Determining the impact of demarketing as a strategy to drive targeted consumption in soft drinks.

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

01 November 2022

ABSTRACT

Consumer behaviour is of importance to marketers, organisations, and governments as consumption of unhealthy products increasingly create fiscal burdens through increasing non-communicable diseases and organisations face increased scrutiny for their role in fuelling unhealthy consumption. As a result, demarketing efforts have been utilised to curb unhealthy consumption behaviour. This research aimed to understand the impact of targeted preventative demarketing messaging on claimed consumption, purchase intent and brand perception specifically within the category of soft drinks, where the overall objective was to intervene and direct consumers from an unhealthy sugary soft drink variant to a healthy no sugar soft drink variant. An online experimental survey, testing three demarketing messages ranging from soft to hard was conducted. The target population was South African adults using purposive and snowballing sampling techniques. Data was collected from 542 participants.

The findings of this research suggest that consumers can be transitioned from an unhealthy variant to a healthier one and that there is a relationship between targeted preventative demarketing messaging and purchase intent; however, results also showed no obvious relationship between brand perception and claimed consumption. The tactic of targeted preventative demarketing, which was introduced by the researcher through this study, adds to the field of demarketing, which future researchers can develop further. Targeted preventative demarketing is the promotion of limiting consumption of one product for another healthier or less harmful product within the same product or service offering; this activity may be done directly by a firm to protect its consumer base or by a government, non-governmental organisation or industry body agnostic of the impact on firm sales.

Keywords: Demarketing, Targeted Preventative Demarketing, consumer behaviour, consumption, purchase intent, brand perception, South Africa

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name: Mukundi Munzhelele

Date: 01 November 2022

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1. CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

Consumption-driven societies and marketing are closely connected, with marketing commonly used to fuel increasing consumption for the benefit of retailers and producers (Kotler, 2011; Lee, 2006). Fast-moving consumer goods (FMCG) companies have used marketing to grow sales and market share of various products. However, many of these products have been highlighted as significantly contributing to or responsible for the rise of obesity, diabetes and other non-communicable diseases (NCDs) (Mutyambizi et al., 2019). Products that are high in salt, fat and sugar have been identified as some of the key contributors to the growing negative impact of NCDs (Belc et al., 2019).

In response, governments, health organisations and FMCG companies have sought various means to affect behaviour and assist consumers in making better choices. In some cases, products considered high in unhealthy ingredients have been taxed to spur innovation and reduce potentially harmful ingredients, or make them more expensive to deter consumer purchases, for example, the sugar tax on sweetened beverages or the Health Promotion Levy (HPL) introduced in South Africa in 2016 (Saxena et al., 2019). The aim of this study was to understand if active targeted demarketing can aid consumers in making healthier choices and, in the case of South Africa, if marketing practitioners and governments can use demarketing to influence consumers to make healthier choices regarding soft drinks, with the subsequent learnings potentially applied to other categories.

As of current, taxation has been recommended and used as a valid and effective way of driving consumer behaviour to make healthier choices across various categories and multiple countries (Acton et al., 2019; Harding & Lovenheim, 2017). In South Africa, the sugar tax or HPL is reported to be effective, with results showing that purchasing and consumption of sugar-sweetened beverages (SSBs) declined amongst consumers. Reductions have been noted amongst lower socioeconomic groups and populations with higher rates of SSB consumption, which has been assisted by beverage manufacturers reformulating their products to have less sugar (Hofman et al., 2021; Stacey et al., 2021; Stacey et al., 2019). However, taxation has been criticised by the organisations and industry bodies impacted, with South Africa's HPL said to damage the sugar industry and risk jobs in a country with an already high unemployment rate (Kaltenbrun et al., 2020). Governments have also been criticised for targeting products deemed unhealthy based

purely on monetary gains, with health not considered the key driver for their actions (Dardagan, 2022; Kruger et al., 2021). Despite criticism, it is generally accepted that certain products with high consumption levels and ingredients contributing to a rise in NCDs need to be reformulated to be healthier and/or consumer consumption reduced (Acton et al., 2019; Harding & Lovenheim, 2017).

Drawing on research within marketing and specifically demarketing, this study proposes the concept of targeted preventative demarketing as a strategy for redirecting consumer purchasing and consumption behaviour to healthier products within the same product range, for example, soft drinks with no sugar. This study focuses on the South African context where soft drinks are ubiquitous, have high consumption rates, have been highlighted as a driver of NCDs and have been subject to government taxation.

This chapter provides the background to the research topic and outlines the planned objectives for this research study. It defines the scope and context whilst highlighting why the proposed research is relevant to academic and business contexts and providing a research and chapter outline.

1.2 Background to the Research Topic

According to a report from the World Health Organization (WHO), NCDs, which consist of diseases ranging from diabetes to cardiovascular diseases and harmful substance use (e.g. alcohol and tobacco, unhealthy diets and low physical activity), are the leading cause of death (Spires et al., 2016; WHO, 2017). According to the WHO, NCDs account for approximately 41 million deaths each year globally, which equates to 74% of all deaths, with the majority (77%) impacting low to middle-income nations (WHO, 2022a). In South Africa specifically, the World Health Organisation NCD progress monitor report of 2022, states that 51% of all deaths in 2019 were as a result of NCDs (254 700 deaths), with a 24% chance of premature death as a result of NCDs (WHO, 2022b).

NCDs are a cause of economic burden to households and health systems (Jan et al., 2018). In South Africa, from 2006 to 2016, it has been estimated that the country had an economic burden of R26 billion as a result of diabetes, stroke and heart disease (Abegunde et al., 2007). Rasmussen et al. (2017) estimate that in 2015, economic activity equivalent to 6.7% of GDP was lost because of absenteeism and losses of 7% are expected by 2030. Lowering NCDs is beneficial to a country and its citizens. Various levers

have been utilised to drive healthier consumption, and FMCG companies have responded to or met consumer trends by introducing variants of their products that can be considered healthier, with reduced amounts of or complete removal of unhealthy ingredients. Examples of these ingredients include but are not limited to low-fat butter, low-fat yoghourt, no-sugar soft drinks and reduced-sugar soft drinks. These healthier products are marketed to consumers in the same way as their sugary counterparts: through the four Ps of marketing; however, these products are typically outsold by their unhealthier counterparts (Howse et al., 2018). This may be for various reasons across the four Ps of price, product, place and promotion.

However, governments have also introduced proactive communication programmes, health drives and, in some cases, taxation to drive healthier consumption (Epel et al., 2020; Mialon et al., 2020; Ndinda et al., 2018). There are successes and failures in driving consumption or anti-consumption. In the case of soft drinks in South Africa, taxation has been introduced as the primary means to reduce sugar consumption through soft drinks. It is the opinion of this research that taxation is one means to achieve this greater goal and that there may be further approaches that can be used to aid FMCGs and governments in decreasing consumption.

1.3 Research Purpose

In response to the growing focus on responsible consumer consumption, the purpose of this study is to add to the body of demarketing and consumer behaviour literature by evaluating the impact of targeted demarketing on purchase intent, brand perception and consumption of healthier variants. The proposed study aims to:

- Build on the existing body of demarketing literature.
- Evaluate the implementation of demarketing on consumption.
- Build on the knowledge of consumer behaviour concerning purchase intent.
- Contribute to consumer perception literature about product labelling that promotes the lack of or removal of ingredients thought to be negative to health when consumed in excess.
- Identify potential triggers and inhibitors to healthier product consumption.

In this study, the independent variable is defined as demarketing, and the dependent variables are defined as purchase intent, consumption and brand perception of the healthier option. The intervening mediator variable is individuals with high health

awareness overall, and the moderator variable is individuals with underlying health problems that compel them to pursue a healthier diet, for example, an individual with diabetes.

The overarching theoretical framework of this study was the theory of planned behaviour (TPB). Chapter 2 provides a definition of TPB and how it relates to demarketing and this research. As such, this proposed study hopes to add to the growing knowledge base on TPB, demarketing and consumer behaviour.

1.4 Motivation for the Research

The need for healthier consumption of products necessitates this study, as NCDs are on the rise globally and account for a significant number of deaths worldwide, however, their negative impact on nations can be proactively mitigated (Spires et al., 2016; WHO, 2022a, 2022b).

This research was designed to understand the relationship specifically and empirically between targeted demarketing messaging and its impact on consumer behaviour aspects of intent and purchase in terms of consuming a healthier offering, as well as, brand perception of a brand demarketing their product. As such there are theoretical and business motivations for the study.

1.4.1 Theoretical Need

Demarketing as a subsect of marketing is used by marketers, organisations and governments to drive certain behaviours, for the benefit of consumers or environments (e.g., addressing water scarcity), demarketing, as a result, has been growing in available literature as consumption or scarcity concerns have been rising (Chaudhry et al., 2019; Hwang et al., 2016; Kim et al., 2018; Ra'd Almestarihi et al., 2021). An extant literature review, whilst not exhaustive, did not yield any studies that were specifically similar to the concept brought forth by the research (i.e., an exact definition and replicable experiment was not found by the researcher), as such, this study also introduces a new tactic within demarketing (specifically under general demarketing) termed 'Targeted Preventative Demarketing,' which a definition is provided for. From a South African perspective, the study contributes to demarketing literature which is insufficient, due to minimal studies in the demarketing area. Therefore this study contributes to the field of demarketing within South Africa.

1.4.2 Business Need

Organisations are being asked and in some cases mandated to enable healthier consumption through offering healthier options, as governments, consumers and other organisations raise warnings on NCDs driven by overconsumption and lack of options (WHO, 2017, 2022a, 2022b). There is increasing interest in addressing unhealthy products and overconsumption through the introduction of taxes, which make products more expensive, potentially reducing demand thus motivating organisations to relook their products to make them healthier or reformulate, lastly taxes generate additional fiscal revenue for governments (Wright et al., 2017).

Businesses that have products that may be considered unhealthy or contributing to NCDs thus need to be prepared for potential business continuity affecting tactics such as taxes impacting their businesses and or brands. Businesses have an opportunity to innovate proactively or if they have healthier offerings, businesses could drive their consumers to consume healthier variants thus mitigating the need for any legislative interventions from governments, i.e., reducing the need for taxes. Lastly, there is also rising concern from consumers who are interested in healthier products, thus businesses need to align with changing consumer needs (Wekeza & Sibanda, 2019).

1.5 Research Problem and Objectives

The primary objective (research question) of this study is to determine the impact of targeted demarketing, through messaging, of an unhealthier product that benefits its healthier variant within the soft drink category in South Africa.

To answer the primary objective of the study whilst considering the background and context in South Africa, this research aims to understand the variables of claimed consumption, claimed purchase intent and brand perception by investigating the following research questions:

1. What is the impact on claimed consumer consumption post-exposure to targeted demarketing messaging of soft drinks?

2. What is the impact on claimed consumer purchase intent post-exposure to targeted demarketing messaging of soft drinks?
3. What are the positive and/or negative impacts on brand perception post-exposure to targeted demarketing messaging of soft drinks?

This study hopes to add to the body of knowledge within the field of demarketing and inform companies, organisations, governments and other groups on potential drivers of consumption of healthier product variants that benefit both consumer health and business outcomes.

1.6 Research Scope

The scope of the research was limited to SSBs in South Africa, specifically soft drinks, as the consumption of sugar through beverages can lead to obesity and related health issues, such as diabetes or heart disease (Blecher, 2015).

However, it is envisioned that the research will have applications to other products deemed to have unhealthy ingredients, including margarine, mayonnaise, peanut butter and chocolate.

1.7 Chapter Summary and Outline of the Report

This chapter provided a brief overview and background to the research problem investigated in this report and communicated the primary objectives of the study. It also introduced the key concepts and theories guiding the research.

The structure/outline of the report is as follows:

Chapter 2: Literature Review

This chapter provides an overall extant review of recent and seminal academic literature and theory relevant to the research study, that is, demarketing and its origins and the different types. It also introduces the key approach being tested in this study, targeted preventative demarketing. The core theoretical construct underpinning this study is also discussed.

Chapter 3: Research Hypotheses

In this chapter, the research question and hypothesis, as informed by the literature, are introduced with a key focus on the hypotheses. The study's conceptual model is visually demonstrated to highlight the relationships being investigated between the key constructs.

Chapter 4: Research Methodology

Chapter 4 discusses the methodology and design used in this study to answer the research questions outlined. The approach to empirical testing of the hypotheses is also discussed, as are the justifications for the study's methodological choices and decisions.

Chapter 5: Research Findings

In Chapter 5, the results of the study are presented as per the data analysis, statistical techniques and tests performed to answer the research question and hypotheses.

Chapter 6: Discussion of Findings

This chapter presents an interpretation and understanding of the results outlined in chapter 5.

Chapter 7: Recommendations and Conclusions

Chapter 7 provides a concluding summary of the study and presents its findings. Suggestions are given for future research, and implications for academia and business are presented, as are the study's limitations.

2. CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In light of the rising impact of NCDs in South Africa and the recommendation by the WHO that countries should introduce taxes as a means to reduce potential obesity through the overconsumption of SSBs (Organization, 2017), South Africa introduced a sugar tax known as the HPL (Saxena et al., 2019). It is key to recognise that, unlike tobacco or alcohol, the entire SSB product is not taxed but rather a specific ingredient: sugar. The reason for this approach is to spur innovation to lower sugar in beverages and incentivise beverage makers to promote zero-sugar SSBs (Blecher, 2015).

The HPL in South Africa has shown some success, and consumption of sugar via SSBs has decreased as a result of product reformulations and price increases (Stacey et al., 2019); however, there are still gains to be made. Considering this, beverage manufacturers may seek means to increase the consumption of zero or lower-sugar beverages through marketing activities to avoid the potential of taxes being increased to affect further beverage consumption changes. In February 2022, during his maiden budget speech, South African Finance Minister Enoch Gondongwana announced that the HPL would increase to R2.31 from the current R2.21 in April. This change would have a direct financial impact on beverage manufacturers, with little room to manoeuvre, given the fast implementation period (Madubela, 2022). Whilst the decision was delayed to April 2023 (Madubela, 2022), this was an indication to beverage manufacturers to speed up the switch to consumer consumption of low or no-sugar beverages through marketing activity. In the context of a developing country such as South Africa, where low-income individuals may be disproportionally affected by marketing messaging to make poor food choices (Chen et al., 2017), it is imperative that messaging guides consumers to make better decisions.

The rest of this chapter focuses on developing an understanding of consumer behaviour through TPB and will discuss:

- TPB in relation to SSBs.
- Demarketing and its potential use in relation to affecting consumer behaviour.
- A brief discussion of consumption, purchase intent and brand perception as the key variables measured in this proposed experiment.

2.2 The Theory of Planned Behaviour

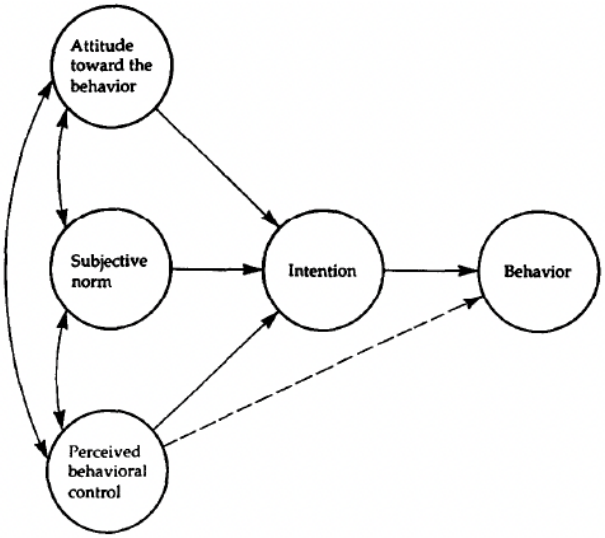
In behavioural studies, TPB is considered one of the most well-studied, well-known and valuable theories for explaining and predicting human social behaviour (Ajzen, 2011; Zoellner et al., 2012). The theory was introduced 36 years ago and introduced to the press in 1991 (Ajzen, 2011); subsequently, it has been applied in various contexts, including eating and drinking behaviours (Zoellner et al., 2012). TPB theorises that behavioural intention is the nearest determinant of behaviour, and the antecedents to that behavioural intention consist of three independent constructs attitude, subjective norms and perceived behavioural control (PBC) (Ajzen, 1991):

1) attitude relates to a positive or negative approach towards performing a behaviour;
2) subjective norms relate to expectations of how others within a social circle or environment may react (approve or disapprove) to the behaviour; and
3) PBC relates to the ease or difficulty of achieving a behaviour (Ajzen, 1991).

Whilst these constructs are independent, they still influence one another. As represented in Figure 1, attitudes are influenced by behavioural beliefs, subjective norms are influenced by beliefs and motivations, and PBC can be influenced by beliefs about control and perceived power. In addition, implementation intention is also a predictor of behavioural intention (Ajzen, 1991; Zoellner et al., 2012).

Figure 1

The Theory of Planned Behaviour



Note. From 'The theory of planned behaviour', by I. Azjen, 1991, *Organization behaviour and human decision processes, 50*(2), p. 182. Copyright by Academic Press.

2.2.1 Theory of Planned Behaviour Applied to Soft Drinks

TPB states that all behaviour is due to intention (Ajzen, 1991). For this study, it was assumed that in terms of health, people want to be healthier or are happy with their current health status and intend to stay that way. Question 6 in the survey speaks to this question. However, intention is informed by related beliefs, that is, attitudes towards the intended behaviour, subjective norms and PBC (Ajzen, 1991). In this study, the attitude towards the behaviour was classified as believing that drinking zero-sugar soft drink beverages is a good thing to do. Subjective norms in TPB consist of both injunctive and descriptive norms (Ajzen, 1991):

- Descriptive norms are what other people are doing.
- Injunctive norms are what you think other people expect you to do.

In terms of the subjective norms related to soft drinks, as explored in this study, what other people are doing (descriptive norm) is drinking full-sugar soft drinks. What you think other people expect (injunctive norm) is that you only drink no-sugar soft drinks if there are valid and justifiable reasons to do so, usually related to health. Lastly, PBC or self-efficacy refers to a person's perception of the ease or difficulty of performing the behaviour of interest (Ajzen, 1991). The PBC construct within TPB was added later and created the shift from the theory of reasoned action to TPB (Zoellner et al., 2012).

PBC varies across situations. As such, an individual's PBC varies depending on the situation they find themselves in (Ajzen, 1991; Zoellner et al., 2012). Therefore, PBC has a direct link to behaviour and not just intention (as with attitude and subjective norms), as the performance of a behaviour is influenced by the availability of resources and the ability to influence or control barriers to behaviour (Ajzen, 1991; Hardin-Fanning & Rayens, 2015; Hardin-Fanning & Ricks, 2017; Petrovici & Ritson, 2006). As an example, individuals attempting to maintain a healthy diet may find themselves in an environment that is not conducive to performing this behaviour, given the prevalence of fast-food restaurants or the lack of healthier and/or affordable food options (Hardin-Fanning & Rayens, 2015; Hardin-Fanning & Ricks, 2017; Petrovici & Ritson, 2006).

Through introducing a targeted demarketing provocation, i.e. messaging, this study proposed testing the direct impact of PBC by introducing a commonplace scenario (supermarket) and controlling for price (the experiment will show that both images are priced similarly and with no direct mention of attitude/norms). The experiment sought to

measure the resultant impact on behaviour (transitioning consumption from sugary to no-sugar soft drinks) and further determine the impact on purchase intent and brand perception.

2.3 Criticism of the Theory of Planned Behaviour and Other Potential Theories

TPB has been used in multiple studies across a range of environments and situations and is widely considered robust and validated; however, it is not without criticism. The major critique of TPB is that it may be reductionist (De Vries, 2017) and oversimplifies the nature of human behaviour. Some critics highlight that human behaviour is incredibly complicated, yet TPB applies a rational interpretation of it(Ajzen,1991; Petty & Cacioppo, 1986, as cited by (Miller, 2017).

In light of this criticism, the researcher also investigated social cognitive theory (SCT) as a potential theoretical foundation for this research. However, SCT was not applied to this study due to the key criticisms that it does not create a unified theory of explaining behaviour and fails to consider habituation (Beauchamp et al., 2019; Pinder et al., 2018). Ultimately, despite the critique of TPB, it was deemed by the researcher as the most appropriate theoretical foundation for this study.

2.4 Demarketing

Demarketing is the aspect of marketing that primarily deals with dissuading customers or consumers (Kotler & Levy, 1971). Demarketing has been used in various industries, most commonly about alcohol consumption and smoking (Chaudhry et al., 2019). In recent years, demarketing efforts have been used or explored for issues including water conservation, tourism reduction, fast fashion and SSB consumption (Chaudhry et al., 2019; Hwang et al., 2016; Kim et al., 2018; Ra'd Almestarihi et al., 2021).

The term was first coined by Kotler and Levy (1971) in their article 'Demarketing, yes, demarketing' in which they describe three forms of demarketing:

- General demarketing: when a firm attempts to lower or manage total demand across various industry sectors (Kotler & Levy, 1971; Lawther et al., 1997).
- Selective demarketing: when a firm discourages demand from select customer bases (Kotler & Levy, 1971).

- Ostensible demarketing: when a firm appears to discourage demand whilst the purpose is to increase demand (Kotler & Levy, 1971).

Chaudhry et al. (2019) build on demarketing literature by introducing the concepts of protective and preventative demarketing within general demarketing and combative demarketing within selective demarketing. Table 1 summarises and illustrates the categories and subcategories of demarketing with examples provided.

Table 1

Categories and Subcategories of Demarketin

General Demarketing			
Subcategory	Definition	Author	Example
Temporary shortages	Periodic moments of fortune or misfortune may result in times of excess demand for a product/service due to underestimated or overestimated demand or production.	(Kotler & Levy, 1971)	Intravenous bag shortage due to Hurricane Maria destroying production facilities in Puerto Rico (Chaudhry et al., 2019).
Chronic over-popularity	Rarer situations where quality and satisfaction are maintained for a product or a service through reducing demand to a lower level.	(Kotler & Levy, 1971)	Overcrowded tourist destinations, e.g. Bali, where prices of luxury hotels and restaurants were increased, making the destination accessible only to more affluent customers and reducing visitor numbers (Kotler & Levy, 1971). Also, a site where an episode of *Game of Thrones* was filmed in Dubrovnik, Croatia, that limited the number of tourists to 4,000/day (Chaudhry et al., 2019).

Subcategory	Definition	Author	Example
Product elimination	When a product or service is discontinued or removed from the marketplace for reasons such as financial performance, irrelevance or declining sales.	(Kotler & Levy, 1971)	The shifting of payment methods to cheaper options, such as mobile banking or app transfers versus personal cheques (Chaudhry et al., 2019).
Protective	Limiting excess consumption or waste of resources with the aim of protecting supply to enable future consumption.	(Chaudhry et al., 2019)	In San Francisco, consumers are advised by the Power Sewer service to use barrels to harvest rainwater and use that water for other uses in order to preserve drinking water (Chaudhry et al., 2019).
Preventative	'Creates ways to reduce, or the promotion of a limited consumption of, potentially health-hazardous products such as alcohol, tobacco or sugar to prevent diseases linked to overconsumption such as obesity, diabetes and liver and lung cancer' (Chaudhry et al., 2019, p. 665).	(Chaudhry et al., 2019)	Packaging food and beverages in smaller sizes, e.g. Coca-Cola offering smaller 7.5-ounce/221 ml versions of its regular 12-ounce/354 ml cans (Chaudhry et al., 2019).

Targeted preventative	Promoting reduced consumption of a product and switching to a less harmful product within the same product or service offering. This activity may be done by a firm to protect its consumer base or by a government, NGO** or industry body agnostic of the impact on firm sales.	*(Munzhelele, 2022)	To be tested as part of the proposed research.
Selective Demarketing			
Subcategory	Definition	Author	Example
Selective	An undesirable or unprofitable consumer base is discouraged from purchasing a product or service.	(Kotler & Levy, 1971)	A reduction in the total number of tourists to the Galápagos Islands by targeting a particular type of tourist.
Combative	'The problem of undesirable consumer demand when illegitimate forms of supply (counterfeits, pirated digital goods) of a product/service are readily available for consumption' (Chaudhry et al., 2019, p. 665).	(Chaudhry et al., 2019)	Louis Vuitton actively battling the availability of counterfeit products online and offline (Chaudhry et al., 2019).

Ostensible Demarketing			
Subcategory	Definition	Author	Example
Ostensible	A firm appearing to discourage demand when the purpose is to increase demand.	(Kotler & Levy, 1971)	Restaurants where seating is limited (Michelin star restaurants) (Chaudhry et al., 2019).
* Munzhelele (2022) refers to this proposal **NGO refers to Non-Governmental Organisation			

In addition to the above, Lepisto (1983) introduced demarketing taxonomy and stated that demarketing could either be passive, active or complete. Lepisto (1983) stated that passive demarketing is implemented on products with high demand but an adverse impact on health, for example, alcohol or cigarettes. Active demarketing uses the marketing mix to reduce the total demand for select products, and complete demarketing is related to products removed from the market; this could be imposed upon a firm or voluntary. In the context of this proposed study, the definition provided by Miklós-Thal and Zhang (2013, p. 56) will be used in that demarketing is 'pursuing a marketing activity even though another marketing activity that could have improved the product's market performance is available to the company' (p. 56). Furthermore, in terms of subcategories, this study is specifically concerned with building on preventative demarketing (which exists under general demarketing). However, one key difference is that there will also be an attempt to redirect behaviour (consumption and purchase intent) to a healthier product variant. In the context of targeting consumption, it is proposed by the researcher that an additional definition be added to general demarketing literature, that is, targeted preventative demarketing, which is defined as:

> Targeted preventative demarketing is the promotion of limiting consumption of one product for another healthier or less harmful product within the same product or service offering; this activity may be done directly by a firm to protect its consumer base or by a government, non-governmental organisation or industry body agnostic of the impact on firm sales (Munzhelele, 2022).

Whilst there is a sizeable number of demarketing papers, they are somewhat limited: 17 articles were published between 1971 and 1981 (the first decade), nine articles in the second decade (1982 to 1992), 15 articles in the third decade (1993 to 2003) and the last 40 during 2004 to 2014, the fourth decade (Quiñones et al., 2017), demarketing literature is growing and is of keen interest to researchers and practioners alike. Whilst there are similarities, demarketing should not be considered the same as anti-consumption. Anti-consumption is broad in scope and delves into why a person might not consume or actively decide not to consume. It is a view of non-consumption and reduction of or selective consumption that may relate to society or a systemic problem on a local or global level (Basci, 2014; Lee, 2006). In this sense, anti-consumption may be viewed as a rational reaction against broader

market behaviours or practices versus ones that are deliberately initiated by a marketer (Basci, 2014).

In the literature, several studies focus on the demarketing of various products (e.g. cigarettes, alcohol, drugs, water consumption, electricity consumption) and the demarketing of behaviour in the name of sustainability, e.g. responsible tourism. However, there is limited research that looks at demarketing to drive consumption of relatively easily available consumer products, particularly in South Africa. An observational learning paper by Miklós-Thal and Zhang (2011) has been identified for its exploration of demarketing concerning a movie studio actively discouraging business for a new movie before its release as a strategy to improve its chances of success and was seen as a way to lessen doubts of quality should sales from early adopters fail to excel.

Therefore, this study seeks to answer whether preventative demarketing messaging can be used to direct behaviour (consumption and purchase intent).

2.5 Consumer Consumption

In this proposed study, consumption relates to the amount of SSBs that are consumed by South African adults in relation to how they claim to consume SSBs after exposure to demarketing material. For beverage manufacturers, ideally, consumption will be shifted to no or low-sugar offerings, thus not affecting their sales. For the South African government, decreased consumption of SSBs and a switch to low or no-sugar beverages would aid in addressing NCDs associated with SSB consumption. It is not known, nor is it predicted within this paper, what the policy implications may be should revenue gathered from the HPL significantly decline due to changing consumer consumption behaviour. As such, this study seeks to answer how much South African adults will claim to consume SSBs.

2.6 Purchase Intent

In the retail environment of 2022, FMCGs remain competitive with ever-changing situations, compounded by the influence or power of retailers and customer demand and the maintenance of relationships critical for product success (Mirabi et al., 2015).

Within this complex environment, it is incumbent on producers to ensure that they continually engage customers so that the customer intent to purchase remains high and benefits the producer and the retailer. As such, organisations (producers and retailers) will spend millions of rands through different forms of advertising to garner attention and awareness to drive consumer behaviour of purchase. Purchase behaviour is only achieved if the advertising is effective; that is, it affects emotions, judgement and consumer reaction and, therefore, affects consumer purchase and intent (Bleize & Antheunis, 2019; Curtis et al., 2017).

In this study, purchase intent is defined as a respondent's intent to purchase either the demarketed unhealthy product or its healthier alternative post-exposure to demarketing materials. For beverage manufacturers and the South African government, it would be desirable for purchase intent to increase for healthier alternatives. For example, beverage manufacturers would want to see the rise in purchase intent to be high enough to cover the anticipated decline in the purchase of the current unhealthy beverage offering and reduce impacts on their business. Purchase intent is an important variable to understand as it can be a predictor of imminent purchase (Chang & Wildt, 1994).

This study sought to answer if South African consumers will claim to purchase a healthier product variant to a higher degree than the unhealthy/sugary variant, that is, increased purchase intent.

2.7 Brand Perception

Consumer brand perception refers to a consumer's attitude or feeling towards a brand or product; it is an amalgamation of consumer experiences and feelings and may differ from the messaging communicated by the brand (Dobni & Zinkhan, 1990). Messaging or brand communication can evoke positive or negative attitudes and feelings that can translate to the ad, the brand and a behavioural intention (Huang et al., 2013; Kim et al., 2018; Reich & Soule, 2016). Therefore, it is imperative that we review not only the behavioural impact of demarketing but also brand perception. Through two experiments, Sekhon and Armstrong Soule (2020) were able to show that a brand may be viewed positively through demarketing initiatives.

In this proposed study, brand perception will also be measured to determine whether the brand is perceived positively or negatively. Positive brand perception is desired by companies, as a positive perception can lead to increased sales. On the contrary, a negative perception may potentially lead to decreased sales (Ahearne et al., 2005). This study will seek to ascertain if the various forms of demarketing messages will have positive or negative impacts on brand perception.

3. CHAPTER 3: RESEARCH HYPOTHESES

3.1 Introduction

The objectives of this study were to determine the impact of active demarketing in favour of a healthier soft drink alternative, with a specific exploration on the impacts of consumption, purchase intent and the positive or negative impact on the overall brand. The null and alternative hypotheses are expressed below:

3.2 Hypothesis 1: Consumption

- **Null Hypothesis (H1a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in consumption of the latter.
- **Alternate Hypothesis (H1b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in consumption of the latter.

3.3 Hypothesis 2: Purchase Intent

- **Null Hypothesis (H2a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in purchase intent for the latter.
- **Alternate Hypothesis (H2b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in purchase intent for the latter.

3.4 Hypothesis 3: Brand Perception

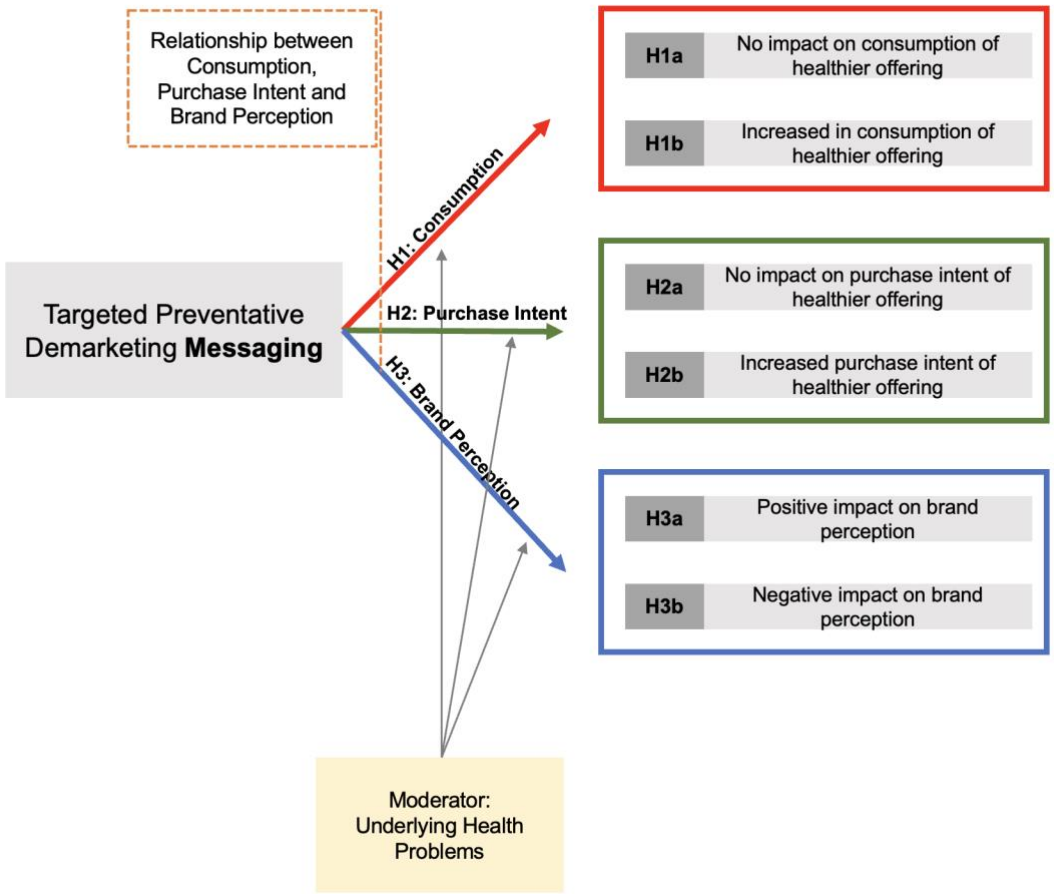
- **Null Hypothesis (H3a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to overall positive brand perception.
- **Alternate Hypothesis (H3b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to overall negative brand perception.

3.5 Conclusion

Figure 2 is a conceptual diagram of the research hypotheses outlined and is provided after deductive reasoning of the arguments presented. The purpose of the diagram is to aid understanding of the relationships between targeted preventative demarketing and the variables of consumption, purchase intent and brand perception tested in this study and the relationship between these variables.

Figure 2

Summarised Hypotheses and Relationships (Author)



4. CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

The research sought to determine the impact on measurable variables post-exposure to demarketing messaging and, therefore, follows a positivist philosophy. This chapter describes the research methodology for this study. The methodology, population, data collection process, limitations, data analysis and research instrument are discussed.

4.2 Choice of Methodology

Research that seeks to establish a causal relationship between two variables is descriptive in nature (Rahi, 2017; Saunders et al., 2016). The experiment conducted in this research was explanatory in nature and conducted within an observable social reality that sought to draw quantifiable observations that lead to statistical analysis and potential generalisations (Saunders et al., 2016). As such, the study was guided by the positivist philosophy, with a thread followed in the approach, methodology, strategy, data collection and analysis of the research.

This study does not seek to create a theory but to contribute to Ajzen's (1991) well-established TPB through the testing of demarketing messaging and the impact on behaviour, purchase intent and brand perception. This study was quantitative in nature, which is more often associated with a deductive approach with data used to test an existing theory (Bell et al., 2011; Saunders et al., 2016). However, as the study analyses data of a primary nature, several hypotheses about demarketing messages and the variables of consumption behaviour, perception and intent were made.

A single data collection technique was used in this study and analysed through a corresponding analytical process or technique. In this way, the research can be considered a mono-method quantitative study (Saunders et al., 2016). As It took the form of an experiment aimed at determining a causal link between independent and dependent variables (Park et al., 2020; Saunders et al., 2016), in this case, between demarketing and consumption behaviour, purchase intent and brand perception.

According to Saunders et al. (2016), a successful experiment requires the identification and control of factors that may affect the outcome, such as time and/or location, measurement method and undertaking a pilot before data collection and analysis. The research undertaken here is however quasi-experimental and not classical, with subjects assigned through non-random criteria to experimental or control groups.

The three hypotheses proposed each satisfied the requirements for a quasi-experiment (Saunders et al., 2016). To control for the impact of method variance, the questionnaire was adapted from pre-existing studies, specifically:

- The approach was adapted from a study of gains versus loss-framing for reducing sugar consumption (de Alcantara et al., 2020). The study methodology was provided in the journal article, with no need to request the survey instrument. To verify this, one of the authors was contacted (Rosires Deliza), who confirmed that all information was provided in the study (see Appendix C).
- The scenario setting was adapted from Gollust et al. (2017).

This research is cross-sectional in nature and aimed to observe a certain phenomenon at a set time. Additionally, the research study was time-constrained with a set delivery date (Bell et al., 2011; Saunders et al., 2016). As it is cross-sectional, a limitation of this study is that the data can not provide information on sequential events as a representative sample, and it is not possible to collect responses based on exposure to all forms of demarketing over a period (Hansen et al., 2018).

4.3 Population

Diabetes is a ‘series of metabolic conditions associated with hyperglycaemia and caused by partial or total insulin insufficiency’ (Egan & Dinneen, 2019, p. 1). The rising incidence of diabetes is attributed to the population’s increased sugar intake, in part from SSBs (Johnson et al., 2017). Given that potential respondents with diagnosed diabetes may be actively avoiding SSBs in response to medical advice, they are excluded from the population. According to the International Diabetes Foundation, 11.3% of the South African adult population is diabetic (Federation, 2019). The adult population (20 years and older) is currently 43,099,703 people (SA,

2021a). In South Africa, an adult is defined as a person 18 years and older; however, statistics are reported between 15 and 19 years and 20+ in five-year increments, e.g. 15–19 years and 20–24 years and not being able to ascertain the precise number of potential respondents who are 18 and 19 years old, this group were not considered in the calculation of the sample in this study, that being said 18 and 19-year-olds were not excluded as potential respondents.

Removing the diabetic population of 11.3% results in a potentially relevant population of 38,229,437 adults (20+ years). From a health perspective, this population could be impacted by several other factors, but as this cannot be estimated or ascertained accurately, it is not included. To account for this fact, potential respondents were asked a qualifying question and excluded from the study if they indicated that they follow a healthy or specified diet for medical reasons on the recommendation of a health practitioner. The specifics of any medical condition were not asked. Lastly, only regular consumers of soft drinks were included in this study, defined as consuming a soft drink at least once per month (Billich et al., 2018).

In summation, the study population is:

a) South African adults 18 years or older.

b) No disqualifying health concerns (e.g. following a special diet for health reasons).

c) People who consume soft drinks at least once per month.

4.4 Unit of Analysis

According to Bell et al. (2011), the unit of analysis is considered the primary unit of measurement and also analysis. In this study, the unit of analysis is the individuals from whom the data was collected.

4.5 Sampling Method and Size

Sampling is a means of generating results representative of a broader population and falls into two categories, probability and non-probability sampling (Saunders et al., 2016). Probability sampling allows for true generalisation and involves a respondent having a known chance of participating in the study based on a randomisation technique. However, this method can be costly and time-consuming,

particularly when the population is large, and obtaining a sampling frame is cumbersome and makes it difficult to contact all individuals (Bell et al., 2011; Saunders et al., 2016). Probability sampling requires a sampling frame, that is, the naming of all the units in the population (Bell et al., 2011). The study has a broad unit of analysis, adult individuals in South Africa, and, as anticipated, many respondents qualified to participate in the study and the author had no access to a list of all potential respondents. Ethical issues were also considered, in particular, the disqualification of some respondents due to health concerns.

As a result, purposive non-probability sampling was used to select respondents for the experimental survey conducted in South Africa; as such, the sample was not created using a random selection method (Bell et al., 2011). This approach meant that judgement was used to select the respondents ideally suited to participate. Given the broad nature of the study and potentially large representative audience, the main criterion was age, with all other qualifiers applied within the survey. The survey was sent out by the researcher through available means, i.e. social media platforms (Twitter, Facebook, LinkedIn); however, the most effective resource was WhatsApp which allowed for direct messaging with potential respondents.

A second, purposive non-probability sampling technique used was snowballing; respondents were requested to share the survey link with as many people as possible. This greatly increased the number of respondents, as the survey was sent by respondents who had taken part (Bell et al., 2011). The snowballing technique is appropriate when a full list of the population cannot be obtained, and it can increase the possibility of including individuals who may have been difficult to access (Bell et al., 2011; Saunders et al., 2016).

The sampling techniques used in the study were convenience, snowball and self-selection. The ideal desired sample size for the research was 385 respondents, with a 5% margin of error at a 95% confidence level (Qualtrics, 2022).

4.6 Measurement Instrument (Survey Questionnaire)

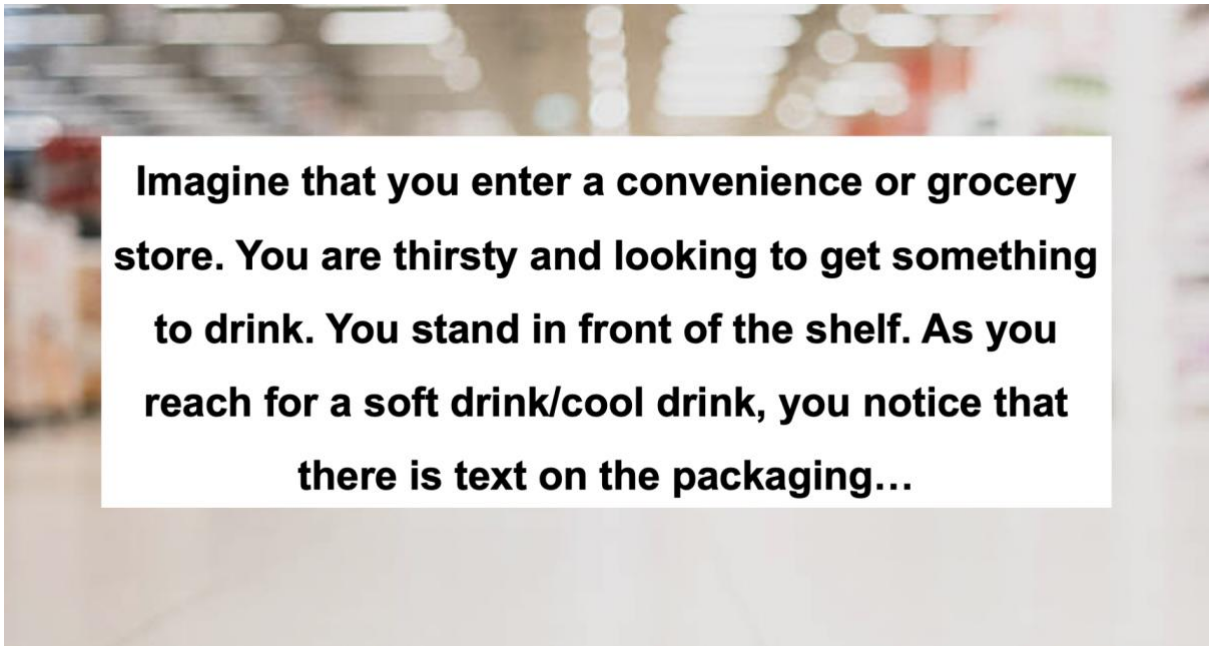
A self-completion questionnaire was used to obtain primary data from participants. The questionnaire also included an experiment component. The questionnaire was kept relatively short to avoid respondent fatigue and incomplete questionnaires (Bell et al., 2011). The questionnaire was administered to willing adults above the age of

18 with access to an internet-connected device (e.g. cell phone, computer, laptop, tablet).

The instrument contained five sections beginning with the preamble and consent in Section A. It provided participants with an introduction to the research and its scope, highlighting the potential benefits of completing the study to the respondent and establishing consent. Section B contained qualifiers of the questionnaire and select demographic questions to determine suitability to participate in the research. Section C included the experiment scenario (see Figure 3) followed by the stimulus material.

Figure 3

Scenario Setting



The demarketing material is introduced in Section C, post-exposure to the scenario. In the control scenario, no message is included, and the only differentiator between the two soft drink images is clear labelling of the sugar-free variant. Three demarketing messages were included as part of the stimuli, varying in degrees of suggestion to the consumer from soft to hard:

1. Stimuli 1 (control) no message on standard/sugary pack versus ‘No Sugar’.
2. Stimuli 2 (soft message) ‘Have you Tried the No-Sugar Version?’ message versus ‘No Sugar’.
3. Stimuli 3 (medium message) ‘Buy the No-Sugar Version Instead’ message versus ‘No Sugar’.

4. Stimuli 4 (hard message) – ‘Do Not Buy This. Buy the No-Sugar Version Instead’ versus ‘No Sugar’.

In conducting the experiment, respondents were exposed to one of the four stimuli. There were two soft drink cans, with the pack on the left being a standard sugary variant and a no-sugar offering to the right. The standard version alternates between no message (i.e. control) or one of the three demarketing messages described above, whilst the no-sugar offering was not affected.

Section D includes questions related to the research hypotheses. This section formed the basis for determining the impact of demarketing on claimed consumption, purchase intent and brand perception and the impacts of demarketing communication and targeted consumption. Section E contains a short debriefing for the respondent; thereafter, the survey is completed. The survey sections are summarised in Table 2, and the flow of the survey is illustrated in Figure 4.

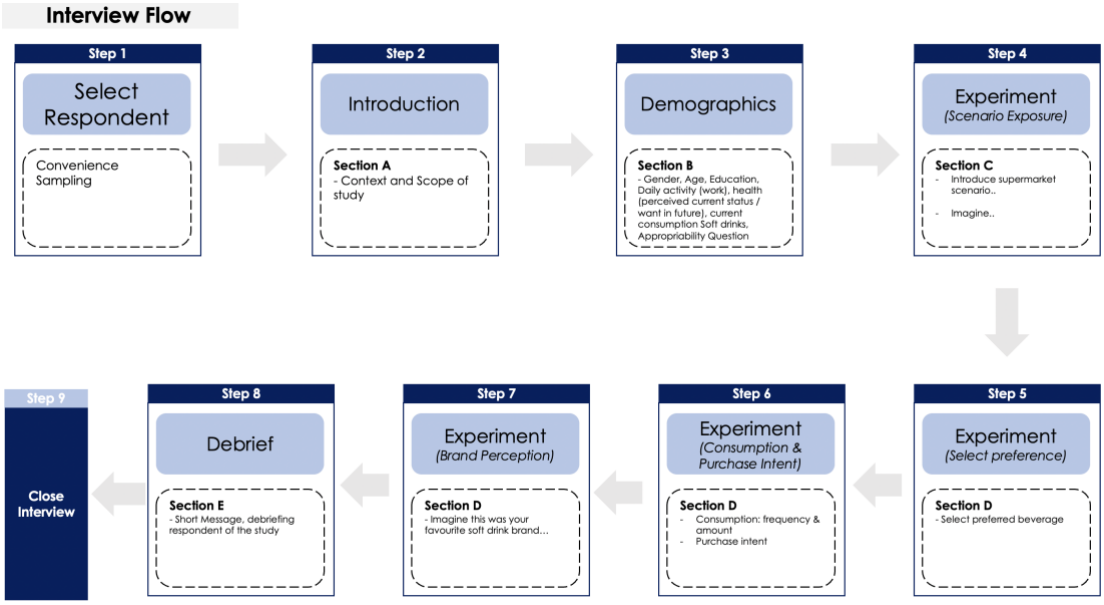
Table 2

Sections of Measurement, Instruments and Their Purpose

Section	Purpose
Section A	Introduce the research to respondents, including the scope and potential benefits and establish consent.
Section B	Demographics to determine suitability for research.
Section C	Experiment scenario and stimulus material (one of two based on randomised allocation).
Section D	Questions related to research hypotheses: Consumption Purchase intent Brand perception
Section E	Respondent debrief.

Figure 4

Respondent Survey Flow



4.7 Questionnaire Design

The research was designed to gather primary information from respondents on the identified variables post-exposure to the experiment scenario and stimulus material. The following subsections (4.7.1–4.7.4) detail how the questions were created to measure each variable.

4.7.1 Consumption

Consumption relates to the claimant's intention for daily soft drink consumption; that is, what South African adults claim they will consume after exposure to the demarketing material. The questions asked were adapted from a study by Kassem and Lee (2004) on understanding soft drink consumption among male adolescents using TPB and modified to reflect the focus of this study on the consumption of sugary and no-sugar soft drinks. Three seven-point semantic differential scales were used to measure intention, rather than the eight-point scale used by Kassem and Lee (2004). The reliability alpha for intention in the Kassem and Lee (2004) study was 0.92. The questions related to measuring consumption are highlighted in Table 3.

Table 3

Consumption Questions

Question Number	Question Asked	Where Question was developed from
Q12 or Q15	I intend to drink "**No Sugar / sugary" soft drinks** daily	Kassem and Lee (2004)
Q13 or Q16	How likely is that you will drink "**No Sugar/Sugary" soft drinks** daily?	Kassem and Lee (2004)
Q14 or Q17	If everything goes as I plan, I will drink **"No Sugar/Sugary" soft drinks** daily	Kassem and Lee (2004)

The consumption question was affected by the choice that the respondent made post-exposure, that is, if the respondent chose no-sugar as the drink they would prefer post-exposure the question would be posed from a no-sugar perspective. Alternatively, the question was posed from a sugary drink perspective if the respondent had selected that drink as their preference.

4.7.2 Purchase intent

In this study, purchase intent is defined as a respondent's intent to purchase either the demarketed unhealthy product or its healthier alternative post-exposure to demarketing materials. To measure this construct, a seven-point semantic differential scale was adapted from a study on making healthy food choices by Kozup et al. (2003). This was chosen as it is a self-reported scale reporting on the likelihood of a consumer purchasing a product based on information seen on the product's packaging (Brunner, 2009; Kozup et al., 2003).

The scale reported alpha's ranging from .95 to .97 in Kozup et al. (2003) based on application to two studies. The questions related to measuring purchase intent are highlighted in Table 4.

Table 4

Purchase Intent Questions

Question Number	Question Asked	Where Question was developed from
Q18 and Q21	Thinking of the **Sugary/No Sugar** Soft Drink, How likely would be to purchase the product given the information shown? (Very Unlikely / Very Likely)	(Brunner, 2009; Kozup et al., 2003)
Q19 and Q22	Assuming you were interested in buying a **Sugary/No Sugar Soft Drink**, would you be more likely or less likely to purchase the product given the information shown? (Less Likely / More Likely)	(Brunner, 2009; Kozup et al., 2003)
Q20 and Q23	Given the information shown, how probable is it that you would consider the purchase of the product, if you were interested in buying a **Sugary/No Sugar Soft Drink**? (Not Probable / Very Probable)	(Brunner, 2009; Kozup et al., 2003)

Respondents answered the set of purchase intention questions for both sugary and no-sugar soft drinks. The statement 'Thinking of the **sugary version** of the soft drink' preceded the sugary purchase intent questions, whilst the statement 'Thinking of the **no-sugar version'** of the soft drink preceded each of the no-sugar purchase intention questions.

4.7.3 Perception of the brand

Perceptions of the brand were measured using three bipolar items on a seven-point scale. The items were informed by a study by Luna et al. (2005), which had a Cronbach's alpha of .98 and measured six items. This study only tested three items,

as these were deemed as more relevant to this research, and included very bad–very good, dislike very much–like very much and very positive–very negative. The questions related to measuring brand perception are highlighted in Table 5.

Table 5

Brand Perception Questions

Question Number	Question Asked	Where Question was developed from
Q24 or Q27	How do you feel about the brand after making your choice? (Very bad / Very good)	Luna et al. (2005)
Q25 or Q28	How do you feel about the brand after making your choice? (Dislike very much / Like very much)	Luna et al. (2005)
Q26 or Q29	How do you feel about the brand after making your choice? (Very Negative / Very Positive)	Luna et al. (2005)

Based on a respondent's answer to Q11 ('Which of the soft drinks would you buy, the sugary version or no-sugar version?') post-exposure to the experiment, they were asked to imagine that the messaging on the pack was on their favourite soft drink brand and answer the questions related to brand perceptions.

4.7.4 Pre-testing the experimental survey

The experimental survey contained a total of 29 questions, including demographic and disqualifier questions (moderating variables) related to the posed research questions. To confirm the survey's validity and reliability, pre-testing of the questionnaire was conducted. Beyond confirming validity and reliability, pre-testing also assists with confirming that questions are easy to comprehend and interpret by potential respondents (Saunders et al., 2016).

To conduct a thorough pre-test, the experimental survey was conveniently shared with 18 individuals known to the researcher. Of the 18 test respondents, 10 individuals completed the experiment, as the other eight respondents did not meet the requirements of the experimental survey. All respondents were asked to provide feedback on their experience as part of the pre-testing process. Two key changes were made based on recommendations from the pretesting respondents and are highlighted in Table 6.

Table 6

Changes made during Experimental Survey Pre-Testing

	Change Made	**Detail/Justification for the Change**
1	Added disqualification message	The eight respondents who did not meet the survey criteria were removed from the experiment without warning and questioned this process. A short disqualification message was then added for respondents that did not meet the requirements: 'I'm sorry. Unfortunately, you do not meet the qualifications for this survey.'
2	Removal of duplicate question	In the no-sugar routing, specifically within the consumption section, the question 'I intend to drink no-sugar soft drinks daily' was repeated. This was fixed, with the duplicate question removed and the correct question added.

Besides the two changes made (See Table 6), individuals who participated in the pre-testing said that they did not find the study difficult to understand. They also mentioned that it was easy to follow and made only minor wording suggestions which did not change the meaning of the questions and were implemented by the researcher.

After testing the survey, it was estimated it would take approximately 7 to 10 minutes for participants to complete. This confirmed that the survey would not be too much of a burden for respondents to complete.

4.8 Data Gathering Process

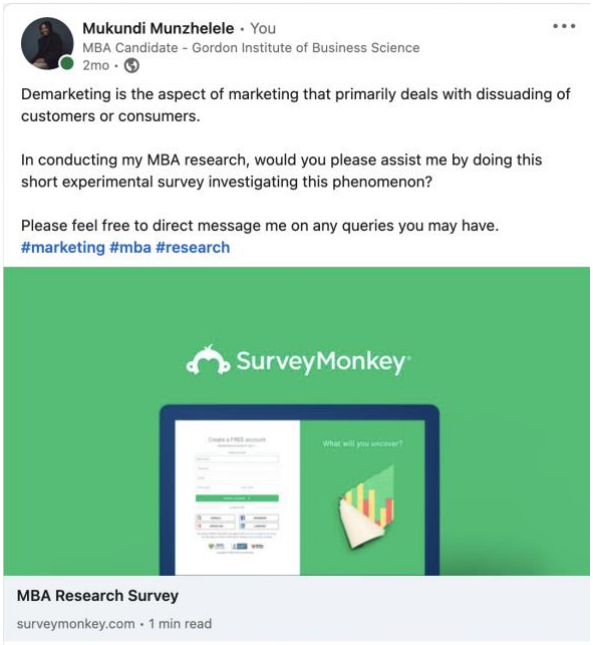
Within the positivist approach to research, many standardised tests and approaches to data collection and systematic observation are associated with quantitative studies. These include but are not limited to experiments, survey data, non-experimental methods and statistical analysis, and each has advantages and disadvantages (Rahman, 2020; Saunders et al., 2016). For this specific research, the data collected was through a self-administered online experimental survey developed on the survey tool Survey Monkey. A survey provides numerical descriptions by studying a sample of a target population and measures a point in time (i.e. cross-sectional) through questionnaires in order to generate data (Saunders et al., 2016). Post-creation of the survey was generated, and this link was used to share the survey with potential respondents, who could also forward and share that link with other potential respondents, which helped to increase the pool of respondents. The researcher initially sent the questionnaire to all known potential respondents through the following channels:

- WhatsApp contact list.
- Social media contacts on LinkedIn, Facebook and Twitter.
- Word of mouth through the researcher's networks.
- Survey Circle (no responses were received through this channel).

An example of the request to complete the survey on LinkedIn with the link to the questionnaire is shown in Figure 5. The online survey was the only data collection tool used to generate the data analysed for this study.

Figure 5

Example of Request to Complete Survey as Posted on LinkedIn



A survey was required to meet the expectations of a quasi-experiment, and Goertzen (2017) and Saunders et al. (2016) describe a number of advantages of using a quantitative survey:

- The data generated by the survey can be measured and quantified as it uses numbers to assess the information collected.
- Surveys aim to be objective by representing complex problems through variables.
- Statistical analysis is used to evaluate findings to determine their statistical significance or lack thereof. Findings or results can subsequently be surmised, compared and generalised to a population based on a representative sample.
- The survey can be replicated in future as standardised approaches are used.

Whilst there are clear and obvious advantages to employing quantitative surveys, there are also limitations. Data and findings from quantitative surveys do not have a qualitative element, so the results do not answer questions related to feelings, thoughts or motivations (Goertzen, 2017; Saunders et al., 2016). Due to the methods of sampling utilised, certain demographic groups of people may be difficult to reach, and these individuals tend to be vulnerable or disadvantaged (Goertzen, 2017; Saunders et al., 2016). Goertzen (2017) and Saunders et al. (2016) also mention

that some surveys can be time-consuming and expensive and may need to be completed over longer periods of time. However, the quantitative survey used in this specific study was administered through online channels, which provided relatively fast data collection (collected within a two-week period), efficient survey distribution, no administering or handling of physical (hard copy) questionnaires or conducting the quasi-experiment for every survey which made data collection easier (Goertzen, 2017; Saunders et al., 2016).

The survey was closed after a satisfactory number of responses were received to perform the analysis. The technique used to generate the sample, the data gathering process and the motivation to participate generated a total of 542 completed surveys, an overall response rate of 57% from a total of 951 participants that attempted the survey. It should be noted that the drop-off between attempted and completed surveys includes all respondents who were intentionally removed from the respondent pool as they did not meet the requirements to participate. Of the respondents who completed the survey, there were also some questions which were not answered (these respondents were not removed).

4.9 Data Analysis Approach

The data was analysed using an exploratory data analysis approach (Saunders et al., 2016). The data was prepared, cleaned, sample determined, screened and coded. Following this, descriptive statistics were used through SPSS to analyse the collected data, and this was followed by data validation. To ensure correct data analysis, a professional statistician provided assistance. This assistance was communicated, and a signed declaration was provided.

4.9.1 Summarising the data

All data were collected through a self-administered online survey via SurveyMonkey. All responses were collected and shared with the statistician to conduct further analysis through SPSS.

4.10 Quality Controls and Validity/Trustworthiness Criteria

An experimental design was used for this study, and as such, it is envisioned that the data collected and the resulting analysis is repeatable and produces consistent

findings, thus confirming the study as reliable. Responses were limited to one questionnaire per individual, and respondent screening was conducted. Specifically, respondents were disqualified if they followed a specialised diet or had medical conditions requiring them to follow a special diet. These screening questions were phrased broadly, and no specific details were requested. The questionnaire consisted of 29 questions relating to demographics, scenario setting for the Measuring the reliability of the construct

To establish reliability, Cronbach's alpha test was conducted on each variable measured. The test was carried out to observe the consistency in responses across constructs. A reliable instrument provides similar and consistent results to questions when posed in a manner that is identical or similar (Saunders et al., 2016).

4.10.1 Measuring the construct validity

In this study, the researcher aimed to achieve internal validity, that is, data collection methods measure what is intended by the researcher (Saunders et al., 2016). This study used a structured questionnaire developed based on an understanding of the literature, reapplication of an experiment already performed with minor adjustments and a survey pilot to ensure that the experiment is understood by those who complete it (Saunders et al., 2016). Lastly, only validated sources in extant literature were used as part of the analysis, experiment design and literature review.

4.11 Research Ethics

This study was designed and implemented in accordance with the rules outlined by the Gordon Institute of Business Science (GIBS) in terms of ethical integrity, research guidance for the researcher and protections for the researcher, institution and respondents. GIBS stipulates that ethical clearance must be obtained prior to any research being conducted, and this extends to the testing of a research instrument. As such, the researcher for this study first obtained ethical clearance from the GIBS ethics committee, a copy of which is available in Appendix A.

As part of the data collection process, a statement of consent was included in the research instrument/survey. This informed and assured potential respondents that participation was voluntary, that their participation would be kept anonymous and confidential, and no penalties would result from their participation or non-participation. The contact details of the researcher and the research supervisor were

included should any respondents require further information. This statement of consent is provided in Appendix B.

4.12 Limitations

A key limitation of this study is that it was not random. The method of data collection employed was non-probability sampling; therefore, generalisation to a broader audience is not advised (Saunders et al., 2016). The study has also been approached from a negative, that is, an active demarketing perspective in that one variant is framed as ‘bad’. Therefore, consumers should purchase the healthier variant, as the unhealthier product is vilified. A positive approach, that is, marketing the efficacy of the healthier product without mention of its unhealthier counterpart, may yield similar, worse or better results.

In relation to scope, the impact of brand strength is not considered, as the study has been developed to be brand agnostic. Perceived or real taste differences are excluded as no product is consumed, which are variables that may have a material impact on consumer responses. The study was also limited to South Africa and may only be relevant in this region if not tested elsewhere. The questionnaire was also only made available in English, and respondents who may have difficulties with the language may have struggled to respond accurately or been prevented from participating. Lastly, the questionnaire used is closed-ended, thus limiting responses to what is provided, with no opportunity for respondents to provide additional context to their responses.

5. CHAPTER 5: RESEARCH FINDINGS

5.1 Introduction

This research aimed to investigate the influence of proactive demarketing messaging on the targeted consumption of soft drinks. This study was conducted using cross-sectional descriptive quantitative research, with respondents completing an online survey in South Africa. A total of 951 respondents attempted complete the survey, however, post the purposeful exclusion of respondents who follow specific diets or eating plans due to health reasons, the removal of respondents who stated they were younger than 18, and the removal of respondents who stated they do not consume soft drinks at least once a month, a total of 542 responses formed the study's empirical data set. This number of responses was higher than the initial expected response of 384 due to the extended snowballing of the survey requested in the research (Bell et al., 2011; Leedy & Ormrod, 2019; Saunders et al., 2016). The high number of responses is ideal for quantitative study as it improves the responses' rigour and adequacy (Memon et al., 2020). In this chapter, the results of the study are presented, starting with screening and cleaning the data, followed by profiling of the respondents. Flowing from this is the descriptive statistics, multivariate analysis, which assesses the validity and reliability of the constructs, correlation analysis and then hypothesis testing with linear regression models.

5.2 Screening and Cleaning of the Data

The empirical data collected was evaluated and checked for missing values, with the desired level of less than 10% of the data missing, confirmed by Dong and Peng (2013) as an acceptable threshold. After checking missing data, an assessment of extreme outliers using *z*-scores was done. The guideline used was ± 3.29 (Tabachnick & Fidell, 2013), and based on this, no extreme outlier was identified within the empirical data; the highest *z*-score was 1.907 for the variable 'How likely would you be to purchase the product given the information shown in the sugary version'. The common method bias was conducted using the Harman single-factor test which entails loading all the study's measurements into an exploratory factor analysis using the principal factoring axis for both the sugary and non-sugary versions of the data. This assumes that common method variance (CMV) bias is

signalled by the appearance of either a single component or a general factor that accounts for the bulk of the covariance amongst measures (Rodríguez-Ardura & Meseguer-Artola, 2020); as such, the guideline must be less than 50%:

- For the sugar version, CMV was 36.93% (Podsakoff et al., 2003).
- For the non-sugary version, CMV was 42.19% (Podsakoff et al., 2003).

5.3 Profile of the respondents

The profile of the respondents was analysed by computing the biographic information, their status soft drink consumption status and their perceived health status. The target population was made up of South African adults. For a respondent to be considered a valid participant, they had to not be on a medical diet plan, and they had to consume soft drinks at least once per month.

5.3.1 Biographic profile

Five variables were used to understand the respondent's biographic profile, including age, gender, income and educational and employment status. Table 7 provides a complete summary of the biographical information of the study sample.

Table 7

Profile of the Respondents

		N	%
Age	18–25 years old	45	8.3%
	26–35 years old	198	36.5%
	36–45 years old	150	27.7%
	46 years and older	149	27.5%
Gender	Female	300	55.4%
	Male	232	42.8%
	Prefer not to say	10	1.8%
Income	Prefer not to say	124	22.9%
	R23 502 or lower	156	28.8%
	R23 503 or higher	262	48.3%
Education	Up to matric (Grade 12)	84	15.5%
	Diploma	100	18.5%
	Degree (undergraduate)	147	27.2%
	Postgraduate degree	210	38.8%
Employment status	Retired	18	3.3%
	Student	30	5.5%
	Unemployed	48	8.9%
	Working full-time	410	75.6%
	Working part-time	36	6.6%

The respondents who participated in this study represented all age groups (see Figure 6), with the highest represented age group being 26–35 years, constituting 36.5% of the total sample. The next largest age groups were 36–45 years and 46 years and older, which comprised 27.7% and 27.5%, respectively. The lowest represented age group was 20–25 years, with only 8.3% of the total sample. Within these age groups, 55.4% of the respondents were females, 42.8% were males, and less than 2% preferred not to reveal their gender (see Figure 7).

Figure 6

Percentage of Respondents Based on Age

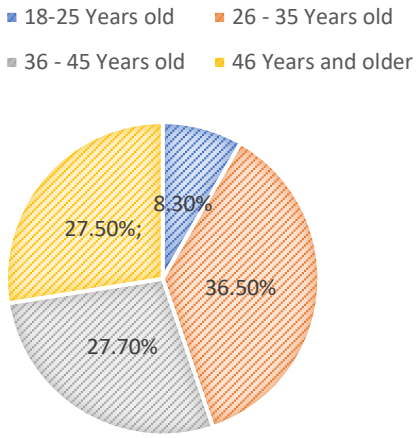
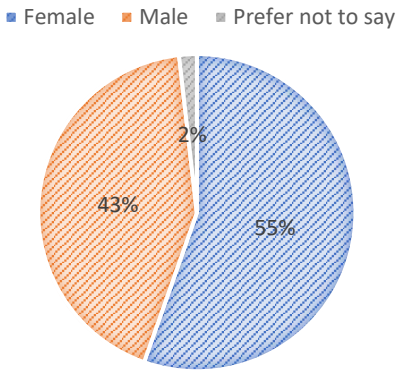


Figure 7

Percentage of Respondents Based on Gender

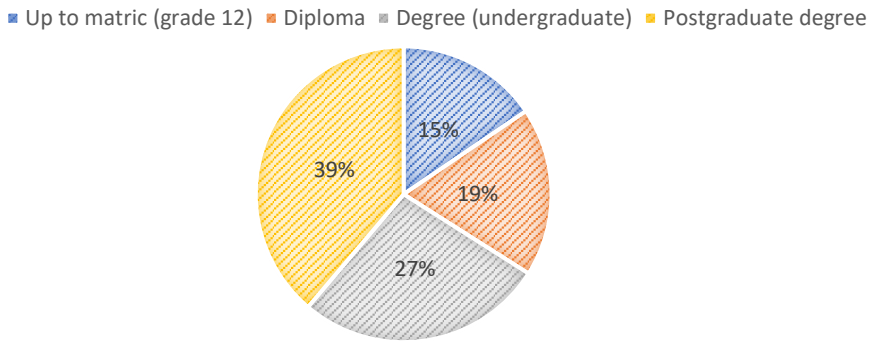


In general, the respondents had a higher social economic status, 38.8% had a postgraduate degree, such as an honours or master's, whilst 27.2% had an

undergraduate degree as the highest level of qualification. Respondents who had matric (Grade 12) or less made up only 15.5% of the sample (see Figure 8).

Figure 8

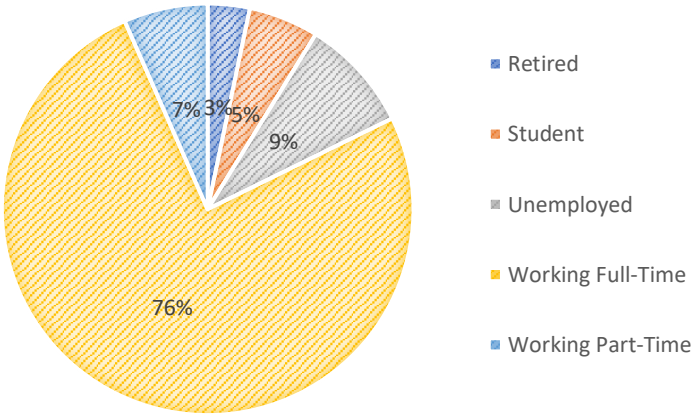
Percentage of Respondents Based on Level of Education



The responses show that 75.6% of the respondents were working full time, 6.6% were working part-time, and 5.5% were students. Only 8.9% of the respondents were unemployed (see Figure 9). As of 2022, the South African unemployment rate was reported to be approximately 38% (Department of Statistics, 2022b). This indicates that the sample within this study is not fully representative of the South African population and is slightly weighted towards individuals who are employed and may be in a better financial position with potentially more product choices available to them (Chakona & Shackleton, 2017).

Figure 9

Percentage of Respondents Based on Employment Status

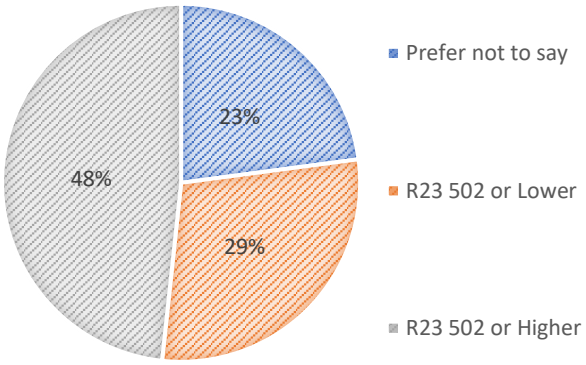


Among the respondents, 48.3% had a monthly income of R23,503 or higher, 28.8% had an income of R23,502 or lower, and 22.9% preferred not to reveal their income

levels (see Figure 10). The figures reported indicate that the study sample is relatively wealthy based on the income distribution within South Africa (SA, 2021b).

Figure 10

Percentage of Respondents Based on Income



5.3.2 Consumption levels of soft drinks

The study assessed the consumption of soft drinks in relation to frequency and the type of soft drinks consumed by respondents (see Table 8). Most respondents consumed soft drinks twice or more a week (41.5%), whilst 29.9% consumed them once a week, and 28.6% consumed them once a month. Among the respondents, almost two in five (38.6%) consumed SSB, whilst just over one in five (22.5%) consumed no-sugar or zero-sugar soft drinks, with the rest consuming reduced sugar or less sugar (31.4%) soft drinks.

Table 8

Consumption Levels of Soft Drinks

		N	%
Frequency of drink	At least once a month	155	28.6%
	At least once a week	162	29.9%
	Twice or more times a week	225	41.5%
Type of soft drink	No-Sugar or Zero-Sugar Soft drinks	122	22.5%
	Reduced Sugar or Less-Sugar Soft Drinks	170	31.4%
	Sugary Soft Drinks	209	38.6%

5.3.3 Perceived health profile

The respondents were asked about their perceived health status (Table 9) and if they believed themselves to be healthy or in general good health, that is, in good physical or mental condition. Most of the respondents, 80.6%, reported they felt in good health, whilst 19.4% felt they were not in good health. When the respondents were asked about their future self from a health perspective, 73.4% felt they could be healthier in the future, 21.6% of the respondents were happy with their current level of health, and 5.0% were unconcerned about their health.

Table 9

Perceived Health Profile

		N	%
Health status	Not Healthy	105	19.4%
	Healthy	437	80.6%
Future self from a health perspective	Happy with your current health	117	21.6%
	Unconcerned about your health	27	5.0%
	Want to be healthier	398	73.4%

5.4 Experiment

The research conducted an experiment with all the respondents that met the qualifying criteria. All respondents were exposed to one of the four stimuli. This was based on randomising the A/B Test function, where each respondent had a 25% chance of being exposed to one of the four stimuli messages. During the experiment, the respondents were asked to imagine that they enter a convenience or grocery store and whilst standing in front of the shelf, reaching for a soft drink, they notice text on the packaging.

As shown in Figure 11, the sugary version alternated between having no message (control) or one of three demarketing messages, whilst the no-sugar offering was left unaffected. To limit the potential for bias, care was taken by the researcher in choosing the colour for the soft drink mock-up created for the experiment. In the soft drink category, colours serve as identifiers for different variants, brands and flavours. The researcher chose a blue colour as this was found to be one of the least used colours following an in-person investigation of a select number of fridges in grocery stores. Studies have shown that pricing is an important variable in purchasing decision processes (Giovanis et al., 2013). As the price was not a variable being tested in this study (to the advantage or benefit of either variant), to limit its potential impact, all soft drink variants were similarly priced at R10 a can, whether they were full sugar or no sugar.

Figure 11

Experiment Messaging

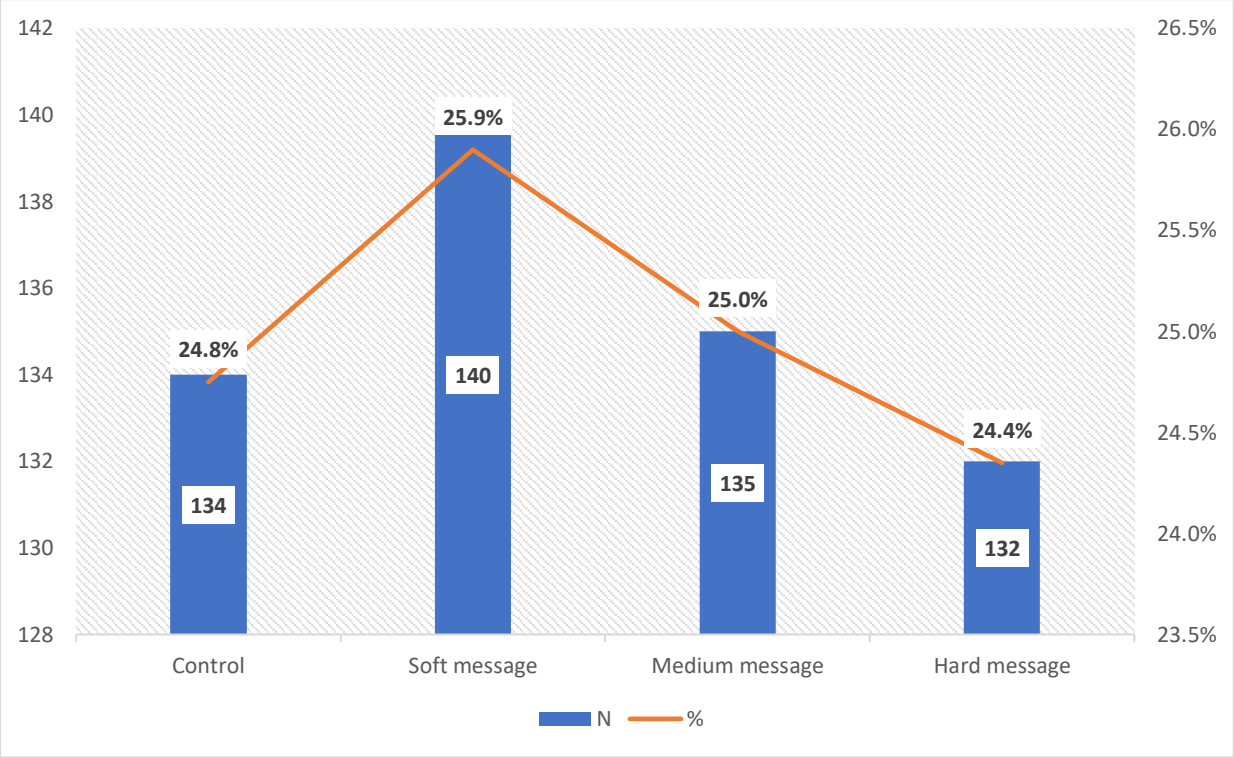
	Stimulus	Message	Stimulus Material/Imagery Shown to Respondent
1	Control	Not applicable	
2	Soft Message	Have you tried the no-sugar version?	

	Stimulus	Message	Stimulus Material/Imagery Shown to Respondent
3	Medium Message	Buy the no-sugar version instead	 
4	Hard Message	<u>Do Not Buy This.</u> Buy the no-sugar version instead.	 

Among the respondents, 134 were exposed to stimulus one (control), which had no message on the standard/sugary pack, and 140 respondents were shown stimulus two (soft message), 'have you tried the no-sugar version?'. Stimulus three (medium message), 'buy the no-sugar version instead', and stimulus four (hard message), 'do not buy this, buy the no-sugar version', were shown to 135 and 132 respondents, respectively (see Figure 12). This was a balanced experiment, with respondents distributed equally (about 25%) across the four stimuli.

Figure 12

Levels of Stimuli

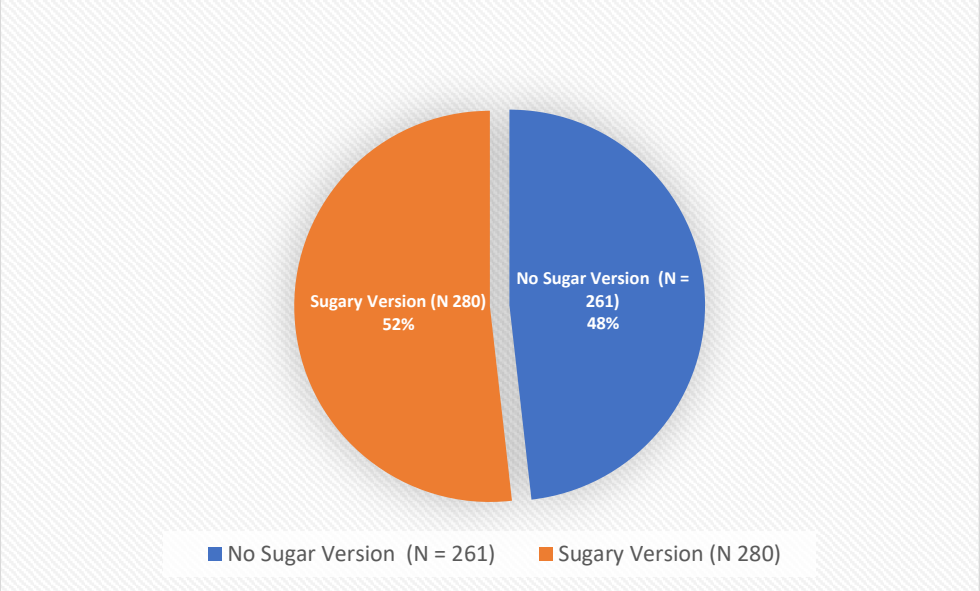


5.4.1 Transition to post-stimuli exposure

Following exposure to the stimuli, the respondents were asked which soft drinks they would buy, the standard/sugary or the no-sugar version. As shown in Figure 13, the study results revealed that 51.8% of the respondents still preferred the standard/sugary version of the soft drink, whilst 48.2% of the respondents preferred the no-sugar version of the soft drink. This indicates that the experiment was balanced between the respondents who consumed sugary soft drinks and those who consumed no-sugar soft drinks post-exposure.

Figure 13

Soft Drink Preference



5.4.2 Chi-square analysis

A Chi-square analysis was conducted to determine if there was statistical significance to the sub-segment of individuals (healthy/not healthy) who transitioned to a different type of drink (see Table 10). The analysis was based on the overall respondents, those who perceived themselves as healthy and those who believed that they could be healthier. The chi-square value was statistically significant for the type of drink consumed and the version post-stimuli for non-healthy ($\chi 2$ (3) = 43.12, p <.001) and for healthier variants ($\chi 2$ (3) = 171.3, p < .001). This relationship was strong with the Cramer's V (φ) = 0.644 for non-healthy and φ = 0.626. However, as there were six number analyses, it was not clear which combination or combinations were driving the statistical significance. This was determined with the adjusted residual, using the Bonferroni correction to minimise the risk of Type I error. The results show that the preference for no-sugar/zero-sugar soft drinks and sugary soft drinks changed post-stimuli. For traditional consumers of sugary soft drinks, 12.5% transitioned to no-sugar, whilst 87.5% remained with the sugary version. The same pattern was also evident among those respondents who perceived themselves to be healthy, with 16.3% of those drinking the sugary version migrating to the no-sugar soft drink post-stimuli.

Table 10

Chi-Square Analysis

Health status	Cross tabulation		Sugary version		Total	χ^2	*p*-value	φ
			No-sugar version	Sugary version				
Not healthy	No-sugar or zero-sugar soft drinks	Count	20	2	22	43.12	0.000	0.644
		Expected count	9.9	12.1	22.0			
		% within type of soft drink	90.9%	9.1%	100.0%			
		Adjusted residual	4.9	-4.9				
		Probability values	0.000	0.000				
	Reduced sugar or less sugar soft drinks	Count	17	10	27			
		Expected count	12.2	14.8	27.0			
		% within type of soft drink	63.0%	37.0%	100.0%			
		Adjusted residual	2.2	-2.2				
		Probability values	0.031	0.031				
	Sugary soft drinks	Count	6	42	48			
		Expected count	21.7	26.3	48.0			
		% within Type of soft drink	12.5%	87.5%	100.0%			
		Adjusted Residual	-6.2	6.2				
		Probability values	0.000	0.000				
Healthy		Count	96	4	100			
		Expected count	49.0	51.0	100.0			

	No-sugar or zero-sugar soft drinks	% within type of soft drink	96.0%	4.0%	100.0%	171.3	0.000	0.626
		Adjusted residual	10.7	-10.7				
		Probability values	0.000	0.000				
	Reduced sugar or less sugar soft drinks	Count	84	59	143			
		Expected count	70.0	73.0	143.0			
		% within type of soft drink	58.7%	41.3%	100.0%			
		Adjusted residual	2.8	-2.8				
		Probability values	0.004	0.004				
	Sugary soft drinks	Count	26	134	160			
		Expected Count	78.4	81.6	160.0			
		% within Type of soft drink	16.3%	83.8%	100.0%			
		Adjusted Residual	-10.4	10.4				
		Probability values	0.000	0.000				

Note: probability after Bonferroni correction = 0.00833.

5.5 Descriptive Statistics

5.5.1 Consumption of the sugary soft drink

Respondents who preferred the sugary version of the soft drink after being exposed to stimuli were asked to rate statements using a seven-point Likert scale of 1 (strongly disagree) to 7 (strongly agree) (see Table 11). The first statement, 'I intend to drink sugary soft drinks daily', had a mean of 3.17 with a standard deviation of 2.133, showing that, on average, respondents intended somewhat not to consume sugary soft drinks daily. The results for the question 'how likely is it that you will drink sugary soft drinks daily' and the statement 'if everything goes as I plan, I will drink sugary soft drinks daily' had a mean of 3.30 (*SD* = 2.255) and a mean of 3.09 (*SD* = 2.222), respectively. This suggests that, on average, respondents are somewhat less likely to drink sugary soft drinks daily and somewhat likely to choose sugary drinks if everything goes as planned.

Table 11

Consumption of Sugary Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
Intended daily consumption of sugar (CSS1)	281	1	7	3.17	2.133
Likely daily consumption of sugar (CSS2)	281	1	7	3.30	2.255
Plan daily consumption of sugar (CSS3)	282	1	7	3.09	2.222

5.5.2 Consumption of the no-sugar soft drink

The respondents who preferred the no-sugar version of the soft drink after being exposed to stimuli were asked to respond to the following statements or questions using a seven-point Likert scale as per the respondents who preferred the sugary version of the soft drink (See Table 12). Responses to the first statement, 'intend to drink no-sugar soft drinks daily', resulted in a mean *M* = 4.39 and *SD* = 2.169 and indicated that the respondents neither intend nor do not intend to drink no-sugar drinks daily. The question 'how likely is

it that you will drink no-sugar soft drink daily' and the statement 'if everything goes as I plan, I will drink no-sugar soft drinks daily' resulted in a mean of 4.47 (*SD* = 2.272) and a mean of 4.60 (*SD* = 2.156), respectively. This shows that respondents were somewhat likely to drink no-sugar soft drinks daily and somewhat agreed they would drink no-sugar soft drinks daily if everything went to plan.

Table 12

Consumption of No-Sugar Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
Intention daily consumption (no-sugar) CNS1	260	1	7	4.39	2.169
Likely daily consumption (no-sugar) CNS2	260	1	7	4.47	2.275
Plan daily no-sugar CNS3	260	1	7	4.60	2.156
Valid N (listwise)	259				

5.5.3 Purchase intent for sugary soft drink

The respondents were then asked to think about the two versions of soft drinks (sugary and non-sugary) and answer questions using a seven-point Likert scale from 1 (very unlikely) to 7 (very likely), as shown in Table 13.

When thinking about the sugary version of soft drinks, the respondents were asked how likely they would be to purchase the product, given the information shown. The respondents' answers had a mean of 4.02 (*SD* = 2.129), indicating that, on average, respondents were neither likely nor unlikely to purchase the product. Continuing to think about the sugary version of the soft drink, the respondents were then asked to assume they were interested in purchasing the sugary soft drink. When asked if they would be more likely or less likely to purchase based on the information shown, the results were a mean of 3.61 (*SD* = 2.51). This suggests that, on average, the respondents were neither likely nor unlikely to purchase the sugary soft drink even though they were interested in purchasing it. Given the information presented, respondents were asked how probable it

was they would consider purchasing the product if they were interested in buying a sugary soft drink, and the results showed that, on average, it was not probable or improbable they would purchase the product (*M* = 3.79, *SD* = 2.493).

Table 13

Purchase Intent for Sugary Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
Likely to purchase (sugar) PIS1	512	1	7	4.02	2.129
More/less likely to purchase based on messaging (sugar) PIS2	514	1	7	3.61	2.510
Based on information probable purchase (sugar) PIS3	511	1	7	3.79	2.493

5.5.4 Purchase intent for no-sugar soft drink

When asked to think about the non-sugary version of the soft drink (see Table 14), respondents were asked how likely they would be to purchase the product given the information shown. The responses showed a mean of 3.99 (*SD* = 2.256), highlighting that, on average, respondents were neither likely nor unlikely to purchase the product. Assuming they were interested in purchasing the no-sugar soft drink, respondents were asked if they were more likely or less likely to purchase the product, given the information shown. The results indicated they were neither likely nor unlikely to purchase (*M* = 4.29, *SD* = 2.529). Given the information shown, respondents were asked how probable it was that they would consider buying a no-sugar drink. The results, with a mean of 4.38 (*SD* = 2.495), indicate that the respondents were neither probably nor improbably considering buying a no-sugar soft drink.

Table 14

Purchase Intent of No-Sugar Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
Likely to purchase (sugar) PINS1	487	1	7	3.99	2.256
More/less likely to purchase based on messaging (sugar) PINS2	489	1	7	4.29	2.529
Based on information probable purchase (sugar) PNIS3	487	1	7	4.38	2.495

5.5.5 Brand perception for sugary soft drinks

The respondents were asked to imagine their chosen variant (sugary or no-sugar) as if it were their favourite soft drink brand and answered some questions with that brand in mind (see Table 15). They were then asked how they felt about their favourite brand on a 7-point Likert scale of 1 (very bad) to 7 (very good). The results indicated that the respondents felt somewhat good about the brand after making their choice (*M* = 5.20, *SD* = 2.077). The respondents were also asked if they disliked or liked, from 1 (disliked very much) to 7 (like very much) their favourite brand after making the choice of either a sugary or non-sugary variant. On average, respondents somewhat liked their favourite brands after choosing the sugary variant (*M* = 5.18, *SD* = 2.055). The results showed that the respondents felt somewhat positive (*M* = 5.12, *SD* = 2.088) about their favourite brands after imagining the sugary variant.

Table 15

Brand Perception for Sugary Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
BrandSS1	250	1	7	5.20	2.077
BrandSS2	251	1	7	5.18	2.055
BrandSS3	251	1	7	5.12	2.088

5.5.6 Brand Perception for no-sugar soft drink

Similarly, the respondents who chose the no-sugar variant of soft drinks following the stimuli were also asked to imagine the variant as their favourite brand of soft drink (see Table 16). On a 7-point Likert scale of 1 (very bad) to 7 (very good), the respondents were asked how they felt about their favourite brand after imagining it as the no-sugar variant. The results show that the respondents felt somewhat good (M = 5.48, SD = 2.034) about their favourite brands, liked their favourite brands (M = 5.66, SD = 1.841) and felt somewhat positive about their favourite brands, respectively.

Table 16

Brand Association No-Sugar Soft Drinks

	N	Minimum	Maximum	Mean	Std. Deviation
BrandNS1	230	1	7	5.48	2.034
BrandNS2	229	1	7	5.66	1.841
BrandNS3	230	1	7	5.53	1.919

5.6 Multivariate analysis

Multivariate analysis was conducted to determine the validity and reliability of the variables of the study. The factor analysis was conducted using principal components with a varimax rotation for the nine variables of the sugary version and the non-sugary version. Varimax rotation is the most used rotation approach in factor analysis and maximises the variance of the squared loadings on each element (Lee, 2018).

The factor analysis for the sugary version had a Kaiser Meyer-Olkin sampling adequacy of KMO = 0.793; and Bartlett's Test of Sphericity of 1274.6 df = 36, $p < .001$ (see Table 17). This confirms the suitability of the factor analysis and the accuracy of the results (Tabachnick & Fidell, 2013). The cumulative variance extracted was 80.34% which implies a good cumulative percentage of variance, with all the eigenvalues higher than 1 (Williams et al., 2010).

The eigenvalues were 3.927 for factor one and 1.237 for factor three. Factor one was brand perception with a loading of 0.879–0.926, factor two was consumption with a loading of 0.849–0.884, and factor three was purchase intention with a factor loading of 0.774–0.874.

Table 17

Factor Analysis of the Sugary Version of the Experiment

Variable	1	2	3	Eigenvalue	Variance extracted	Cronbach alpha α
BrandSS2	0.926	-0.001	0.190	3.927	43.63	0.854
BrandSS1	0.890	0.118	0.142			
BrandSS3	0.879	0.052	0.240			
CSS2	0.021	0.884	0.175	2.066	22.96	0.823
CSS3	0.108	0.877	0.156			
CSS1	0.034	0.849	0.121			
PIS1	0.178	0.089	0.874	1.237	13.75	0.910
PIS2	0.190	0.162	0.868			
PIS3	0.204	0.247	0.774			
Kaiser-Meyer-Olkin measure of sampling adequacy, KMO = 0.793						
Bartlett's Test of Sphericity, 1274.6 df = 36, $p < .001$						
Cumulative variance extracted = 80.34%						

Similarly, factor analysis for the no-sugar version was also suitable with Kaiser–Meyer–Olkin measure of sampling adequacy (see Table 18), KMO = 0.811, Bartlett's Test of Sphericity, 1254.7 df = 36, $p < .001$ and cumulative variance extracted of 80.34%.

Table 18

Factor Analysis of the No-Sugar Version of the Experiment

Variable	1	2	3	Eigenvalue	Variance extracted	Cronbach alpha α
BrandNS3	0.903	0.239	0.053			0.786
BrandNS2	0.890	0.260	0.050	4.325	48.06	
BrandNS1	0.890	0.191	0.142			
PIN2	0.261	0.892	0.113			0.883
PIN3	0.282	0.849	0.219	1.86	20.67	
PIN1	0.189	0.774	0.283			
CNS1	0.074	0.128	0.853			
CNS3	0.060	0.218	0.833	1.045	11.62	0.921
CNS2	0.086	0.166	0.823			
Kaiser-Meyer-Olkin measure of sampling adequacy, KMO= 0.811						
Bartlett's Test of Sphericity, 1254.7 df = 36, $p < .001$						
Cumulative variance extracted = 80.34%						

The eigenvalues were 4.325 for factor one and 1.045 for factor three. Factor one was brand perception with a loading of 0.890–0.903, factor two was the purchase intention with a factor loading of 0.774–0.892, and factor three was consumption with a loading of 0.823–0.853.

5.7 Correlation

A popular and commonly used technique for measuring the relationship of one variable to another is a correlation, and 'a correlation coefficient is a statistical measure of covariation or association between two variables' (Zikmund et al., 2013, p. 561). This study investigated three hypotheses, each with two sub-hypotheses (sugary and no-sugar versions), to determine the influence of targeted preventative demarketing messaging on consumption (H1), purchase intent (H2) and brand perception (H3). To determine the relationships of the variables, Spearman's correlation was used because its coefficient is non-parametric, flexible and can be used for both linear and non-linear relationships. Spearman's coefficient was calculated using Equation 1.

Equation 1

Spearman's Coefficient

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

ρ = Spearman's rank correlation coefficient

d_i = difference between the two ranks of each observation

n = number of observations

The correlation highlights the relationship based on statistical significance, direction and strength. Pallant (2010) provides guidelines for small to strong correlations and these are described in Table 19.

Table 19

Spearman's Correlation Statistical Significance Guidelines

Degree of Correlation	Values
Small correlation	0.1–0.3
Medium correlation	0.4–0.7
Strong correlation	0.8–1

The results (see Table 20) show a small but statistically significant positive relationship between the consumption of sugary soft drinks and the purchase intention of sugary drinks $r = .344$, $p = < .001$, and the brand perception of the sugary soft drinks $r = .158$, $p = <.011$.

There was also a statistically significant medium positive relationship between the purchase intent of the sugary soft drink and the brand perception of the soft drinks for the sugary option *r* = .428, *p* = < .001. However, the AB test results show that the choices of the respondents were not affected by the stimuli they were exposed to. The results of the Spearman's coefficient for the no-sugar option showed a moderate statistically significant positive relationship between the consumption of the no-sugar soft drink and the purchase intent *r* = .489, p = < .001, and for the brand perception of the soft drinks *r* = .270, *p* = < .001. A medium statistically significant positive relationship was also noted between the purchase intention of the no-sugar soft drinks and the brand perception of soft drinks *r* = .491, *p* = < .001. The AB test results indicate that the purchase intention of the respondents who chose the no-sugar option was slightly affected by the stimuli they were exposed to, with a small correlation found *r* =.101, *p* = .026.

Table 20

Correlation of Variables for Sugary and No-Sugar Option

	1	2	3	4
1. Consumption (sugary)	-			
2. Purchase intention (sugary)	.344**	-		
3. Brand (sugary)	.161*	.428**	-	
4. AB Test	0.09	0.012	-0.012	-
	1a	2a	3a	4a
1a Consumption (no-sugar)	-			
2a Purchase intention (no-sugar)	.489**	-		
3a Brand (no-sugar)	.270**	.491**	-	
4a AB Test	-0.047	.101*	-0.014	-

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

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

5.8 Regression

The hypotheses were tested using the regression with dummy coding of multi-categorical predictors. Categorical variables classify observations into groups with a limited number of different values (levels), whilst for regression analysis, the categorical variables are recorded into a set of separate binary variables (Lang, 2008) or dummy coding. This then quantifies the categorical variables, allowing the variables to be analysed at a variety of levels to find the best-fitting model (Venkataramana et al., 2016). The multi-categorical predictor (stimuli) was converted to sets of binary predictor variables, as shown in Table 21. The number of dummy variables is J-1, so of the four groups (control, soft message, medium and hard message), three are included in the regression analysis. A system of 0 and 1 was used to represent the group membership, resulting in d1, d2 and d3.

Table 21

Dummy Variables Coding for the Multi-Categorical Predictor (Stimuli)

Stimuli	d1	d2	d3
Control	0	0	0
Soft message	1	0	0
Medium message	0	1	0
Hard message	0	0	1

For the regression model for consumption of soft drinks, $F = 1.534$, and the results of the regression model for the sugary soft drink show a relationship between the consumption of soft drinks and d2 (medium message) with $\beta = 0.635$, $t = 2.010$, $p < .05$. However, there was no relationship between the consumption of the sugary soft drink and d1 ($\beta = 0.123$, $t = 0.394$) and d3 ($\beta = 0.370$, $t = 1.112$) with a variance of $R^2 = .016$. The same F-statistic and variance results showed no relationship between the purchase intent. There was also no significant relationship between brand perception and the stimuli messages (See Table 22).

Table 22

Regression Results for Sugary Soft Drinks: Soft Message (d1), Medium Message (d2) and Hard Message (d3)

	Consumption	Purchase intent	Brand perception
d1	0.123 (0.394)	-0.230 (-0.903)	-0.360 (-1.110)
d2	0.635 (2.010) *	-0.153 (-0.589)	-0.018 (-0.055)
d3	0.370 (1.112)	0.052 (0.201)	-0.125 (-0354)
Constant	2.929 (13.86) **	3.909 (21.328) **	5.281 (24.209) **
R^2	0.016	0.003	0.006
R^2 adjusted	0.006	-0.003	-0.006

Note. *- $p < .05$ **- $p < .01$ ***- $p < .001$

Further, the regression model results for the no-sugar soft drink show found a statistically significant relationship between the purchase intent of the respondents and the variables d2 ($\beta = 0.588$, $t = 2.095$, $p < .05$) and d3 ($\beta = 0.641$, $t = 2.244$, $p < .05$), respectively, with a variance of $R^2 = .013$. The results show no statistically significant relationship between the consumption of no-sugar soft drinks and brand perception (see Table 23).

Table 23

Regression Results for No-Sugar Soft Drinks: Soft Message (d1), Medium Message (d2) and Hard Message (d3)

	Consumption	Purchase intent	Brand perception
d1	-0.258 (-0.745)	0.485 (1.743)	-0.333 (-0.909)
d2	-0.344 (-0.994)	0.588 (2.095) *	-0.177 (-0.490)
d3	-0.250 (-0.737)	0.641 (2.244) *	-0.381 (-1.059)
Constant	4.721 (17.904) ***	3.794 (18.907) ***	5.797 (20.563) ***
R^2	0.004	0.013	0.006
R^2 adjusted	-0.008	0.007	-0.007

Note. *- $p < .05$; **- $p < .01$; ***- $p < .001$

5.9 Summary of the Chapter

Following the experiment where respondents were exposed to one of four stimuli, the majority stated that they preferred the sugary soft drink. The consumers were then asked questions about their choice of soft drink (sugary or no-sugar) concerning consumption, intent to purchase and brand perception for their preferred choice of drink. The descriptive statistics indicate that the messages (stimuli) did not have much of an impact on the respondents' choices, regardless of their preference for sugar or no sugar, and this is also seen in the correlations and regression models.

Where correlations were identified between variables, they were of a small to medium magnitude. The regression model picked up very few relationships; those found were mainly between consumption of sugary drinks and d2 medium message stimuli or purchase intent of no-sugar soft drinks and d2 (medium message) and d3 (hard message). The results of the study show that we can partially accept hypothesis H1a and fully accept hypothesis H2b, but we cannot accept hypotheses H1b, H2a, H3a and H3b, as outlined in Table 24. The findings in this chapter will be further discussed in Chapter 6.

Table 24

The Results of the Hypothesis Testing

Hypothesis	Path	Supported
H1a	Demarketing message – no impact on consumption on healthier offering	Yes (partially)
H1b	Demarketing message – increased consumption of healthier offering (no sugar)	No
H2a	Demarketing message – no impact on purchase intent of healthier option	No
H2b	Demarketing message – increased purchase intent of healthier offering (no sugar)	Yes
H3a	Demarketing message - positive impact on brand perception	No
H3b	Demarketing message – negative impact on brand perception	No

6. CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

The data collection period for the study lasted two weeks, a relatively short period, and more respondents than required participated in the study, which suggests there was interest in completing this survey and/or the topic. The instrument used to collect results was deemed reliable post-testing, and each construct was validated to ensure that the questions consistently measured each of the constructs. This chapter's purpose is to discuss the findings outlined in Chapter 5 in the context of the literature review in Chapter 2. The focus will be on whether the results contradict, prove or build upon the existing literature within the field of demarketing. All inferences made within this chapter need to be viewed based on the sample that this study's findings are based on.

This chapter begins with a discussion of the sample and its demographic makeup to assist in understanding the profile of the study participants, the context of the sample within the broader macro context of South Africa and any potential sample biases. The underlying theory, TPB, is discussed in relation to the results obtained in this study. Thereafter, the results of each variable (consumption, perception and intention) are examined, inferences are made on the impact of targeted demarketing messaging, and the findings of the hypotheses for each of these variables are discussed.

The chapter concludes with a diagram summarising the results of the research and indicating the supporting literature. In summation, it is discussed whether the objectives of the research study were satisfied.

6.2 Sample Demographics

The researcher is confident that the number of participants was appropriate and adequate for the study and analysis. However, the snowball nature of the study did introduce a sampling bias in that the sample demonstrates higher-than-average levels of employment and income and is not fully representative of the South African population. This bias is a result of the convenience sampling (snowballing) of the initial respondents, which subsequently attenuated as the sample was shared with respondents of a similar demographic, employed and above-average income earners (Heckathorn & Cameron, 2017), as such findings and inferences should be viewed with this in mind. The average

monthly earnings paid to employees in the formal non-agricultural sector in South Africa is R23 502, according to Q1 Quarterly employment statistics (SA, 2021b). In terms of descriptive statistics, respondents will be classified as average earners, above average earners or lower than average earners.

This study hoped to capture a broader and more realistic representation of the South African population to enable broader generalisations and applications; however, key differences are noted across employment status, education status and income status, pointing to the sampling bias effect as shown in Table 25. Whilst there are differences in age as well as gender splits, with gender statistics weighted towards females 55.4% to 42.8%, these are deemed acceptable by the researcher.

Table 25

Sample Demographics versus South African Population

	South African Population	**Source**	**Sample Population**
Age distribution	55.9% 25 years and older	(StatsSA, 2022a)	64.5% 25 years and older
Gender	Female: 51.1% Male: 48.9%	(StatsSA, 2022a)	Female: 55.4% Male: 42.8%
Income	Average R23 502 per month	(SA, 2021b)	Sample predominantly earn more than R23 502 per month
Employment status	34.5%	(StatsSA, 2022b)	8.9%

(i.e., unemployment rate)			
Education Status	11.% of South Africans have a diploma or higher	(Khuluvhe & Negogogo, 2021)	84.5% of Sample has a diploma or higher

A consequence of the sampling bias is the results being limited to individuals who match the characteristics of the sample from a generalisation and inference perspective. The following sections delve into the findings for each of the observed and tested constructs and restate and emphasise key arguments in relation to each of the constructs.

6.3 Theory of Planned Behaviour, Soft Drinks and Demarketing

TPB is a valuable theory for defining and designing desired behaviours (Ajzen, 2011; Zoellner et al., 2012). TPB posits that behaviour intention and PBC are determinants of behaviour, and the antecedents to behavioural intention consist of three constructs, attitude, subjective norms and perceived behavioural control (Ajzen, 1991; Kothe et al., 2012).

This experimental study was conducted within the contextual framework of TPB. In effect, the targeted demarketing messaging introduced in the survey is a form of behavioural intervention. Rouhollahi (2016) states that behaviours consist of four factors, physiology, feeling, acting and thinking, and the final two are often easier to have direct control over. However, interventions and processes can be introduced that impact the two more challenging factors (physiology and feeling) in the desired way. The identified behaviour of focus in this study is the purchase of a healthier soft drink (no sugar) versus an unhealthier variant (sugary), with the behavioural intervention employed being the introduction of a targeted demarketing message.

TPB states that all behaviour is due to intention (Ajzen, 1991). In this study, the intention to be healthy was measured in Question 6 of the survey. In this study, attitude towards the behaviour was classified based on the belief that drinking less sugary beverages is a good thing to do. Subjective norms in TPB consist of both injunctive and descriptive norms

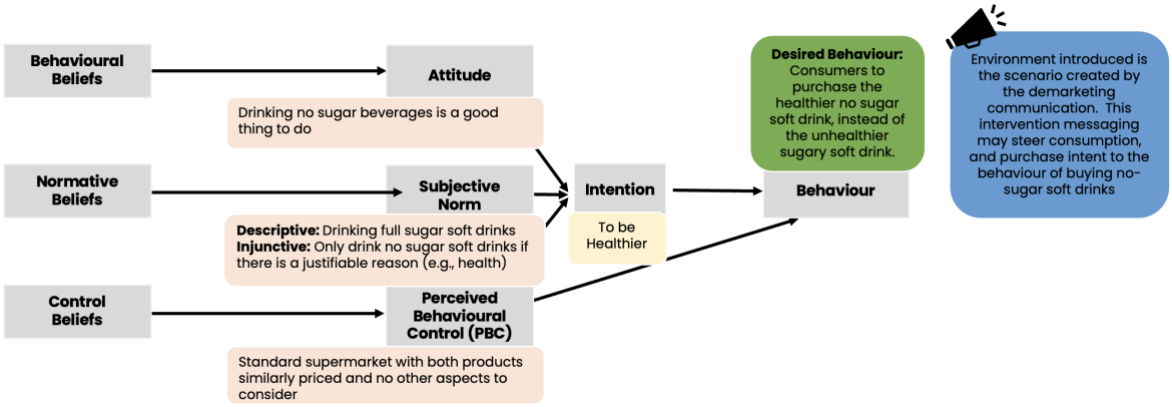
(Ajzen, 1991). In this study, what other people are doing (the descriptive norm) is drinking full-sugar soft drinks, whilst what you think other people expect (the injunctive norm) is that you drink full-sugar soft drinks unless there are valid and justifiable reasons not to. Finally, PBC or self-efficacy refers to a person's perception of the ease or difficulty of performing the behaviour of interest (Ajzen, 1991). In this study, PBC was designed to be as easy as possible, with a simple everyday scenario introduced (a visit to a favourite grocery store) and an achievable purchase price for the beverage, that is, R10 for either sugar or no-sugar soft drinks.

6.3.1 Theory of planned behaviour and the experimental survey on soft drinks

The theoretical foundation of this study was TPB (see figure 14). Drawing on the concept that all behaviour results from intent (Ajzen, 1991), survey respondents were asked to indicate what they consider their current health status to be and whether or not they intend to improve their future health status (see Table 9). Post-elimination of respondents already following specific diets as per health professional recommendations, an overwhelming majority of respondents stated that they considered themselves healthy (80.6% of the sample). However, the majority still had the intention of being healthier in future, with 73.4% of the sample indicating they 'want to be healthier'. The balance of the sample said they were unconcerned about their health (5%) and happy with their current health (21.6%). The results indicate that intention is high to change overall health amongst the sample.

Figure 14

TPB related to Demarketing and Soft Drinks



Note. From 'The theory of planned behavior', by I. Azjen, 1991, *Organization behavior and human decision processes, 50*(2), p. 182. Copyright by Academic Press.

The results indicated that there was a statistically significant change in behaviour for no-sugar and sugary soft drinks at a cumulative level; however, given the six analyses, it was unclear which exact combination of messaging was driving this significance (see Table 10). Consumers migrated to the healthier offering, the no-sugar offering, post-exposure to stimuli. Of the consumers who currently drink sugary soft drinks, 12.5% transitioned to no-sugar, with a similar pattern evident among those who believed that they were healthy, with 16.3% of those drinking sugary soft drinks migrating to no-sugar versions.

Ajzen (1991) TPB has been proved on numerous occasions, and the model is considered robust, with the results of this study further adding to the body of evidence for TPB. This study's results align with previous studies, including (Foerstl et al., 2021), which supported the hypothesis that insourcing decision behaviours by managers are mediated via intentions. Studies by Buckley et al. (2018) and Earle et al. (2020) have recently proved the efficacy of TPB. Furthermore, Table 26 lists recent experiments that utilise demarketing strategies with results in line with the predictions made using TPB.

6.3.2 Conclusion to the discussion of TPB

Transitions of the sample post-stimuli exposure (from sugary to no-sugar) indicate that in the context of TPB, the intervention of including targeted preventative demarketing to communicate behaviour is a means of driving consumers to a specific healthier offering and needs further investigation to improve impact. Whilst the results indicated transitions to no-sugar variants, it was not clear which messaging drove this transition.

Intention drives and motivates behaviour, according to TPB. The sample for this study had a high degree of stated intention to be healthier, which may have made the sample set more susceptible to transitioning from sugary to no-sugar soft drinks. One implication is that governments, NGOs, FMCGs or any interested parties may influence healthier consumption of products by increasing awareness of healthy behaviours and practices to subsequently increase intention amongst consumers; this will potentially prime the audience to be more susceptible to healthier choices.

Table 26

Experiments Successfully Utilising TPB and Aligned with this Study

	Title of Study	Authors	Key results
1	Fashion brand green demarketing: Effects on customer attitudes and behavior intentions	(Kim et al., 2018)	"The study shows that green demarketing advertising positively affects consumer attitudes and behavior intentions in consumers who have either analytic or intuitive cognitive styles (Kim et al., 2018, p. 365)"
2	Predicting medical tourism behavioural intention using social cognition models	(Seow et al., 2020)	TPB of the research results reinforced the roles of attitude, subjective norms and perceived behavioural control in developing behavioural intentions, and the link to the development of pull marketing strategies
3	Schwartz personal values, theory of planned behavior and environmental consciousness: How tourists' visiting intentions towards eco-friendly destinations are shaped?	(Ahmad et al., 2020)	1. "Resultant self-transcendence and resultant conservation influence theory of planned behaviour factors. 2. The theory of planned behaviour factors affect tourists' visiting intentions. 3. Environmental consciousness moderates between Schwartz bipolar dimensions and attitude. (Ahmad et al., 2020, p. 1)"
4	Demarketing strategies to rationalize electricity consumption in the Gaza Strip-Palestine	(Salem et al., 2021)	"The results confirmed consistent positive effects of promotion, place, and product, on consumer intention to reduce electricity consumption. These effects were reinforced by higher consumer awareness, higher motivation, and more favorable attitudes toward the supply company. Furthermore, these effects are stronger for younger consumers, married, households whose head is a female, as well as lower education and income groups (Salem et al., 2021, p. 1)."

6.4 The Relationship between Demarketing and Consumption

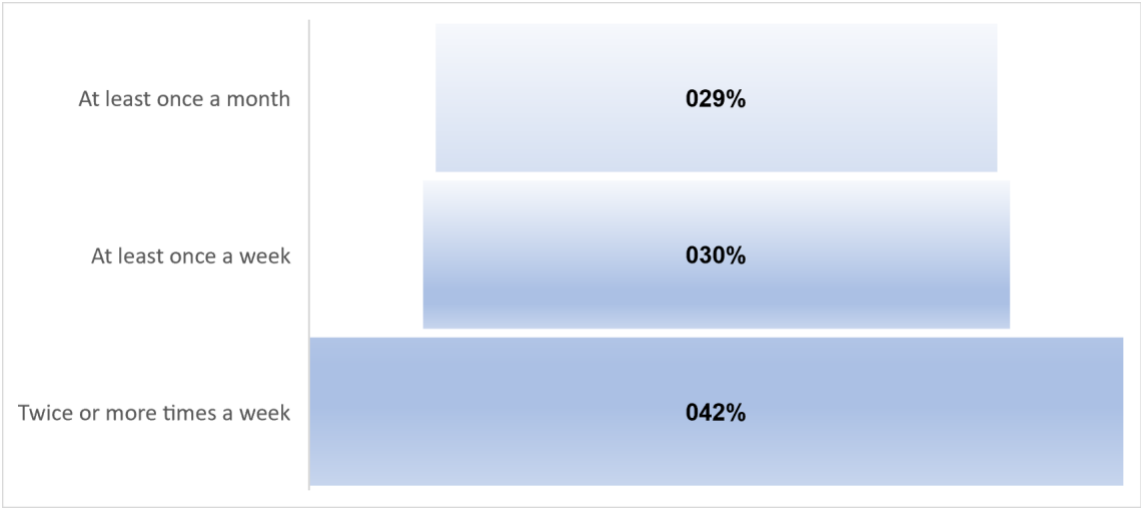
The first goal of this research was to understand the impact of active demarketing in favour of a healthier alternative for soft drink choices by reviewing the impact of demarketing messages on consumption, purchase intent and the positive/negative impact on the brand. This section discusses the results in the context of Hypothesis 1, as presented in Chapter 3.

In this study, consumption related to respondents' claimed intention to consume no-sugar or full-sugar soft drinks after exposure to different demarketing material. Prior to exposure to the experiment, the questionnaire purposefully disqualified respondents who consumed soft drinks less than once a month as the study required respondents to be regular drinkers of soft drinks, i.e. consume soft drinks at least once per month (Billich et al., 2018).

The results from the sample indicated that most respondents could be considered highly frequent consumers of soft drinks (at least twice or more times a week), which is a significant difference from the base level requirement of consumption at least once a month (see Figure 15).

Figure 15

Consumption Frequency of Soft Drinks for Study Sample

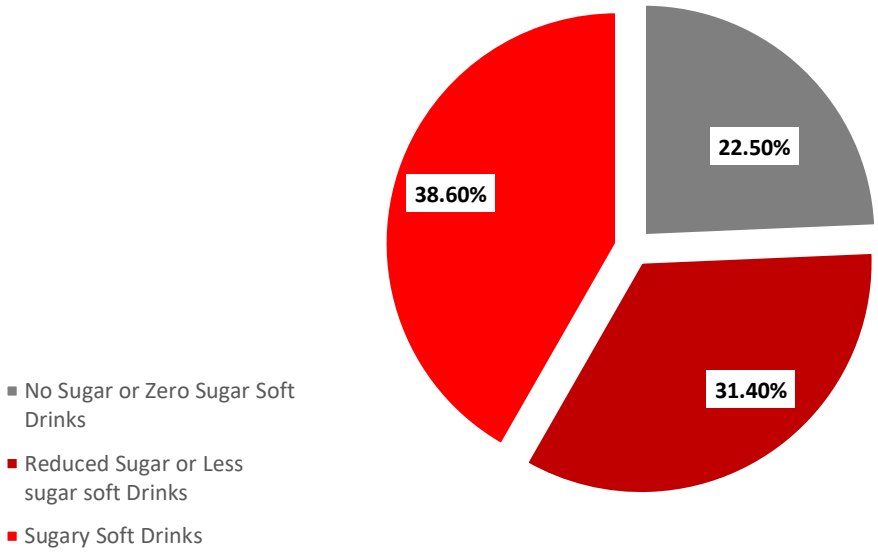


Consumption twice or more times a week represents 41.5% of the sample, followed by at least once a week (29.9%) and at least once a month (28.6%). Overall, the respondents were regular to high soft drink consumers, with once a week and twice or more a week making up over 70% of the sample. Further, most considered themselves current regular

drinkers of sugary or reduced/less sugar soft drinks. A cumulative 70% stated that they drink soft drinks containing sugar, whilst the remainder of the sample (22.5%) indicated that they currently drink no-sugar soft drinks, as shown in Figure 16.

Figure 16

Type of Soft Drink Consumed



This is in line with the researcher's expectation that the consumption of soft drinks would be weighted towards drinks with sugar. It is also in line with the current reality that has necessitated the introduction of the HPL tax in South Africa, with sugar consumption through soft drinks deemed as high (Saxena et al., 2019). It must also be noted that whilst there are now lower sugar versions of some soft drinks available in South Africa, this has not always been the case. Soft drink manufacturers, like Coca-Cola (Stroud, 2019), only began reformulating drinks after the introduction of the HPL tax; this indicates two realities:

1) Taxation can play a positive role in limiting the consumption of harmful products or ingredients by spurring innovation from manufacturers and is, therefore, a valid form of demarketing (Acton et al., 2019; Harding & Lovenheim, 2017).

2) Consumption of full-sugar soft drinks remains high, as indicated by this sample (38.6%, see Table 8). This means there is additional scope to further reduce the consumption of sugary soft drinks through means other than taxation.

As stated in Chapter 2, demarketing has been used and continues to be used in various industries to reduce consumption, particularly in relation to alcohol, smoking, water consumption/conservation, tourism reduction, fashion and soft drink (Chaudhry et al., 2019; Hwang et al., 2016; Kim et al., 2018; Ra'd Almestarihi et al., 2021). Respondents were separated based on questions related to their consumption preferences; respondents only indicated their consumption of either no-sugar or sugary soft drinks and not for both, as per their preference post stimuli exposure.

6.4.1 Discussion of sugary soft drink results in relation to consumption

The data collected for this study found that the intent for daily consumption of sugary soft drinks post-stimuli exposure had a mean of 3.17 (*SD* = 2.133). The likelihood of consuming sugary soft drinks daily had a mean of 3.3 (*SD* = 2.255), and consuming sugary soft drinks daily if all went to plan had a mean of 3.09 (*SD* = 2.222). Overall the measures of consumption amongst respondents who preferred sugary soft drinks post-exposure indicated an unlikeliness (on average) to consume or plan to consume sugary beverages daily. However, it should be noted that the large standard deviations indicate that responses were varied, and this may be due to respondents being exposed to different messages whilst the results here are aggregated.

6.4.2 Discussion of no-sugar soft drink results in relation to consumption

The data collected from this study for daily consumption of no-sugar soft drinks post-stimuli exposure had a mean of 4.39 (*SD* = 2.169). The likelihood of daily no-sugar drink consumption had a mean of 4.47 (*SD* = 2.272), and the planning of daily no-sugar soft drink consumption had a mean score of 4.6 (*SD* = 2.156). Overall, the respondents indicated that they were somewhat likely to consume or plan to consume no-sugar beverages daily.

As with the sugary soft drink respondents' results, amongst the no-sugar respondents, there were large standard deviations across the three questions measuring consumption. This indicated that responses were varied, and this may be due to the respondents being exposed to different messages whilst the results here are aggregated.

6.4.3 Claimed consumption of no-sugar versus sugary soft drinks

As stated previously, respondents who selected sugary soft drinks only answered about the consumption of sugary drinks, and those who selected no-sugar only answered about the consumption of no-sugar drinks. As shown in Table 27, both sets of respondents had high standard deviations, ranging from 2.133–2.275, across all three sets of questions, indicating varied responses within each set of respondent groups.

Table 27

No-Sugar and Sugary Soft Drinks Consumption Comparison

	No-Sugar Soft Drinks *(only no-sugar preferred drinkers)*		**Sugary Soft Drinks** *(only sugary preferred drinkers)*	
	Mean	***Std. Deviation***	***Mean***	***Std. Deviation***
Intention Daily Consumption	4.39	2.169	3.17	2.133
Likely Daily Consumption	4.47	2.275	3.30	2.255
Planned Daily Consumption	4.60	2.156	3.09	2.222

Comparing means between the two sets of independent groups (no-sugar soft drinks and sugary soft drinks), the mean in terms of claimed consumption was higher amongst no-sugar soft drink respondents than for sugary soft drink respondents. This indicates that respondents who selected no-sugar following the demarketing messaging were somewhat more likely to consume or plan to consume no-sugar soft drinks every day when compared to sugary soft drink respondents.

Hypothesis 1: Consumption

The first hypothesis sought to understand the impact of targeted demarketing messaging on claimed consumption, with the null and alternate hypotheses related to purchasing intent identified as:

- **Null Hypothesis (H1a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in consumption of the latter.

- **Alternate Hypothesis (H1b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in consumption of the latter.

6.4.4 Data analysis and discussion related to Hypothesis 1

At a cumulative level, the results show that the null hypothesis (H1a) can be partially supported; that is, the demarketing messaging will not impact the claimed consumption of the healthier offering. Consequently, the results also indicate that the alternate hypothesis is not supported; the demarketing message tested will not increase consumption of the healthier offering.

From the perspective of sugary soft-drink consumers, this study found a small but statistically positive relationship between the consumption of sugary soft drinks, the purchase intent of the sugary soft drinks (r = .344, p = < .001) and the brand perception (r = .0158, p = < .011) as shown in Table 20. However, A/B testing indicates the choices were not affected by the stimuli that respondents were exposed to at a significant level. Potentially this indicates that consumers who currently drink sugary soft drinks are likely to stay with their current choice, which is also evidenced by results indicating that 51.8% of respondents continued to select the sugary soft drink post-exposure to the stimuli. Whilst a large proportion of the sample continued to select sugary soft drinks, there was a decline from the cumulative 70% of consumers who currently drink full-sugar and reduced-sugar soft drinks. From the perspective of no-sugar respondents, the Spearman's coefficient results indicated a moderately positive statistically significant relationship between the consumption of no-sugar soft drinks and purchase intent (r = .489, p = < .001) as well as brand perception (r = .270, p = < .001), these results are presented in Table 20.

Delving into the regression analysis for the consumption of sugary drinks, the results show a relationship between consumption and the medium message, that is, 'buy the no-sugar version instead' (β = 0.635, t = 2.010, p < .05), with no other relationship viewed for the soft or hard messages. This suggests that this message may drive sugary drinkers to continue with their current preference (see Table 22). No statistically significant relationship was found between different messaging and no-sugar consumption (see Table 23).

An exact, replicable study was not found by the researcher in conducting this research; however, demarketing is a verified means of reducing consumption, particularly through

front-of-pack labelling. This has successfully been used to reduce tobacco consumption by fostering negative feelings among consumers towards smoking and attracting attention to reinforce the harms of smoking and encourage consumption reduction (Brewer, Hall et al., 2016; Brewer et al., 2019; Noar et al., 2015, Sheeran et al., 2014, as cited by (de Alcantara et al., 2020). The results of this study do not support these findings; however, this study is not a replica of tobacco studies, and there was no direct mention of health-related warnings in the labelling used in the experiment, only a directive to consume a different product within the same product and variant class.

6.4.5 Conclusion: Hypothesis 1

This study found that targeted demarketing messaging will not impact claimed consumption, as indicated by the partial acceptance of the null hypothesis and the alternate hypothesis not being supported. There was a slight relationship found in relation to consumption and message d2 (medium message), which indicates that this message may drive consumers to claim they will consume the sugary soft drink. Messaging was not the focus of this study; however, this finding may indicate that certain types of messages could potentially drive consumers to reject certain instructions placed on the packaging and encourage them to do the opposite of what is intended.

6.5 The Relationship between Demarketing and Purchase Intent

This research had the additional goal of examining the impact of active demarketing in favour of a healthier soft drink alternative, with a focus on purchase intent. This section discusses the results related to purchasing intent and Hypothesis 2 as outlined in Chapter 3.

As established, purchase intent is affected by successful marketing activities initiated by organisations, such as manufacturers or retailers (Bleize & Antheunis, 2019; Curtis et al., 2017). Chang and Wildt (1994) also highlight that a purchase intent or purchase intentions will develop and form in a customer's mind in lieu of a pending purchase and are, therefore, an important indicator of an actual imminent purchase. In this study, purchase intent is defined as respondents claimed intention to purchase a demarketed unhealthy product or its healthier alternative (which the demarketing messaging favours outside of the control) post-exposure to the demarketing messaging being presented. Respondents gave feedback for both the no-sugar and full sugar options, regardless of their selected soft drink preference post-exposure to stimuli.

6.5.1 Discussion of results for sugary soft drinks in relation to purchasing intent

Following exposure to demarketing messaging, respondents were asked how likely they would be to purchase the product (*M* = 4.02, *SD* = 2.129), if they were more/less likely to purchase the product (*M* = 3.61, *SD* = 2.510) and how probable it would be for them to purchase the sugary product given the information shown (*M* = 3.79, *SD* = 2.493).

Across all the questions for purchase intent for sugary soft drinks, the results indicated that respondents were neither likely nor unlikely and neither more/less likely/probable to purchase sugary soft drinks. The standard deviations for all three questions reflected the varied responses amongst the sample, with the wide variances likely influenced by the different messaging consumers were exposed to.

6.5.2 Discussion of no-sugar soft drink results in relation to purchase intent

Respondents were also asked how likely they would be to purchase the no-sugar soft drink (*M* = 3.99, *SD* = 2.256), if they were more/less likely to purchase the product (*M* = 4.29, *SD* = 2.529) and how probable it would be for them to purchase the sugary product given the information shown (*M* = 4.38, *SD* = 2.495). As per the sugary soft drink results, the standard deviation of results was large, indicating a wide array of answers, and is likely to have been affected by the different messaging consumers were exposed to.

6.5.3 Purchase intent no-sugar versus sugary soft drinks

Amongst both no-sugar and sugary soft drinks respondents, there was a high variance in relation to purchasing intent. This is reflected in the large range of standard deviations from 2.129–2.529, indicating that responses were not uniform, as shown in Table 28.

Table 28

No-Sugar and Sugary Soft Drinks Purchase Intent Comparison

	No-Sugar Soft Drinks *(all)*		**Sugary Soft Drinks** *(all)*	
	Mean	***Std. Deviation***	***Mean***	***Std. Deviation***
Likely to purchase	3.99	2.256	4.02	2.129
More/less likely to purchase based on messaging	4.29	2.529	3.61	2.510
Probably purchase based on information	4.38	2.495	3.79	2.493

Hypothesis 2: Purchase Intent

The second hypothesis sought to understand the impact of targeted demarketing messaging on purchase intent, with the null and alternate hypotheses related to purchase intent identified as:

- **Null Hypothesis (H2a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in purchase intent for the latter.
- **Alternate Hypothesis (H2b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in purchase intent for the latter.

The study found that the results did not support the null hypothesis (H2a); however, the alternate hypothesis (H2b) was supported.

6.5.4 Data analysis and discussion related to Hypothesis 2

The regression results showed that there was no significant relationship between the stimuli and purchase intent for the sugary beverage; however, the regression model results showed that there was a statistically significant relationship between the purchase intent of respondents and the variables d2 or medium message ($\beta = 0.588$, $t = 2.095$, $p <$

.05) and d3 or hard message (β = 0.641, t = 2.244, p < .05). The results for the no-sugar purchase intent were in line with a study by (Kim et al., 2018) relating to fashion which found that green demarketing messages with concrete claims were more positively received and more likely to impact behaviour intentions versus abstract claims. The hard and medium messages for no-sugar soft drinks were statistically significant, with scores of 0.588 and 0.644, respectively with the hard message 'Don't buy this. Buy the no-sugar version instead' having a stronger relationship between the messages. It was expected that the intention to purchase sugary soft drinks would be lower, as the messaging aims to drive consumers towards the no-sugar variant.

These results indicate that consumers can be urged to purchase no-sugar products in this specific scenario. These results, coupled with the statistically moderate positive relationship between consumption of no-sugar soft drinks and purchase intent (as per Spearman's correlation coefficient results), indicate that these two messages could be deployed proactively by marketing organisations or mandated by regulators to potentially drive consumers to choose no-sugar variants.

6.5.5 Conclusion: Hypothesis 2

In line with the researcher's expectations, the results indicate that the null hypothesis (H2a) is not supported, whilst the alternate hypothesis (H2b) is supported. This suggests that targeted demarketing messaging can have an influence on driving consumer purchase intent towards buying a healthier soft drink. The more direct messages of d2 (medium) and d3 (hard) were more influential than d1(soft message).

6.6 Relationship between Demarketing and Brand Perception

The final goal of this research was to understand the impact of active demarketing in favour of a healthier soft drink alternative regarding the impact on the brand. This section discusses the results related to brand perception as related to Hypothesis 3, as outlined in Chapter 3.

Consumer brand perception refers to consumers' attitudes towards a product or brand, which can be in line with or differ from the messaging communicated by the brand (Dobni & Zinkhan, 1990). Whilst messaging can provoke positive or negative attitudes and perceptions towards the product/brand (Huang et al., 2013; Kim et al., 2018; Reich & Soule, 2016), no company or brand manager would want to foster negative emotions that

could harm their brand. This study sought to ascertain if the targeted demarketing messages had positive or negative impacts on brand perception.

Respondents were separated by their soft drink preference post-exposure to the experiment and were asked to imagine that the messaging they had just seen was now on their favourite soft drink brand before answering the subsequent questions.

6.6.1 Discussion of sugary soft drink results in relation to brand perception

Respondents were asked how they felt about the brand after making their choice (very bad/very good), if they disliked/liked the brand and if they felt positive/negative about the results. Across the three questions, the responses were somewhat positive with means of 5.20 (somewhat felt good about the brand), 5.18 (somewhat like their favourite brand) and 5.12 (felt somewhat positive about their favourite brand), respectively. These results indicated that targeted demarketing messaging specifically placed on the sugary soft drink did not affect the brand negatively. The *SD* was somewhat varied, ranging from 2.0755 to 2.088; however, this variation was towards positive associations with the brand across the three questions.

6.6.2 Discussion of no-sugar soft drink results in relation to brand perception

As per the sugary soft drink respondents, the no-sugar group were asked the same questions in relation to brand perception. Results for the three no-sugar questions were also positive with means of 5.48 (somewhat felt good about the brand), 5.66 (somewhat like their favourite brand) and 5.53 (felt somewhat positive about their favourite brand), respectively. These results indicated that after selecting the no-sugar drink as their preference, targeted demarketing messaging placed on the sugary soft drinks left consumers feeling positive towards the brand.

Whilst lower than the sugar soft drink respondents, the *SD* remained varied, ranging from 1.841 to 2.034 to 2.088; however, this variation was towards positive associations with the brand across the three questions.

A comparison of the means between the two sets of independent groups shows that the no-sugar soft drink respondents were more positive than the sugary soft drink respondents (See table 29). However, both groups of respondents were positive towards the brand because of the demarketing messages. These results indicate that the respondents who selected the no-sugar option felt better about their decision as they made a healthy choice. Whilst not choosing the healthier variant, the sugary soft drink respondents may have still

felt a sense of appreciation that their favourite brand was actively communicating a healthier choice to them.

Table 29

No Sugar and Sugary Soft Drinks Brand Perception Comparison

	No-Sugar Soft Drinks *(Only no-sugar preferred drinkers)*		**Sugary Soft Drinks** *(Only sugar preferred drinkers)*	
	Mean	***Std. Deviation***	***Mean***	***Std. Deviation***
Feel good or bad about favourite brand	5.48	2.034	5.20	2.077
Disliked or liked favourite brand	5.66	1.841	5.18	2.055
Feel positive or negative about favourite brand	5.53	1.919	5.12	2.088

Hypothesis 3: Brand Perception

The third and final hypothesis of this study sought to understand the impact of targeted demarketing messaging on consumer brand perceptions, with the null and alternate hypotheses related to brand perception identified as:

- **Null Hypothesis (H3a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to overall positive brand perception.
- **Alternate Hypothesis (H3b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to overall negative brand perception.

The study found that the results did not support the null hypothesis (H3a) and the alternative hypothesis.

6.6.3 Discussion of Hypothesis 3

The mean scores observed directionally indicate that consumers were positively receptive to the messaging; however, these results were not at a statistically significant level post-correlation and regression analysis. Whilst the results are not clear in any direction, it can be accepted that the results show that the targeted demarketing messaging on soft drinks

utilised in this study would not negatively impact brand perception, even if consumers select an actively demarketed soft drink and shun its healthier offering.

This study's results align with anti-consumption research by Sekhon and Armstrong Soule (2020), which found that brand perceptions were more positive than negative when demarketing information was present and signalled. This finding (and all the others identified in this study) is only relevant within the scenario designed for the experiment and should be viewed as such. Brand perceptions can be impacted by various environmental factors (Braxton & Lau-Gesk, 2020; Ou et al., 2020), which even extend to an online environment, as reported by Gavurova et al. (2018).

6.6.4 Conclusion: Hypothesis 3

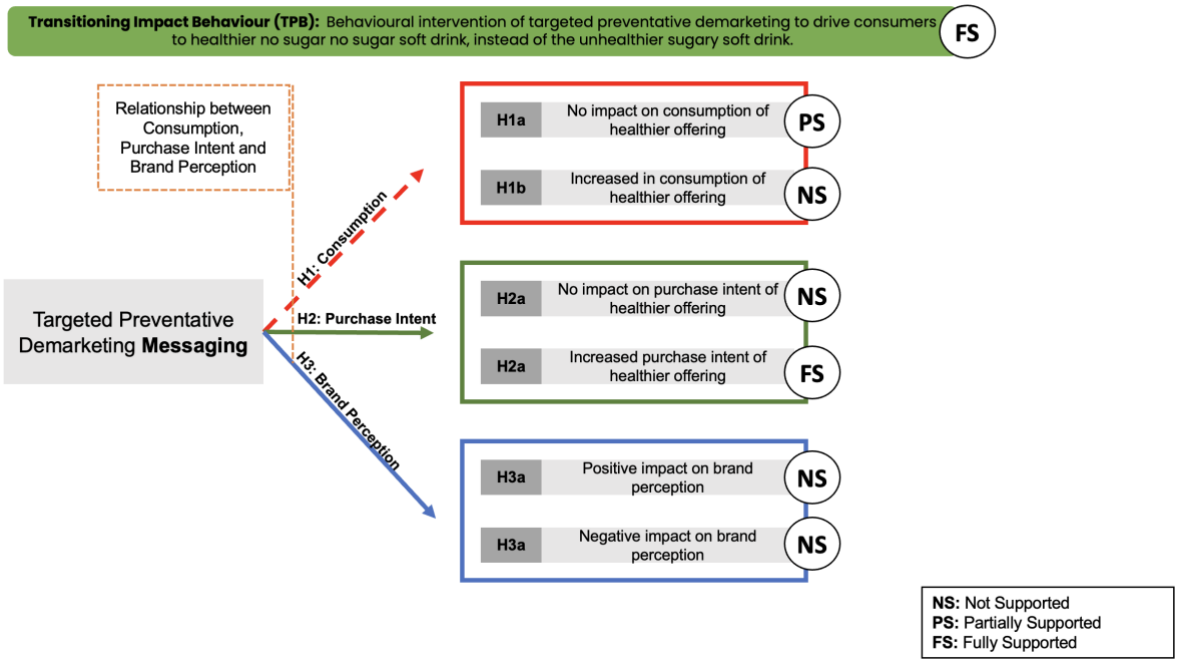
The results of this study are not statistically significant; however, directionally, the results skewed positively, and the null hypothesis was not supported. This indicates that consumers were not negatively skewed in terms of brand perception, indicating a somewhat low risk for brand owners or managers when implementing targeted demarketing messages.

6.6.5 Summary of findings

The results of this research are summarised in Figure 17, which illustrates the few relationships that were identified by this study. The results indicated a transition from sugary to no-sugar variants through a TPB view and a positive relationship betweetn demarketing messaging and purchase impact. The research findings were somewhat directional and not conclusive in terms of perception and consumption. The research objective has been met, and key findings and suggestions for further refinement and investigation into targeted preventative demarketing can be made.

Figure 17

Summary of Research Findings



Source: Research findings

7. CHAPTER 7: RECOMMENDATIONS & CONCLUSIONS

7.1 Introduction

The following chapter is a review of the study's primary objective and the findings in relation to the primary questions raised. This chapter outlines the research objectives, principle findings and applications for academics, firms and governments in terms of demarketing and specifically targeted preventative demarketing. This chapter also discusses the study's limitations, proposed enhancements and improvements and suggestions for future demarketing research.

7.2 Review of the Research Objectives

This study sought to determine the impact of targeted demarketing through messaging within the soft drink category in South Africa. Further to this, this research examined the impact on claimed consumer consumption, purchase intent and impact on brand perception post-exposure to targeted demarketing messaging. To evaluate this impact, the author developed and tested three hypotheses:

Hypothesis 1: Consumption

- **Null Hypothesis (H1a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in consumption of the latter.
- **Alternate Hypothesis (H1b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in consumption of the latter.

Hypothesis 2: Purchase Intent

- **Null Hypothesis (H2a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in purchase intent for the latter.
- **Alternate Hypothesis (H2b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in purchase intent for the latter.

Hypothesis 3: Brand Perception

- **Null Hypothesis (H3a):** Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to overall positive brand perception.
- **Alternate Hypothesis (H3b):** Active demarketing of an unhealthy product in favour of its healthier alternative will lead to overall negative brand perception.

As an active marketer with an appreciation for driving proactively responsible consumption, the researcher hoped that through meeting the objectives of this study, a new lever could be introduced to help marketers, governments and interested parties to target healthier consumption. Findings and recommendations in this light would allow organisations to grow their businesses without harming their consumer base and allow governments to address NCDs through different means, either as a sole or supplementary approach to other strategies such as taxes.

7.3 Principal findings

The study's primary goal was to investigate and build an understanding of the impact of targeted preventative demarketing messaging on driving targeted consumption in soft drinks, with a further understanding sought of the impact of targeted demarketing messaging on purchase intent and brand perception. In addressing this question with the theoretical foundational of Ajzen (1991) theory of planned behaviour, the research utilised a quasi-experiment, first establishing respondents' intentions and thereafter introducing a commonplace scenario where the targeted demarketing messaging was introduced and its impact across the constructs of consumption, purchase intent and brand perception where measured. It was predicted by the researcher that this intervention may possibly lead to impacts across these three constructs, thus providing organisations and governments with an additional means of addressing unhealthy consumption.

The concept of targeted preventative was introduced by the researcher following extant literature investigation and being unable to find a satisfactory definition for the investigation of the research. The researcher described targeted preventative demarketing as "the promotion of limiting consumption of one product for another healthier or less harmful product within the same product or service offering; this activity may be done directly by a firm to protect its consumer base or by a government, non-governmental

organisation or industry body agnostic of the impact on firm sales (Munzhelele, 2022)". Preventative targeted demarketing falls under general demarketing.

The findings of this researched empirically revealed that in the context of this study that preventative targeted demarketing communication had the impact of transitioning a portion of consumers from sugary soft drink to no sugar soft drink users. Whilst there was a transitionary impact, of the three constructs measured only purchase intent showed a statistically significant relationship with the demarketing messaging, whilst there was neither a positive nor negative impact on the brand and no significant relationship related to consumption. The medium and hard messages introduced had the larger impact on claimed consumer behaviour in driving purchase intent, as purchase intent is a determinant of an imminent action (Chang & Wildt, 1994), this result is encouraging as it implies that there is merit in further investigation of targeted preventative demarketing messaging in driving behaviour across various categories, beyond soft drinks.

Whilst the results for consumption and brand perception are either weak or were not proved, the researcher is of the opinion that there is an opportunity for further refinement of the messaging which could potentially lead to different results, furthermore, different categories need to be investigated.

7.4 Recommendations and implications

7.4.1 For Organisations

Non-communicable diseases remain a key discussion point for organisations. Health is an increasingly expensive drain on the finances of many markets, and in a relatively poor country like South Africa, the increasing cost of providing health care must continually be examined to identify and proactively address savings and improvements (Belc et al., 2019; Mutyambizi et al., 2019).

For organisations, there is a possibility to proactively address potential issues by utilising proactive, targeted demarketing messages to drive consumers to healthier offerings. As the messaging and act would be proactive this, could potentially delay or remove the need completely for governments to tax organisation products. The results indicating a relationship with purchase intent and no impact (positive/negative) on their brands mean

that organisations have the opportunity to refine targeted preventative demarketing messaging to best suit their offerings.

7.4.2 For Academics

Demarketing is a growing field, particularly as overconsumption and scarcity of resources and resourcing are present. For academics, the introduced concepts of targeted preventative demarketing presents a new tactic that needs to be further developed. This study has thus added to the existing body of demarketing literature and has added to the low number of studies in this field in South Africa, with most studies emanating from America or Europe (Chaudhry et al., 2019; Kotler, 1971; Lepisto, 1983).

This research study builds onto existing understand of demarketing by introducing the concept of targeted preventative demarketing, furthermore, it asks the question of how this specific tactic impacts consumption, purchase intent and brand perception. This tactic should be further explored and understood as its refinement may lead to its use by organisations and firms, whilst also building on consumer behaviour knowledge.

7.4.3 For Governments

Governments are in a unique position to formulate legislation and have a direct impact on reality through laws. Targeted preventative demarketing gives governments a potential new tactic alongside proven strategies such as taxation (Acton et al., 2019; Harding & Lovenheim, 2017) to drive consumer behaviour to reduce unhealthy consumption. Governments could potentially mandate organisations with products deemed to be unhealthy to utilise targeted preventative demarketing.

7.5 Limitations and suggestions for future research

In the following section, the limitations of the study as recognised by the researcher are discussed, as well as suggestions for future research.

7.5.1 Limitations of the study

The limitations of the study include sampling and experiment methodology, single-serve offering and messaging.

Sampling and experiment

A clear and obvious limitation of the study was that the sample was not random, as a purposive non-probability sampling method was used to find and select participants for the study. Within the sampling techniques used, snowball sampling was a major contributor to the total number of participants in the study. As such, the research results can be justifiably criticised for selection bias, as illustrated by the high number of employed and high-earning participants in the sample. Further, snowball sampling can lead to a lack of generalisability and representativeness for the South African population (Parker et al., 2019; Saunders et al., 2016). However, the sample selected is still appropriate for the research question asked, with the acknowledgement that the data is representative of a sub-segment of the population and can be used to infer based on that representative population. In addition, the experiment used in this study was quasi in nature, and for organisations or governments with additional resources, classical experiments should be considered and conducted to generate more robust results.

Single-serve soft drink offering

The experiment was limited to single-serve products, that is, for self-consumption. Sugary and no-sugar soft drinks are primarily served in larger formats in South Africa, and a study based on this format may deliver a different set of results. These larger-size products are often purchased for at-home consumption and purchasing decisions may be influenced by factors including different needs or personalities in a household.

Messaging

This study introduced three forms of targeted demarketing messages, which were classified as soft, medium and hard. These messages were created at the discretion of the researcher, with no prior testing to ascertain if different messages could be used to represent the three classifications. To this end, it is not clear if the best messages were used to conduct the experiment or if these messages were best suited for soft drink testing.

7.5.2 Future research

This study was only conducted in the context of the soft drink industry. However, there is a range of issues that have been highlighted as negative contributors to personal health and as increasing the risk of developing NCDs. As such, there is an opportunity to test within different consumption categories, such as salt, fat and sugar in products outside of soft drinks.

There is also an opportunity to build, expand, refine or create completely new and differentiated targeted demarketing messaging. This would test messaging efficacy related to the consumption of no-sugar soft drinks and healthier alternatives across all categories.

7.6 Concluding Remarks

Demarketing is a fascinating topic in today's world and its application can drive positive behaviours. Therefore, it is important to understand how it relates to key drivers of consumption, purchase intent and brand perception. This study's question was to understand if consumers can be driven to make a healthier choice within the soft drink category when presented with demarketing messaging. The findings of this study suggest that consumers can transition from an unhealthy to a healthy soft drink and that there is a positive relationship between demarketing messaging and purchase intent. The results were not conclusive for consumption and brand perception however leave the opportunity to refine and explore better messaging within the introduced tactic of preventative targeted demarketing.

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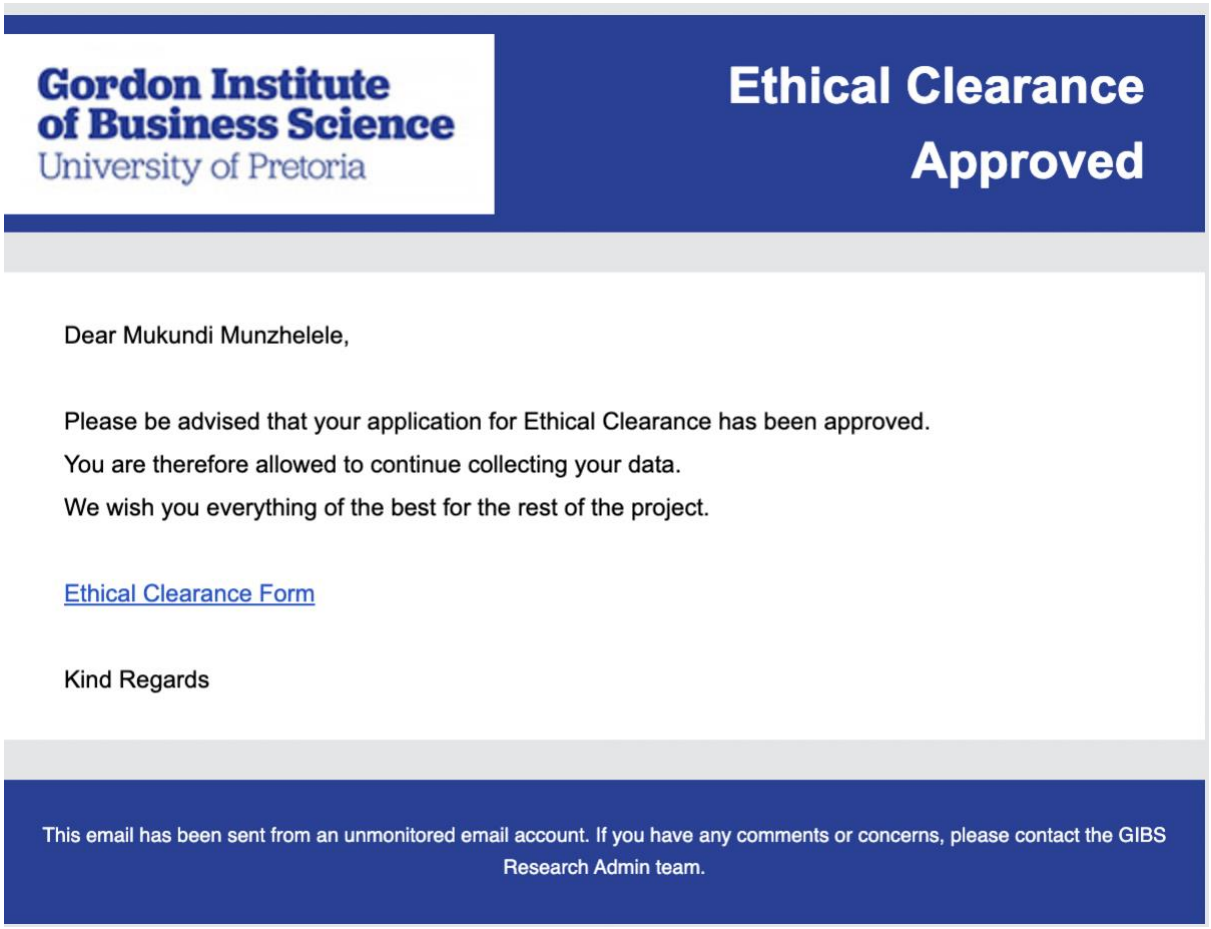
9. APPENDICES

9.1 Appendix A: Ethical Clearance



Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear Mukundi Munzhelele,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

9.2 Appendix B: Research Survey

Section A: Introduction

Good day,

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA. To that end, you are asked to participate in an online survey. This study will look at determining the impact of messaging in relation to the general consumer. You are asked to complete a survey, which is a scenario-based experiment which should take no longer than 10 minutes of your time to complete. All participation is voluntary, and you are free to withdraw at any point should you feel the need, with no penalty.

All information collected is anonymous and cannot and will not be used to identify any participant. Furthermore, all data collected will be kept confidential.

In completing this survey, you indicate that you are participating voluntarily in this research. Should you have any concerns, please contact myself or my supervisor.

Contact details are provided below:

Researcher: Mukundi Munzhelele

29169314@mygibs.co.z/+27 71 686 1782

Supervisor: Professor Hugh Myers

myresh@gibs.co.za / +27 83 302 3802

Section B:

Question 1: How often do you consume soft Drinks? (Select only one option)

"A soft drink is a drink that usually contains water (often carbonated), a sweetener, and a natural and/or artificial flavouring. The sweetener may be a sugar, a sugar substitute, or some combination of these."

Question 1: How regularly / often do you consume soft drinks	**Please Select Applicable Option.**				
	Once a year	Once every 6 Months	At least once a month	At least once a week	Twice or more times a week

Question 2: When you drink soft drinks, what type would you say you drink most often? (**Select only one option)**

"A soft drink is a drink that usually contains water (often carbonated), a sweetener, and a natural and/or artificial flavouring. The sweetener may be a sugar, a sugar substitute, or some combination of these."

Question 2: Soft Drink Preference	Please Select Application Option.
Sugary Soft Drinks	
Reduced Sugar or Less Sugar Soft Drinks	
No Sugar or Zero Sugar Soft drinks	

<u>Question 3</u>: Do you currently have to follow a diet/eating plan, and avoid certain foods or drinks **due to health reasons, as recommended by a health practitioner?**

Question 3: **Do you currently have to follow a diet/eating plan, and avoid certain foods or drinks** due to health reasons, as recommended by a health practitioner?	Please Select Applicable Option	
	Yes	No

<u>Question 4:</u> Please indicate your age

Question 4: Please indicate your age.	Please Select Applicable Option.			
	18–25 years old	26 – 35 years old	36 – 45 years old	46 years and older

<u>Question 5:</u> Which Gender do you most identify with?

Question 5: **Which Gender do you most identify with?**	**Please Select Applicable Option.**		
	Male	Female	Prefer Not to Say

<u>Question 6:</u> How much is your monthly income/earnings?

Question 6: **How much is your monthly income/earnings?**	**Please Select Applicable Option.**			
	R23 501 or Lower	R23 502	R23 502 or higher	Prefer Not to Say

<u>Question 7:</u> Please indicate your highest educational qualification?

Question 7: Educational Qualification	Please Select Application Option.
Primary School	
High School/Matric	
Diploma	
Degree/Undergraduate	
Postgraduate (Honours or Master)	

<u>Question 8:</u> Please indicate what your daily activity is?

Question 8: Daily Activity	Please Select Applicable Option.
Working Full-Time	
Working Part-Time	
Unemployed	
Retired	
Student	

<u>Question 9:</u> Do you consider yourself to be healthy?

Healthy, meaning ‘in a good physical or mental condition; in good health’

Question 9: Do you consider yourself to be healthy?	Please Select Applicable Option
Yes	
No	

<u>Question 10:</u> Thinking about your future self…

Question 10: Thinking about your future self…	Please Select Applicable Option
Do you want to be healthier?	
Are you happy with your current health?	
Are you unconcerned about your health?	

Section C: Scenario

Imagine that you enter a convenience or grocery store. You are thirsty and looking to get something to drink. You stand in front of the shelf. As you reach for a soft drink/cool drink, you notice that there is text on the packaging…

Consumer exposed to one of four stimuli: two cans of soft drink – pack on the left standard/sugary and a no-sugar offering. The Sugary Version will alternate with having no message (i.e., control) or one of three demarketing messages. The no-sugar offering will not be affected.

1. Stimuli 1 (Control) – No message on standard/sugary pack versus 'No Sugar'
2. Stimuli 2 (Soft Message) – 'Have you Tried the No-Sugar Version?' message versus 'No Sugar'
3. Stimuli 3 (Medium Message) – 'Buy the No-Sugar Version Instead' message versus 'No Sugar'
4. Stimuli 4 (Hard Message) – 'Do Not Buy This. Buy the No-Sugar Version Instead' versus 'No Sugar'

Section D: (following exposure to stimuli 1/2/3/4)

Question 11: Which of the soft drinks would you buy: the Sugary Version or No Sugar version?

Please Select Applicable Option.	
Sugary Version	No-Sugar Version

(Sugary Soft Drinks): Consumption

Thinking of the information shown to you, please rate the following statements …

Question 12: "I intend to drink **sugary soft drinks** daily"

(1) Strongly Disagree	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7) Strongly Agree**

Question 13: "How likely is that you will drink **sugary soft drinks** daily?

(1) Very Unlikely	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7) Very Likely**

Question 14: "If everything goes as I plan, I will drink **sugary soft** drinks daily

(1) Strongly Disagree	(2)	(3)	(4)	(5)	(6)	(7) Strongly Agree

No Sugar Soft Drinks: Consumption

Question 15: I intend to drink **No sugar soft drinks** daily"

(1) Strongly Disagree	(2)	(3)	(4)	(5)	(6)	(7) Strongly Agree

Question 16: "How likely is that you will drink **No sugar soft drinks** daily?

(1) Very Unlikely	(2)	(3)	(4)	(5)	(6)	(7) Very Likely

Question 17: "If everything goes as I plan, I will drink **No sugar soft drinks** drinks daily"

(1) Strongly Disagree	(2)	(3)	(4)	(5)	(6)	(7) Strongly Agree

Sugary: Purchase Intent

Thinking of the **Sugary version** of the soft drink

Question 18: How likely would be to purchase the product given the information shown (Very Unlikely / Very Likely)

(1) Very Unlikely	(2)	(3)	(4)	(5)	(6)	(7) Very Likely

Question 19: Assuming you were interested in buying a **sugary soft drink**, would you be more likely or less likely to purchase the product given the information shown? (Less Likely / More Likely)

(1) Less Likely	(2)	(3)	(4)	(5)	(6)	(7) More Likely

Question 20: Given the information shown, how probable is it that you would consider the purchase of the product, if you were interested in buying a **sugary soft drink**? (Not Probable / Very Probable)

(1) Not Probable	(2)	(3)	(4)	(5)	(6)	(7) Very Probable

No Sugar: Purchase Intent

Thinking of the **No Sugar Version** of the soft drink

Question 21: How likely would be to purchase the product given the information shown (Very Unlikely / Very Likely)

(1) Very Unlikely	(2)	(3)	(4)	(5)	(6)	(7) Very Likely

Question 22: Assuming you were interested in buying a **No Sugar soft drink**, would you be more likely or less likely to purchase the product given the information shown? (Less Likely / More Likely)

(1) Less Likely	(2)	(3)	(4)	(5)	(6)	(7) More Likely

Question 23: Given the information shown, how probable is it that you would consider the purchase of the product, if you were interested in buying a **No sugar soft drink**? (Not Probable / Very Probable)

(1) Not Probable	(2)	(3)	(4)	(5)	(6)	(7) Very Probable

You chose (*Sugary or No Sugar Version)* –

Question 24/27: Imagine that this was your favourite soft drink brand. How do you feel about the brand after making your choice?

(1) Very Bad	(2)	(3)	(4)	(5)	(6)	(7) Very Good

Question Q25/28: Imagine that this was your favourite soft drink brand. How do you feel about the brand after making your choice?

(1) Dislike very much	(2)	(3)	(4)	(5)	(6)	(7) Like Very much

Question 26/29: Imagine that this was your favourite soft drink brand. How do you feel about the brand after making your choice

(1) Very Negative	(2)	(3)	(4)	(5)	(6)	(7) Very Positive

Section E: Debrief

You have reached the end of the questionnaire. Thank you for your participation.

The purpose of the research was to test your and other individuals' reactions to different message in relation to their claimed consumption, brand perception and purchase intent for soft drinks. Three different messages were shown in addition to a control where no messaging was shown. You were only exposed to one of these messages. Should you want to be notified of the results of the study once completed and analysed, please contact the researcher or supervisor with details below:

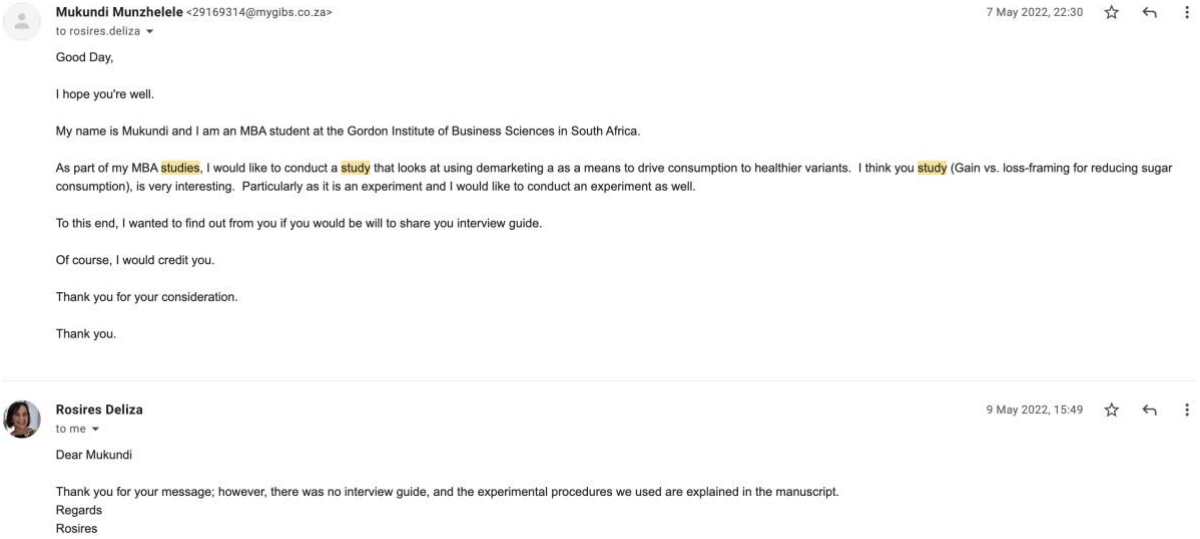
Researcher: Mukundi Munzhelele

29169314@mygibs.co.z/+27 71 686 1782

Supervisor: Professor Hugh Myers

myresh@gibs.co.za / +27 83 302 3802

9.3 Appendix C: Communication with Rosires Deliza



Mukundi Munzhelele <29169314@mygibs.co.za> 7 May 2022, 22:30
to rosires.deliza

Good Day,

I hope you're well.

My name is Mukundi and I am an MBA student at the Gordon Institute of Business Sciences in South Africa.

As part of my MBA studies, I would like to conduct a study that looks at using demarketing a as a means to drive consumption to healthier variants. I think you study (Gain vs. loss-framing for reducing sugar consumption), is very interesting. Particularly as it is an experiment and I would like to conduct an experiment as well.

To this end, I wanted to find out from you if you would be will to share you interview guide.

Of course, I would credit you.

Thank you for your consideration.

Thank you.

Rosires Deliza 9 May 2022, 15:49
to me

Dear Mukundi

Thank you for your message; however, there was no interview guide, and the experimental procedures we used are explained in the manuscript.
Regards
Rosires

9.4 Appendix D: Research Golden Thread / Consistency Matrix

Title: Determining the impact of demarketing as a strategy to drive targeted consumption in soft drink

HYPOTHESES	LITERATURE REVIEW	DATA COLLECTION TOOL	ANALYSIS TECHNIQUE
Hypothesis 1: Consumption Null Hypothesis (H1a): Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in consumption of the latter. Alternate Hypothesis (H1b): Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in consumption of the latter.	• (Kotler & Levy, 1971) • (Ajzen, 1991);(Ajzen, 2011) • (Chaudhry et al., 2019) • (Thompson et al., 2014) • (Munzhelele, 2022) • (Miklós-Thal & Zhang, 2013) • (Miklós-Thal & Zhang, 2011)	Secondary & Primary data	Descriptive statistics
Hypothesis 2: Purchase Intent Null Hypothesis (H2a): Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to an increase in purchase intent for the latter. Alternate Hypothesis (H2b): Active demarketing of an unhealthy product in favour of its healthier alternative will lead to an increase in purchase intent for the latter.	• (Kotler & Levy, 1971) • (Ajzen, 1991);(Ajzen, 2011) • (Chaudhry et al., 2019) • (Kozup et al., 2003)	Secondary & Primary data	Descriptive statistics

Hypothesis 3: Brand Perception Null Hypothesis (H3a): Active demarketing of an unhealthy product in favour of its healthier alternative will not lead to overall positive brand perception. Alternate Hypothesis (H3b): Active demarketing of an unhealthy product in favour of its healthier alternative will lead to overall negative brand perception.	• (Kotler & Levy, 1971) • (Chaudhry et al., 2019) • (Dobni & Zinkhan, 1990) • (Hagtvedt, 2011)	Secondary & Primary data	Descriptive statistics