategy, and research". The three elements should form part of the monitoring tool to measure their level of effectiveness. This could also be in a form of a summative evaluation, where the health promoter tracks the successes and failures of health communication campaigns.

Behavioural change is a process that takes place over a series of experiences that prompt behaviour intention. Snyder (2007:39) stated that "as it stands now, the literature has been more concerned with immediate behaviour change than sustainability of effects". Campaigns should engage campus communities in a continuous dialogue, to answer questions and clarify misconceptions and negative attitudes that exist in society. However, health communication campaigns together with 'culturally sensitive, social prevention programmes that foster social debate in a peer approach, should not only be

focussed on the University environment, but on all levels of society' (Saunderson:2013,190). A comprehensive approach such as that proposed by Saunderson (2013:190) should be integrated into the health promotion programmes.

In this study, the researcher focused on behavioural intentions of the individuals and their behaviour towards health communication campaigns from a social and a behavioural perspective. In order to achieve this the Theory of Planned Behaviour was used. The results of this study, indicated that attitude and perceived behavioural control had a significant effect on behavioural intention and behavioural intention had a significant effect on behavioural change. However, the results also indicated that that subjective norm variable had no effect on either behavioural intention or behavioural change. The model adopted in this study explained 26.3% of the variance in behavioural intention which contributed the most towards behavioural change. This means that the Theory of Planned Behaviour has was effective in the evaluation of health communication campaigns at held the University of Limpopo.

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Annexure A: Survey Questionnaire

Section A: Demographics

Instruction: Please answer the question by placing a tick/cross in the appropriate box.

Explanation of terms	
Health Communication Campaign	A media campaign that promotes health

1 Gender (Please place a tick/cross next to the appropriate answer)

Male		…1
Female		…2

2 Age (Please place a tick/cross next to the appropriate answer)

16-19 years		20-23 years		24-27years		28 years +	
	…3		…4		…5		…6

3 What is your level of study?

1st year		…7
2nd year		...8
3rd year		…9
4th year		…10

4 In which faculty do you fall?

Faculty of Health Science		…13
Faculty of Humanities		…14
Faculty of Science and Agriculture		…15
Faculty of Management and Law		…16

Section B: Attitudes and Beliefs towards health communication campaigns

Instruction: Please answer the question by placing a tick/cross in the appropriate box.

Please tick/cross the most appropriate answer which will indicate why you would participate in a health campaign?

No	**Item**	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	
5	I appreciate health communication campaigns around campus because they educate Students.						…17
6	I think and believe that health communication campaigns good for me.						…18
7	My cultural background influences my decision to participate in health communication campaigns.						…19
8	I would participate in health communication campaigns together with my classmates and friends.						…20
9	I would participate in health communication campaigns because they offer free testing for HIV/AIDS, STIs and TB.						…21
10	I am tired of hearing about health messages on TV, radio and Billboards.						…22
11	I am tired of being asked to test for HIV/AIDS, STIs and TB.						…23
12	I think health communication campaigns are a good initiative to mobilise new health strategies offered by the health institutions.						…24

No	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
13	I believe that health communication campaigns can contribute to the decline of health disease statistics in the country.						…25
14	I would participate in health communication campaigns because they are endorsed by big credible institutions for e.g HEAIDS.						…26

Section C: Subjective Norms towards health communication campaigns

Instruction: Please answer the question by placing a tick/cross in the appropriate box.

No	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
15	People who are important to me think I should participate in health communication campaigns.						…27
16	My choice for participating in health communication campaigns is influenced by my friends.						…28
17	My decision to participate in health communication campaigns is influenced by radio advertisements.						…29
18	My decision to participate in health communication campaigns is influenced by health messages.						…30

Section D: Perceived Behavioural Control towards health communication campaigns

Please tick/cross the most appropriate answer which will indicate why you would participate in a health campaign?

No	**Item**	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	
19	Deciding to participate in health communication campaigns is entirely within my control.						…31
20	Whether or not I participate in health communication campaigns, it's my decision.						…32
21	I am free to decide to participate in a health communication campaign on campus.						…33

Section E: Behavioural Intention towards health communication campaigns

Please tick/cross the most appropriate answer which will indicate why you would participate in a health campaign?

No	**Item**	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	
22	I intend to participate in the health communication campaigns in the future.						…34
23	I will participate in health communication campaign on campus often in the near future.						…35
24	I dislike the message design of the health communication campaigns on campus.						…36

Annexure B: Consent form

I …… (name), hereby give my consent to you to participate in the research project titled “AN EVALUATION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGNS AT THE UNIVERSITY OF LIMPOPO.” as a study by Mamodupi Lekekela, a Masters student at the Department of Communication, Media and Information Studies, University of Limpopo. I am participating out of my own free will. I understand that anonymity will be kept and my information will be treated with utmost confidentiality. I read the letter to the respondents that outline the purpose of the research. I also understand that I have the right to withdraw from the study at any time.

…….. ……..……..

Signature Date

Annexure C: Letter to research respondent

Department of Communication, Media and Information Studies
School of Languages and Communication Studies
Private Bag X1106
Sovenga
O727
University of Limpopo
Tel: +27 (0)15 268 2589
10 May 2017

Dear Participant

My name is Mamodupi Lydia Lekekela, a Masters student at University of Limpopo, who is conducting research in health communication in the Department of Communication, Media and Information Studies. I am required to do research in fulfilment for the Master of Arts Communication Studies. The title of my research is “AN EVALUATION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGN MESSAGES AT THE UNIVERSITY OF LIMPOPO”.

The purpose of this study is to empirically measure the behavioural intention following the introduction of the health communication campaigns that take place at the University of Limpopo amongst the students across all faculties. The purpose of the study is to determine the relationship between attitudes and beliefs, subjective norms, perceived behavioural control and behavioural intention of students towards health communication campaigns at the University of Limpopo. Your participation is voluntary and highly appreciated. As you will have helped in contributing to a study that will help revamp the structure of health communication campaigns at the University of Limpopo. You have the right to participate in this study and your anonymity will be protected. Withdrawal from the study is allowed anytime. Privacy of your response paper will be ensured. The information gathered will be used for the purpose of the study. There are no benefits for participating in the study.

Regards.
M.L Lekekela

Annexure D: Letter to the Director of school

University of Limpopo
Postgraduate Residences
Sovenga
0727
21 February 2018

School of Languages and Communication
Department of Media, Communication and Information Studies
Private Bag X1106
Sovenga
0727

Request for permission to conduct research in schools

Director of School

My name is Mamodupi Lekekela, a Masters student at University of Limpopo, who is conducting research in health communication in the Department of Communication, Media and Information Studies. The research I wish to conduct for my Masters involves "AN EVALUATION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGN MESSAGES AT THE UNIVERSITY OF LIMPOPO". This project will be conducted under the supervision of Dr I Saunderson.

I am hereby asking for your consent to let me survey the class size sample of the course code _____ and assist me to find the lecturer coordinating this course. I have provided you with copies of my: survey questionnaire, consent form, letter to respondent to be used in the research process, as well as a copy of my approval letters which I received from the University of Limpopo Ethics committee and the Gate Keeper permission to conduct research. Thank you for your time and consideration for this matter.

Yours Sincerely,
Ms ML Lekekela

Annexure E: Research Population

Page Items: Academic Year: 2017

Faculty School Name	Gender	Number of Students SUM F	Number of Students SUM M	Number of Students SUM Sum
HEALTH SCIENCES		896	588	1484
HEALTH SCIENCES TURFLOOP		862	558	1420
MEDICINE TURFLOOP CAMPUS		34	30	64
HUMANITIES		4060	3098	7158
EDUCATION		1701	1564	3265
HUMANITIES		134	120	254
LANG AND COMM STUDIES		1342	833	2175
SOCIAL SCIENCES		883	581	1464
MANAGEMENT AND LAW		3330	2892	6222
ACCOUNTANCY		1077	989	2066
ECONOMICS AND MANAGEMENT		1300	940	2240
GRADUATE SCHOOL OF LEADERSHIP		103	73	176
LAW		811	836	1647
MANAGEMENT AND LAW		39	54	93
SCIENCE AND AGRICULTURE		2758	3057	5815
AGRIC AND ENVIRONMENTAL SCI		920	695	1615
MATH AND COMPUTER SCI		440	911	1351
MOLECULAR AND LIFE SCIENCES		746	592	1338
PHYSICAL AND MINERAL SCIENCES		535	757	1292
SCIENCE AND AGRICULTURE		117	102	219
Sum		11044	9635	20679

Annexure F: TREC (Ethical Clearance Certificate)

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 4029, Fax: (015) 268 2306, Email:Abdul.Maluleke@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

MEETING:	**02 November 2017**
PROJECT NUMBER:	**TREC/398/2017: PG**
PROJECT:	
Title:	An evaluation of the impact of Health Communication Campaign message at the University of Limpopo
Researcher:	ML Lekekela
Supervisor:	Dr I Saunderson
Co-Supervisor:	N/A
School:	School of Languages and Communication Studies
Degree:	Masters in Communication Studies

PROF TAB MASHEGO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:
i) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.**
ii) **The budget for the research will be considered separately from the protocol.**
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

Annexure G: Gate Keeper Permission to Conduct Research

University of Limpopo
Office of the Registrar
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2407, Fax: (015) 268 3048, Email: Office.Registrar@ul.ac.za

19 February 2018

Ms M L Lekekela

Email: mamodupilekekela@gmail.com

Dear Ms Lekekela,

GATEKEEPER PERMISSION TO CONDUCT RESEARCH

TITLE: AN EVALUATION OF THE IMPACT OF HEALTH COMMUNICATION CAMPAIGN MESSAGE AT THE UNIVERSITY OF LIMPOPO

SUPERVISOR : Dr I Saunderson
SCHOOL : School of Languages & Communication Studies
DEGREE : Masters in Communication Studies

Kindly be informed that Gatekeeper permission is granted to you to conduct research at the University of Limpopo entitled: ***"An Evaluation of the Impact of Health Communication Campaign Message at the University of Limpopo"***.

Kind regards,

DR. JEFFREY MABELEBELE
UNIVERSITY REGISTRAR

Cc. Prof. RN Maḓadzhe, Acting Deputy Vice-Chancellor: Teaching and Learning
Mr. T Mabila, Acting Director: Research Development and Administration
Prof. TAB Mashego – Chairperson: Research and Ethics Committee
Ms. N Monene – Office Manager: Research Development and Administration

Finding solutions for Africa

Annexure H: Turnitin Results

HCOA090

ORIGINALITY REPORT

9%	6%	3%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.wildsmart.ca Internet Source	1%
2	Submitted to Varsity College Student Paper	<1%
3	Submitted to Ghana Technology University College Student Paper	<1%
4	Submitted to EDMC Student Paper	<1%
5	doc.rero.ch Internet Source	<1%
6	mro.massey.ac.nz Internet Source	<1%
7	Submitted to University of KwaZulu-Natal Student Paper	<1%
8	Submitted to University of Wales Institute, Cardiff Student Paper	<1%

Annexure I: Letter from Language Editor

EDITING CERTIFICATE

The following M A thesis was edited for grammar, syntax, punctuation, vocabulary, tenses, logic and general expression.

An Evaluation of the Impact of Health Communication Campaigns at the University of Limpopo.

Mamodupi Lydia Lekekela

March 2020

S Harman
P O Box 110
Haenertsburg
083 799 1009