

Measuring the effectiveness of generic advertising – an
analysis of the sugar generic marketing campaign

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by

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I declare that this Research Report entitled

“Measuring the effectiveness of generic advertising – an analysis of the sugar generic marketing campaign”

is my original work and that all the sources I have used or quoted have been indicated and acknowledged as complete references, and has not been submitted for degree purposes previously.

Name

Date

Signature

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ABSTRACT

The purpose of the study is to determine if consumer attitude towards sugar is an indicator of sugar consumption behaviour. Attitudinal statements were developed using the results of a segmentation study, which classified sugar consumers into six segments. These statements, which were characteristic of consumer attitudes towards sugar, were included in a national survey of 2 516 respondents to test sugar consumption behaviour relative to consumer attitudes. Conventional statistical methods were applied to analyse the sugar consumption behaviour of respondents within the six attitudinal segments. It was found that there is a direct relationship between consumer attitudes towards sugar and sugar consumption behaviour. Consumers with a positive predisposition towards sugar were found to consume significantly more sugar than those in negatively predisposed segments. According to attitude theory, which suggests that attitude can be influenced and changed, the study concludes that generic advertising is an appropriate communication tool to influence and change the attitudes of negatively predisposed sugar users in order to improve sugar consumption. Furthermore the segmentation based on attitudes provides a method for measuring the success of advertising initiatives by monitoring the movement of consumers between positive and negative segments.

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CHAPTER 1: Orientation

1.1 Introduction

The South African Sugar Association (SASA) is a body established in terms of the Sugar Act, which was first promulgated in 1936, to administer the relationship between South African Sugar Millers and Growers. SASA is funded by the levy payable by its members. The mission of the organisation is to serve the generic interests of its principal members, the South African Sugar Millers Association Limited (SASMAL) and South African Cane Growers Association (SACGA). Members of SASMAL include the South African manufacturers of sugar, *viz.* Illovo Sugar Limited, Tongaat Hulett Sugar, TSB Sugar, Union Cooperative Limited, Ushukela Milling and Umvoti Transport (Pty) Limited. SAGCA members include all the sugar cane farmers in the country, numbering almost 50 000 growers in total, of which approximately 2 000 are commercial and medium-scale farmers and the balance are small-scale growers.

Sugarcane research, cane testing, export sugar marketing, industry administration and generic marketing are some of the key functions undertaken by SASA. A number of generic advertising campaigns have been used in the past to promote the positive attributes of the product, for example “Sugar gives you GO”, “Sugar nature’s Energy food”, “I love Sugar” and “mMmM its Sugar”. These campaigns have made extensive use of television, radio and print media to communicate with consumers. The effectiveness of each advertisement was closely monitored with the use of advertising tracking studies, which gave an indication of consumer awareness of the advertisement, its likeability and also wearout of the advertisement. The limitation of using this approach to measure the effectiveness of a campaign was that the focus was on the advertising itself and not its impact on the consumer. The metrics concentrated on the effectiveness of the advertising with respect to whether it was reaching consumers, whether consumers were aware of the advertisement or liked it and whether the advertisement was ‘wearing out’. No analysis was done on consumers to determine if their attitudes or behaviour toward sugar consumption had been influenced at all by the advertising. There was certainly no measure of whether generic

advertising expenditure was influencing sugar consumption behaviour in any way. Furthermore, previous sugar generic advertising campaigns were directed generally at the entire population. This approach assumes that the same message is relevant and appropriate for all consumers. No consideration was given to differences in consumer attitudes to sugar and the varying influence that a single message may have on the different consumer segments. There is a possibility that a large proportion of the population might have been indifferent to the messages communicated during the previous sugar campaigns and there was no impact on consumption. However there were no metrics in place to draw such conclusions.

It was because of these limitations that the most recent generic advertising campaign embarked upon by SASA in August 2006 adopted an approach, which was totally different from previous campaigns. The approach involved a comprehensive usage and attitude study, which segmented South African consumers into six groups or segments, three of which could be regarded as negatively predisposed towards sugar consumption. Millward Brown Impact (MBI), a research company that was commissioned by SASA in 2003 to conduct a national sugar usage and attitude survey, developed this segmentation model. The MBI segmentation study thus made it possible for the most recent sugar generic advertising campaign to target consumers in the negative segments, with the objective of positively influencing their attitudes towards sugar and their sugar consumption behaviour. The theme of this campaign is "Add a sprinkling of balance to your life". The basic underlying assumption of the campaign is that attitude is an indicator of consumption behaviour. If this assumption is valid and the generic advertising achieves its objective to positively influence consumer attitudes, then the net result should be an increase in sugar consumption. If however the assumption were invalid, *i.e.* if attitude does not impact on consumption behaviour, then the best possible outcome for a successful generic marketing campaign to influence consumer attitudes would be the status quo and no change to consumption levels. The latter outcome would mean that the money spent on generic advertising is wasteful and would be better employed elsewhere. This

uncertainty regarding the attitude / consumption behaviour relationship has prompted this research to test the assumption's validity.

1.2 Objective of this research

The purpose of this study is to determine the relationship between consumer attitudes towards sugar and behaviour with respect to direct sugar consumption. The outcome of the research will be used to establish whether consumer attitude towards sugar is an indicator of sugar consumption behaviour. In other words, if consumers are positively predisposed towards sugar, does this necessarily mean that their direct sugar consumption levels will be higher than consumers who are negatively predisposed towards sugar? The research results will provide an answer to the question of whether it is possible to improve sugar consumption by positively influencing the attitudes of consumers that are negatively predisposed towards sugar. Furthermore the research will provide evidence to assess whether generic advertising is an appropriate communication tool to achieve this objective.

1.3 Statement of problem and sub-problems

SASA's previous experience with generic sugar advertising has left the industry principals unclear as to whether or not generic sugar advertising has successfully fulfilled its intended purpose of sustaining and growing the demand for sugar. There has been no measure in place to determine the effectiveness of previous generic marketing initiatives. This has cast an element of doubt among certain industry principals, who question the need for generic advertising and its effectiveness. Also, milling companies are separately involved in promoting their own brands and perhaps view generic advertising as an unnecessary expense and a duplication of effort. Another consideration is that generic advertising may be diluting brand advertising. Consequently these uncertainties have caused industry principals to hesitate when faced with decisions to approve expenditure on generic advertising, as there has been no concrete evidence of positive returns on this form of investment. Although sugar demand in the past decade has grown in tandem with population and income growth, it is not clear whether this demand growth is attributable to generic advertising. It is suspected that generic advertising

might have played some role, given the growth in sugar demand, despite the ongoing negative, but unsubstantiated media articles linking sugar consumption to diabetes, obesity, dental caries and hyperactivity. However, there is no direct link between sugar demand growth and generic advertising to verify this suspicion.

Despite this uncertainty, SASA did commit to its' latest generic advertising campaign, which was launched in August 2006. The strategy of this sugar generic advertising campaign is to target certain segments of consumers, who are negatively predisposed towards sugar, with the intention of influencing them to increase their direct sugar consumption. The fundamental assumption in this targeted approach is that a consumer's attitude towards sugar is an indicator of his/her sugar consumption behaviour. In other words, it is implied that a consumer who is positively predisposed towards sugar will consume more sugar than a negatively predisposed consumer. The validity of this assumption is crucial in evaluating the success of the sugar generic marketing campaign. This study will therefore determine whether or not this assumption is valid and answer the primary research question – does consumer attitude towards sugar influence sugar consumption behaviour? The outcome of the research will be used to determine if generic advertising can be successfully applied to target certain consumer segments in order to positively influence their attitudes towards sugar, and therefore improve their sugar consumption.

The promotion of food consumption does pose an ethical dilemma, in that the excess consumption of any food product could be harmful to a consumer's health. A classic example of the likely consequences of unethical marketing is the lawsuit in the US, which accused McDonalds of indiscriminately promoting their products, thereby placing the health of consumers at risk of obesity and other lifestyle diseases. Following this costly lawsuit McDonalds changed its product offerings to include healthier meals to its customers. The sugar industry has taken these possible risks into consideration in its latest marketing campaign. The central message of the campaign is that excesses should be avoided. Balance is the key to a healthy lifestyle and sugar can be an important part of a balanced diet. The focus on 'balance' is intended to

prevent any irresponsible increase in sugar consumption that may be detrimental to consumer health.

The primary research objective will be

- to analyse sugar consumption by attitudinal segment to determine if attitude is an indicator of sugar consumption behaviour.

Sub problems are:

- to analyse non-users of sugar by attitudinal segment to establish the level of non-usage of sugar within each segment.
- to compile a profile of user typologies (light, medium and heavy sugar users) to establish the relationship between attitudinal segment and sugar usage.
- To compile a profile of negatively predisposed consumers by demographics, such as race, age and gender with a view to developing a strategy for targeting and influencing these customers, in the event that it is found that attitude does impact upon sugar consumption.

1.4 Delimitations

This study is confined to respondents in the nine provinces of South Africa, comprising a randomly selected sample of 2 516 respondents. This sample size is considered large enough to represent the South African adult population over the age of sixteen years. The sample does not include children younger than 16 years, which, according to Statistics South Africa (2005), makes up almost 39% of the South African population. It is acknowledged that the attitudes towards sugar and sugar consumption behaviour of children may be quite different to that of adults. However for the purpose of this study it is assumed that the sugar consumption of children is largely influenced by the attitudes and behaviours of the supervising adults that are responsible for these children. The findings of this research are dependent on the validity of this assumption and could vary if future research finds that the direct sugar consumption behaviour of children is significantly different from that of the adult population. All six segments of sugar users are included in the sample in order to determine the profile of sugar consumers

among the various segments and also to compare the sugar consumption behaviour of each segment. Specific profiles of the target segments will be compiled from the results to identify appropriate marketing strategies to reach these specific consumers. The findings and recommendations will therefore be applicable to consumers in the South African market. A research company that specializes in doing regular surveys in the South African market on a whole host of products and brands conducted the fieldwork for this research. This sample size could be regarded as big for a Masters research project but the research data for analysis was available and the necessary permission has been obtained from the industry to analyse the data.

This study is restricted to the direct consumption of sugar i.e. crystalline sucrose or “table sugar”, which refers to sugar that a consumer can purchase in various pack-sizes at most food wholesale and retail outlets. It does not include sugar consumed in the form of manufactured products such as sweets, chocolates, biscuits, carbonated soft drinks, *etc.* This restriction could be a major limitation, as respondents’ perceptions of sugar may be much broader than the intended definition of ‘table sugar’ and therefore it could be difficult to differentiate their attitudes and behaviours towards ‘table sugar’ from those relating to sugar-containing products.

It is assumed that the findings of this study will not fluctuate in the foreseeable future. Sugar is a widely consumed commodity and more than 85% of the South African population are sugar consumers (South African Advertising Research Foundation, 2006). Unless there is a dramatic change in consumer lifestyle and behaviour there is no reason to suspect that the findings of this study will fluctuate. It is acknowledged that unforeseen factors may positively or negatively impact on table sugar consumption. Attitudinal or lifestyle changes, other than generic advertising impact, which may influence future consumption, either positively or negatively, have been ignored for the purposes of this study.

1.5 Importance of the study and potential benefits

This study is important because it will give insight into whether the attitudinal segments can be targeted in order to positively influence attitudes towards sugar and thereby improve their sugar consumption. The findings will provide information that might prompt the sugar industry to reinforce, refocus or re-think its' future marketing expenditure and strategy.

The study is also important because it will add to the body of knowledge, specifically in respect of studies examining the relationship between consumer attitudes and consumption behaviour of food products, such as organic and genetically modified food products. The theoretical background of the study is based on attitude and behaviour theory. In particular, the tri-component attitude model is used to justify the grouping of users into segments based on their attitudes to sugar. The literature reveals a number of studies on consumer attitudes towards various food products but no specific research on sugar was noted.

The study uses a segmentation model, based on the consumers' attitudinal attributes towards a product. This segmentation model was used to categorize sugar consumers in general, and to identify those consumer segments that are negatively predisposed towards sugar consumption. These latter segments can then be further analysed for suitability to target in future marketing campaigns.

This study also reveals that there are now more sophisticated marketing research tracking tools available that can give a researcher more flexibility in understanding consumers, their attitudes and behaviours. Also, with careful planning of research objectives and consultation with service providers, there are exciting opportunities to customize and optimize expenditure on generic advertising and to measure its effectiveness more accurately.

1.6 Outline of the research report

This research report sets out the background, purpose and potential use of the study in chapter one. The relevant theory on attitude and consumer behaviour is outlined in chapter two, which is followed by a literature review in chapter three that focuses on communication with consumers through the generic advertising of products and attitude and behaviour studies. Chapter four describes the research methodology applied to gather and collate the survey data, which is analysed in chapter five. The study is concluded in chapter six with discussion of the research results, conclusions and recommendations.

CHAPTER 2: Attitude / Behaviour Theory

Marketers communicate with consumers primarily to convey information about the positive attributes of a product, with the objective of positively influencing consumer attitudes. It is assumed that the positive influencing of consumer attitudes will cause a positive change in consumption behaviour and thereby sustain or improve consumption of the product. In other words the underlying assumption implies that consumer attitudes towards a product influence consumption behaviour. But is this assumption valid? The question “Do attitudes predict behaviour?” has been a burning issue among researchers for many years and cannot be addressed without first defining “attitude” and understanding its importance in the context of consumer behaviour.

Aronson, Wilson & Akert, (2004) define attitude as “a general evaluation, or assessment of the people, objects and ideas that surround us.” Schiffman and Kanuk (2000) portray attitude as “a learned predisposition to behave in a consistently favourable or unfavourable way with respect to a given object”. Solomon, Bamossy & Askegaard (2002) state that attitude is a long-lasting and common assessment of people, including oneself, objects, advertisements and a particular problem. These definitions associate attitude with several characteristics, which are summarized by Schiffman and Kanuk (2000) as follows:

- Attitudes are **learned** from personal experience, information provided by others, and market controlled sources, in particular exposure to mass media.
- Attitudes are **predispositions**. A predisposition is an inclination or tendency towards something.
- Attitudes have a relationship with **behaviour**. For marketers, the behaviour of primary interest is product purchase or consumption. However, the definition does not suggest or assume a causal relationship between attitude and behaviour.
- Attitudes are **consistent** - this does not necessarily mean that they are permanent; attitudes can change.
- Attitudes are directed towards an **object** and are very specific reactions to that object. For example, you like object ‘x’ but you don’t

like object 'y'. The term 'object' includes specific consumption or marketing-related concepts, such as product, product category, brand, service, possessions, product use, advertisement, price, medium, or retailer.

- Attitudes are **favourable or unfavourable**. This implies that attitudes can be positive or negative. Consumers can thus be sub-divided into two opposite groups according to positive or negative attitudes. Indifference indicates that attitude is neutral.
- Attitudes are **determined indirectly**. Scientists, examining consumer behaviour, frequently evaluate attitude asking certain questions and drawing particular conclusions about consumer behaviour. Attitude is defined indirectly while interpreting words and actions of a consumer.

Attitude intensity is a reliability level of an opinion about an object or how much a person is convinced in his righteousness (Rice, 1997). Resistance conditions the permanence of an attitude. Resistance is a degree of attitude stability, which shows how attitude is influenced by environmental changes (Rice, 1997). Some attitudes have a high degree of resistance and are well protected from external influence, while others may depend on external effects.

Schiffman and Kanuk (2000) assert that attitude consists of three, main components: *cognition, emotion and intentions*. Cognition refers to the knowledge and perception acquired during a direct interaction with the object of attitude and having information from various sources, related with the object. Consumer feelings and emotions with regard to a certain object reflect the *emotional* component of attitude. Schiffman and Kanuk (2000) reveal the idea that emotionally shocking experiences can also create emotionally tense moods such as happiness, sorrow, shame, disgust, anger, grief, fault or astonishment. The third constituent of the three-component model of attitude is intentions that are related with the probability or tendency that an individual will perform certain actions with regard to the object of his attitude. Schiffman and Kanuk (2000) affirm that the component of intentions can encompass behaviour itself. Solomon et al. (2002) suggest that attitude can be subdivided

into three components *viz. feelings, behaviour and perception*. They emphasise that the element of behaviour reflects intentions to behave in one way or another, considering the object of attitude. Another proponent of the three-component model is Rice (1997), who asserts that attitude comprises firstly, the element of *emotions and feeling that can be positive or negative*, secondly the element of *perception and knowledge*, which signifies belief or disbelief and thirdly, the element of *intention and determination*, which indicates behaviour tendencies (Rice, 1997).

Solomon et al. (2002) argue that attitudes exist simply because of the fact that they perform a particular function to a person; this means that they are determined by motives of an individual. It is important to note that attitudes can be situation-specific and that the situation can influence the relationship between attitude and behaviour. A consumer can also have different attitudes towards the same product depending on the situation. For example, an individual may consider it appropriate to pay for a purchase with a credit card in a supermarket or hand over credit card details to an attendant over the telephone, but the same individual may be reluctant to use his/her credit card online for fear of being defrauded. Even though the attitude may change between situations, it is still consistent within the situation.

The theory of reasoned action" (TRA), developed by Ajzen and Fishbein in 1975, is considered a major contribution to attitude and behaviour studies. This theory was "born largely out of frustration with traditional attitude-behaviour research, much of which found weak correlations between attitude measures and performance of volitional behaviours" (Hale, Householder, & Greene, 2003: 259). The TRA comprises three general components, *viz.* (1) behavioural intention, (2) attitude, and 3) subjective norm. Miller (2005) defines these three components of the theory as follows and uses the example of embarking on a new exercise program to illustrate the theory:

- **Attitudes:** the sum of beliefs about a particular behaviour weighted by evaluations of these beliefs. [*You might have the beliefs that exercise is good for your health, that exercise makes you look good, that*

exercise takes too much time, and that exercise is uncomfortable. Each of these beliefs can be weighted (e.g., health issues might be more important to you than issues of time and comfort).]

- **Subjective norms:** look at the influence of people in one's social environment on his/her behavioural intentions; the beliefs of people, weighted by the importance one attributes to each of their opinions, will influence one's behavioural intention. *[You might have some friends who are avid exercisers and constantly encourage you to join them. However, your spouse might prefer a more sedentary lifestyle and scoff at those who work out. The beliefs of these people, weighted by the importance you attribute to each of their opinions, will influence your behavioural intention to exercise, which will lead to your behaviour to exercise or not exercise.]*
- **Behavioural intention:** a function of both attitudes toward a behaviour and subjective norms toward that behaviour, which has been found to predict actual behaviour. *[Your attitudes about exercise combined with the subjective norms about exercise, each with their own weight, will lead you to your intention to exercise (or not), which will then lead to your actual behaviour.]*

According to the TRA, attitudes do not predict behaviour per se, but rather behavioural intentions, which directly predict behaviour. Behavioural intentions are a function of the attitudes towards the behaviour and the subjective norms. The TRA is really only applicable to behaviours that are under volitional control. The Theory of Planned Behaviour (TPB) was introduced by Ajzen in 1981 to accommodate the fact that behaviours are often not under volitional control, as assumed under the TRA. The TPB retains behavioural intentions as central in the link between attitudes and behaviour and still holds that behavioural intentions are the product of attitudes towards the behaviour and subjective norms. However, an important third factor is added, perceived behavioural control. This factor refers to a subject's perception of the ease, or the difficulty of performing the behaviour.

Some behaviours are easy to do once you decide to do them, others are harder. Some behaviours are easy not to do once that has been decided, other behaviours are harder not to do. Perceived behavioural control affects the formation of behavioural intentions and also directly affects the production of behaviour itself, independently of behavioural intentions.

The Theory of Planned Behaviour suggests that human behaviour is guided by three kinds of considerations; "behavioural beliefs," "normative beliefs," and "control beliefs." In their respective aggregates, "behavioural beliefs" produce a favorable or unfavorable "attitude toward the behaviour"; "normative beliefs" result in "subjective norm"; and "control beliefs" gives rise to "perceived behavioural control." In combination, "attitude toward the behaviour," "subjective norm," and "perceived behavioural control" lead to the formation of a "behavioural intention" (Ajzen, 2002). In particular, "perceived behavioural control" is presumed to not only affect actual behaviour directly, but also affect it indirectly through behavioural intention. As a general rule, the more favorable the attitude toward behaviour and subjective norm, and the greater the perceived behavioural control, the stronger the person's intention to perform the behaviour in question should be. Finally, given a sufficient degree of actual control over the behaviour, people are expected to carry out their intentions when the opportunity arises (Ajzen, 2002).

The theory of planned behaviour is based on cognitive processing and level of behaviour change. Compared with affective processing models, the theory of planned behaviour overlooks emotion variables such as threat, fear, mood and negative or positive feeling and assesses them in a limited fashion. In particular in the health related behaviour situation, given that most individuals' health behaviours are influenced by their personal emotion and affect-laden nature, this is a decisive drawback for predicting health-related behaviours (Dutta-Bergman, 2005). Poor predictability for health-related behaviour in previous health research may be attributed to the exclusion of this variable.

The main function of attitude is to facilitate the evaluation of objects. Attitudes are a generalisation and therefore the individual does not have to go through

a process of evaluation tailored to each and every object. For example, a consumer may be unfavourably predisposed towards locally manufactured dairy products because of dissatisfaction in the past with the quality of a specific type of cheese and with the shelf life of locally produced fresh milk. The negative experience of the consumer, which relates to very specific products, is readily transferred to all other dairy products marketed by the local board and the consumer exhibits a preference for imported dairy products. According to Ajzen (2002), it is a well-known fact that negative information tends to have a greater impact on overall evaluations than comparably extreme positive information. This is why marketers have to work hard at creating positive attitudes towards an organisation, its products or its services. It is therefore understandable that changing negative attitudes requires even more effort than cultivating positive attitudes from the outset. For this reason marketers often find it more productive to make changes to a product's characteristics and/or image, to fit the existing attitudes of buyers, than to seek to change firmly entrenched attitudes.

The literature on attitude and behaviour theory illustrates that the tri-component attitude model has been widely accepted and generally applied. In this study the tri-component attitude model is used to group sugar consumers into segments based on their attitudes towards sugar. Furthermore the sugar consumption of each segment will be analysed to determine the relationship between attitudes to sugar and sugar consumption behaviour.

CHAPTER 3: Literature Review

Following on from the theory of attitude and behaviour, this chapter places the current paper in its proper context relative to relevant peer-reviewed studies. This literature review focuses on the communication of product information to consumers and consumer attitude and behaviour studies. It is intended that the review will provide some guidelines that may be applied in answering the research question.

Generic or commodity advertising is defined by the American Marketing Association (www.marketingpower.com), as “an approach to preparing advertising messages that concentrate on the customer benefits that apply to all brands in a product category, as opposed to benefits that are unique to specific brands.” Some examples of generic advertising messages are “Butter is good for you”, “Feed the man meat”, “Drinka Pinta Milka Day” or “Sugar gives you go”. Extensive research has been conducted on the generic advertising initiatives of numerous commodities, such as dairy products, meat, fish, eggs and soybeans, to name a few. Specific generic advertising communication objectives have been varied and have included, among others, research on consumer behaviour, attempts to address or combat negative publicity against a product, or alternatively, to promote new products that have been developed in response to changing customer needs. According to Chakravarti & Janiszewski (2004), generic advertising is designed to increase primary demand or the ‘size of the pie’, without affecting selective demand, or the ‘share of the pie’. In the US more than a billion dollars is spent annually on generic commodity promotion, with spending in some individual product categories exceeding \$100 million (Armbruster & Nichols 2001). Ambler (2003) defines marketing as “the sourcing and harvesting of inward cash flow”, which can be maximized through vertical and horizontal expansion of the customer base. Vertical expansion means getting more customers to consume the product and horizontal expansion means getting your current customer base to consume more.

There is evidence that generic advertising does play a positive role in promoting food products and the interests of producers. Schmit, Reberte &

Kaiser (1997) demonstrated that generic advertising had a positive impact on producer prices and net profits in the California egg industry. They calculated that a 1% increase in advertising expenditures resulted in an average 0.13% increase in producer prices and a marginal rate of return to advertising of 6.9. In other words, each additional dollar spent on advertising generated \$6.90 in producer profits. Coulibaly and Brorsen (1998) assessed the claim that generic advertising succeeds in increasing demand by re-estimating five previously published milk generic advertising econometric models and testing the models for misspecification. They confirmed the original findings that generic advertising is effective in increasing demand. Schmit, Dong, Chung, Kaiser & Gould (2002) found that generic advertising programs displayed positive and significant effects on both aggregate fluid milk and cheese purchases. Their study found that although generic advertising has very little effect on the probability of purchase, it is effective at increasing the quantity purchased, or the conditional purchase quantities after a consumer has made a decision to purchase. Williams, Shumway & Love (2002) studied the returns to US soybean producers from their cooperative investments in production research and demand promotion for nearly four decades. Their results showed that promotion activities yielded overall positive returns to producers over the study period, but the returns from production research were negative. Dong, Chung & Kaiser (2004) found that generic dairy advertising increased the probability of market participation; that is, advertising attracted new participants into the dairy market. Generic advertising was also found to simultaneously increase the purchase quantity and purchase incidence of dairy products. Depken, Kamerschen and Snow (2002) concluded that generic advertising had a positive influence on the farm-level demand for milk. Lenz, Kaiser and Chung (1998) examined the responsiveness of fluid milk sales to generic milk advertising in a number of US cities. Although the advertising elasticities varied between the markets, they found that generic milk advertising was positive and statistically significant in each market. The results also indicated that blend prices for milk-marketing orders increased due to advertising. Moon, Florkowski, Beuchat & Resurreccion (1999) found that the peanut generic advertising campaign, which focused on taste, consistently and positively influenced peanuts consumers' attitudes, purchase

decision and consumption intensity and thus played a pivotal role in expanding and sustaining consumption of peanuts and peanut products. The foregoing illustrates that generic advertising has been used successfully to promote the interests of producers but little indication is given of the extent of the benefits derived.

Key questions relating to generic advertising are (1) Is it necessary? and (2) does the return on generic advertising investment justify the expense? With respect to the latter question, Kinnucan and Myrland (2003) found that generic advertising effects are typically tiny *e.g.* in the case of salmon, a 254% increase in generic advertising expenditures in the European Union was shown to increase the EU wholesale price by only 3.0% and the Norwegian farm price by a mere 4.3%. They found that cause and effect relationships of this magnitude are not uncommon in the commodity promotion literature. This does not mean that generic advertising is unprofitable. Rather, it indicates that generic advertising's ability to influence prices, production, and trade flows is limited, mainly because of the relatively small generic advertising expenditures in relation to product value. In their research Kinnucan and Myrland (2003) found that program intensification over the 1997-99 period yielded Norwegian producers a benefit-cost ratio of 3:1, *i.e.* a \$1 increase in generic advertising expenditure will yield a \$3 increase in turnover. To illustrate the impact of relatively small generic advertising expenditure in relation to product value, assume that the value of product sales is R6bn and generic advertising expenditure amounts to R5m per annum or 0.08% of turnover. In this instance, a 3:1 benefit-cost ratio means that generic advertising expenditure would yield an increase of R15m or a 0.25% increase in product sales. This implies that in order to achieve a 1% increase in product sales it would require a benefit-cost ratio of 12:1. This example shows how easy it is to conclude that the impact is minimal when evaluating generic advertising effectiveness purely on the basis of a cost-benefit analysis. Williams (1999) noted that the evaluation of commodity checkoff programs have generally involved benefit-cost analyses. He argued that the typical benefit-cost approach did not provide clear criteria for judging whether program benefits exceeded the costs sufficiently to warrant continuation of the

program. Williams (1999) proposed a method for evaluating a commodity checkoff program as an alternative investment opportunity facing producers, which allowed a ranking of the program among investment opportunities facing producers. The procedure was demonstrated through an analysis of the soybean checkoff promotion program. The analysis clearly indicated that the soybean checkoff program had performed well as an investment alternative for soybean farmers and justified its continuation. In contrast, a benefit-cost analysis of the soybean checkoff program yielded ambiguous results regarding both the magnitude of the producer benefit and whether the benefit was sufficiently large relative to the cost to justify continuation of the program. This implies that evaluation of the effectiveness of generic marketing investment could vary significantly with the methodology applied. The uncertainty and the lack of consistent metrics to evaluate generic advertising expenditure also highlight the need for a different approach to measure generic advertising effectiveness.

An answer to the question regarding the need for generic advertising could be that generic advertising has been used extensively in the past as a communication tool to inform consumers about the positive attributes of a product. It could therefore be argued that the need for this type of communication is even more relevant today, as consumers are faced with a constant flow of health information in the media, some of which could influence the consumption of the product concerned. The need for information is fuelled by the increased incidence of lifestyle diseases such as diabetes, high cholesterol and obesity, which are brought about by relative inactivity and incorrect eating habits. In addition consumers have to digest the technical information presented to them in the small print on food labels and also ensure that they are complying with the Food Based Dietary Guidelines, as specified by the National Health departments. Given the abundance of information in the marketplace, it is understandable that marketers would want to keep the positive aspects of their products uppermost in the minds of consumers, in order that they are not swept along by the tide of negative information. Evidence in the reviewed literature suggests that the consumption of a product could be affected, to a greater or lesser extent, by

consumer reaction to health information in the media (Kinnucan, Xiao, Hsia & Jackson 1997; Schroeder & Mark 2000; Kaabia & Angulo 2001; Boetel & Liu 2004; Smed and Jensen 2005; Herrmann, Thompson & Krischik-Bautz 2002). Generic advertising has yielded varying results in influencing the consumption of products affected by health information (Kinnucan, Xiao, Hsia & Jackson 1997). In analysing the effects of health information and generic advertising on U.S. meat demand, Kinnucan *et al.* (1997) found that the decline in beef consumption, amidst an increasing trend in per capita meat consumption in the US, was due to structural change in food preferences as a result of health information. They found that health information had a larger impact on meat consumption than did the impact of generic advertising, which they found to be moderate and fragile. The importance of the impact of health information on consumption is further supported by Schroeder & Mark (2000), who found that consumers' demand for beef was driven by health and nutrition concerns, food safety issues and product attributes relative to changing consumer preferences. They assert that the beef industry was more likely to positively influence beef consumption by providing consumers with a healthy, safety assured product that offered a desirable eating experience and that fits their lifestyles. Schroeder & Mark (2000) contend that these factors of consumer concern and preference were more influential than other economic drivers of demand, namely, relative prices of competing meats and consumer income, which were ranked as less important.

Kaabia and Angulo (2001) researched whether the growing amount of information about the relationship of diet and health impacted on the demand for different types of meat and fish in Spain. They observed that the effect on consumers varied, depending on the product involved. The health information that was communicated to consumers had a positive effect on fish and poultry but a negative effect on meat and pork. This shift in consumer preference is confirmed by Boetel and Liu (2004), who found that consumers' increased health concerns for fat and cholesterol in the diet actually caused a switch in preference from red to white meat. It is evident from this study that the severity of particular health risk information and the availability of suitable substitute products could determine whether or not a change in consumer

behaviour towards the product is permanent. In this instance Boetel and Liu (2004) noted a marked reduction in beef consumption and a sharp increase in poultry consumption. It is not clear how meat consumers would have responded in the absence of a suitable substitute for beef and the impact that this would have had on beef demand. Dahlgran and Fairchild (2002) found that consumer response to certain negative health information could be short-lived. In analyzing the reduced demand due to media coverage of the bacterial contamination of chicken in the US, they showed that adverse publicity about salmonella contamination of chicken depressed demand, but the effect was small, less than 1% during the period of maximum exposure. Furthermore consumers soon forgot the news as they reverted to prior consumption patterns in a matter of a few weeks. Smed and Jensen (2005) analyzed how news about food-related health risks affects consumers' demand for safe food products. Using Danish demand for pasteurized versus shell eggs as an illustrative case, they concluded that negative safety news about one product variety could provide significant stimulation to the demand for safe varieties. Although there was considerable variation in the response to food safety news across socio-economic groups of consumers, they found that the shift in demand towards the safe variety could range from temporary to permanent, depending on the severity of the negative news. Again there is no indication of the likely impact on demand in the absence of a suitable substitute product.

Consumer response to negative health information does not necessarily result in a healthier lifestyle. For example, Goodwin, Harper & Schnepf (2003) found that despite the apparent switch in meat demand from red to white meat, fats and oils still played prominent roles in US dietary patterns and that consumers were not necessarily consuming greater quantities of healthier fats and oils. They found that increases in the scale of consumption of aggregate fats and oils tended to increase consumption of each of the individual fats and oils in equal proportions. Goodwin et al. (2003) suggest that the health concerns that may underlie structural changes have not effectively shifted consumption patterns towards "healthier" fats and oils and thus may imply a role for nutritional education. Furthermore positive health information alone is

insufficient to ensure improved consumption of a product. Moon, Balasubramanian & Rimal (2005) demonstrated that consumers' negative perceptions regarding soy (unappetising taste and inconvenience) had a substantially greater impact on soy consumption behaviour than their perceptions about soy health benefits. This poses a challenge for more focused nutritional education regarding the specific health benefits of soy products and opportunities to address the negative taste and convenience perceptions of soy products.

Herrmann *et al.* (2002) examined the impact of generic promotion of Bavarian beef during a period of serious health concern in Europe, the bovine spongiform encephalopathy (BSE) crisis. They empirically evaluated the economic effectiveness of the program that promoted Bavarian beef as safe at the time when consumers were becoming increasingly concerned over the safety of beef supply. Results showed that regional promotions increased beef demand but this increase was offset by a consumption decline, due to information and public awareness of the BSE crisis. This research again demonstrates that food safety and health risk information is of primary concern to consumers and is likely to have a greater impact on food consumption than promotions. In addition, this study showed that there were secular declines in consumption due to preference changes away from beef. Herrmann *et al.* (2002) also found that the welfare effects of the Bavarian Government-financed program were positive for both producers and consumers. Private and social benefit cost ratios suggest that the aggregate welfare gains due to promotion more than compensated for the cost of the program.

Consumers of today place increased importance on food safety, environmental and health issues and food quality (O'Donovan & McCarthy 2002). Therefore some customers are prepared to pay a premium for organic products and this has created a niche market for these products. The growth in the availability and consumption of low-fat products is evidence of this development. Krystallis, Arvanitoyannis, & Kapirti (2003), identified certain segments of consumers with favourable attitudes towards low-fat foods that

were willing to pay premiums to purchase these products. With regard to low-fat milk, Ueda & Frechette (2002) propose that milk fat labels have allowed consumers to act on a new set of preferences, thereby improving consumer welfare.

The consumer's concern over food safety, food quality, environmental and health issues, coupled with technological advances in the information age, has created expectations among consumers that they be provided with the right product information. For example, consumers want information to help them achieve a balanced diet, to avoid certain allergens or ingredients that have proved not to agree with them, or to know the origin and environmental, ethical and technological conditions under which the food was produced (Verbeke 2005). Food consumers today face uncertainty and therefore demand high quality and safe food products, apparently with as much information as possible. Although the consumer's need for information cannot be taken for granted, the easy access to information does come with the risk of information overload. Providing the consumer with too much or too detailed information could result in consumer indifference or loss of confidence. Verbeke (2005) proposes segmentation and targeted information provision as potential solutions to market failure from information asymmetry. Deciding which specific aspect of a product to promote can also be a difficult task. Drewnowski (1997) studied the complex relationship between consumers' taste preferences and food intake and concluded that sensory responses to the taste, smell and texture of foods are factors that help to determine food preferences and eating habits. However sensory responses alone do not predict food consumption. In reality there are multiple links between taste perceptions, taste preferences, food preferences, and food choices and the amount of food consumed (Drewnowski 2003). Food preferences and food choices of populations are further linked to attitudinal, social and probably economic variables such as income. Drewnowski (1997) suggests that nutrition education and intervention strategies aimed at improving population diets ought to consider sensory pleasure response to food, in addition to a wide range of demographic and socio-cultural variables. From a generic marketing perspective the complex relationship between consumers' taste

preferences and food intake should also be carefully considered before deciding which specific aspect of a food product attribute to communicate to consumers. The findings of Drewnowski (1997) imply that promoting the wrong product attribute in a marketing campaign will probably not achieve the desired effect on consumption. Verdurme and Viaene (2003) contend that an effective communication strategy should be developed in order to improve consumer understanding of products, so that they can make informed choices. Communicating effectively implies knowing the consumer as well as possible, so as to provide very specific information through the appropriate channels, resulting in high impact coverage and penetration (Verdurme and Viaene 2003).

Lifestyle changes and eating habits are influenced by the economic status of a population. For example the economically advanced and richer first world populations are more inclined towards eating processed fast foods than populations in poorer countries. Engel's Law states that, "the share of income spent on food decreases as income rises". In an economic analysis of fat and sugar, Drewnowski (2003), asserts that a rise in income also leads to a change in diet structure, which leads people in higher income nations to consume more added sugars and fats than people in lower income nations. Drewnowski (2003) contends that lower income consumers in rich nations consume lower quality diets than higher income consumers. He attributes this to technical innovation and the lower energy costs associated with food production, particularly foods containing added sugars and fat. This has contributed to the obesity problem associated with lower income groups in the US. The change in diet structure and resultant weight problems among lower income groups suggests that obesity in the US and similar societies may be a socioeconomic problem, related to diet structure and diet costs, as opposed to a medical one.

In communicating with consumers, it is also important to understand their perceptions of a healthy diet. Margetts, Martinez, Saba, Holm and Kearney (1997) note that there are three aspects of a healthy diet that form the basis of most dietary guidelines, *viz* less fat, more fruit and vegetables, and balance

and variety. These perceptions could differ significantly across socio-cultural factors (Margetts *et al.* 1997). In comparing age, gender and educational level as influencers of perceptions on a healthy diet among European consumers, Margetts *et al.* (1997) identified educational level as having the strongest influence. They found that respondents with a tertiary level of education were more likely to have described a healthy diet as including more vegetables, less fat, or balance, than those with only a primary education.

There have been a number of studies conducted on the relationship between generic and brand advertising. Krishnamurthy (2000) analyzed the relationship between generic and brand advertising in the context of funding source, *viz.* independent contributions by industry members or through government legislation. In the independent contribution case not all potential beneficiaries in the industry were compelled to make a contribution. Hence, in this instance, there is evidence of free riding, *i.e.* non-contributors deriving benefit from the advertising. Despite the free riding, Krishnamurthy (2000) found that dominant firms would still benefit from generic advertising, even if they had to incur the entire industry advertising expense. Dominant firms in industries could therefore be indifferent to free riding by lesser firms. In the government-sponsored case, it was established that industry spending on generic advertising was greater, but there was an increase in total spending on brand advertising as well.

A major concern that may deter brand marketers from supporting generic advertising initiatives is that generic advertising can lower brand differentiation. Crespi and Marette (2002) considered this issue among competing brands of the same good. The results of their analysis showed that if the benefits of increased demand from generic advertising were outweighed by the costs from lower product differentiation, then high-quality producers would not benefit from generic promotion. Results from this study provide evidence that generic advertising has a slight differential effect on the perceived qualities of different brands. However, there is also evidence that differentiation of a commodity can be beneficial to an industry. Fearn and Bates (2003) explored the scope for adding value to liquid milk and concluded

that in general, consumer market research can reveal genuine opportunities for firms working in commodity sectors to break out of the commodity trap, to add value and differentiate their offering to the consumer. In particular they identified that clear opportunities existed for differentiating the liquid milk market. Chung and Kaiser (2003) concluded that producers might not benefit equally from the collectively funded programs. A producer-financed promotion program may have greater benefits for producers with more endowed fixed factors than those with less-endowed fixed factors. Consequently the marginal return from an increase in demand due to a successful generic promotion program may not be the same across firms because firms do not have the same level of fixed factors. Chakravarti and Janiszewski (2004) found that generic advertising increases the consumer's sensitivity to changes in price and systematically alters brand preferences. These effects of generic advertising can be attributed to the tendency of generic advertisements to change the relative importance of the attributes used to evaluate the brands. The results have an implication for the public policy issue of how to effectively implement generic advertising without differentially benefiting certain brands. They also pose a challenge with respect to the managerial issue of how to integrate generic and brand advertising in order to achieve product category and brand differentiation goals. Bass, Krishnamoorthy, Prasad and Sethi (2005) subscribe to the popular view that generic and brand advertising can be used together; generic advertising to expand the size of the market and brand advertising to win market share. They assert that a firm's generic strategy should be integrated with its brand advertising strategy in order to maximize returns from advertising.

The effectiveness of specific media channels has been a further topic of interest in generic advertising studies. Kinnucan and Miao (1999) studied the allocation of the budget among media (e.g., television, radio, print) and concluded that demand does not respond equally to all media. Furthermore, media with relatively modest expenditures (newspapers and television) had no reliable effect on demand, which suggests that scale is important. Losses sustained from the apparently ineffectual media were more than offset by gains from the effective media (magazines and radio), so that returns overall,

net of opportunity cost, were positive. The historical media allocation, however, was inefficient in the sense that a different media mix would have resulted in greater industry profits. Verbeke, Ward and Viaene (2000) found that television coverage had a highly negative impact on decision-making towards fresh red meat consumption and that the likelihood of cutting fresh meat consumption increased as consumers gave greater attention to television messages. Kelly, Turner & McKenna (2006) found that the media has a significant impact on a child's demand for junk foods and therefore emphasized the importance of using media advertising to influence children to eat more healthily. Bush, Smith & Martin (1999) investigated the influence of consumer socialization variables on attitude toward advertising and found that parental communication, peer communication, mass media, gender and race related significantly to attitudes towards advertising. The study found that African Americans watched more TV and had more positive attitudes towards advertising than their Caucasian counterparts. Irrespective of the choice of media, it is imperative that the integrity of the message should not be compromised in any way when communicating with consumers. Darke and Ritchie (2006) assert that deceptive advertising engenders distrust, which negatively impacts response to subsequent advertising from both the same source and second-party sources. This negative bias operates through a process of defensive stereotyping, wherein the initial deception induces negative beliefs about advertising and marketing in general, thereby undermining the credibility of further advertising.

Capps and Park (2002) identified key health, attitudinal and lifestyle factors, which together with a number of demographic variables, impacted on pork consumption. While these attitudinal and lifestyle factors impacted the probability of pork consumption, they did not necessarily affect the amount of pork consumed. Although not specifically noted in the study, the findings suggest that consumer attitudes towards a product may not necessarily be an indicator of consumption behaviour towards that product. This view is supported Vermeir and Verbeke (2006), who explored the consumer “attitude – behavioural intention gap”; the presumed gap between favorable attitude towards behaviour and behavioural intention to purchase sustainable food

products. They found that consumer purchasing decisions often incorporate a complex variety of motivations that complicate the understanding of particular instances. Specific attitudes may suggest a specific behaviour when taken in isolation, but this may not be the case when considering the broader purchase decision. Additional attitudes come into play, moderating behaviour, diluting the impact of initial attitudes, and resulting in an alternative outcome. Vermeir and Verbeke (2006) also demonstrated that some key determinants, such as involvement, perceived availability, and perceived consumer effectiveness, can be successfully influenced through communication efforts and the provision of information. Padel and Foster (2005) explored the values that underlie consumers' purchasing decisions of organic food and confirmed that health is an important buying motive for organic food, but concern for the environment and animal welfare and more political motives such as support for the local economy and fair trade are other motivating factors. They found that although price continued to be a barrier for many consumers, it was possible that its significance could be diminished, if consumers were to be made more aware of the reasons for the higher price and the value for money of organic food, despite the price (Padel and Foster, 2005). There is an indication that the importance of drivers may vary for different product categories. The increasing trend in consumer concern over food safety and animal welfare and its impact on meat purchasing behaviour is also highlighted by McEachern and Willock (2004). They assert that meat-purchasing behaviour could be partially linked to consumer awareness and understanding of the various food registration, labelling and information systems that are in use.

It is widely acknowledged that mainly cognitive processes drive attitudes, but they also have input from behaviour (habit) and from emotional origins (McEachern and Willock, 2004). Based on the fact that persuasion has been widely and effectively used in health promotion campaigns, McEachern and Willock (2004) consider persuasion a useful tool to change attitudes.

However Petty and Wegener (1998) assert that persuasion variables can play multiple roles in attitude change and that previously held assumptions of

unidirectional effects of variables on persuasion (e.g. source credibility is good for persuasion), or that variables have an impact on persuasion by a single process (e.g. source credibility facilitates learning of the message), are no longer applicable. *“The many source, message, recipient, and context variables that have been studied over the past century indicate complex effects -- increasing persuasion in some situations and decreasing it in others. These bi-directional effects have been the case even for variables that on the surface, at least, seemed to be “obviously” unidirectional. For example, what could be more obvious but that distraction would be detrimental to persuasion or that expert sources would be good for persuasion? Yet, contemporary research indicates that distraction can enhance persuasion if the arguments are weak because the distraction can disrupt the normal counter-arguing that would take place and expertise can be bad for persuasion when it leads to enhanced thinking about weak arguments”* (Petty and Wegener, 1998).

McEachern and Willock (2004) identified the attitudes necessary for producer change (“market forces”, “naturalness”, “quality standards” and “policy”) and consumer change (“meat safety”, “animal welfare”, “quality assurances” and “media”), and assert that these can be used to persuade conventional farmers to convert to organic production and to persuade consumers of the benefits of organic meat. Moon *et al.* (1999) found a clear distinction in the type of explanatory variables contributing to the explanation of attitudes, purchase decision and consumption frequency of peanuts. These results suggest that marketing strategies aimed at increasing consumption should be different from those designed to attract new customers. Rink (1998) is of the opinion that behaviour influences attitudes. This does not detract from the fact that consumers may well have an informed opinion about a product from sources such as advertisements and other consumers but their actual attitudes towards a product are reinforced only after they have used the product (Rink 1998). Shepherd (1999) proposes that consumers’ ambivalence and optimistic bias could be two possible reasons for difficulty experienced in implementing dietary change. Firstly, when consumers hold ambivalent attitudes or mixed feelings, it might be expected that there would be a less clear relationship between attitudes and behaviour. Secondly, if consumers

are optimistically biased, (*i.e.* see themselves as being a lower than average risk from a particular hazard), it is unlikely that they will be influenced by messages putting over the need for the general population to make changes (Shepherd, 1999).

Verbeke and Vackier (2004) conducted a segmentation study on meat consumers based on their involvement in fresh meat as a product category. This analysis confirmed that involvement in meat is a multidimensional construct including four facets: pleasure value, symbolic value, risk importance and risk probability. Four involvement-based meat consumer segments were identified: straightforward, cautious, indifferent, and concerned. The two segments typified as “cautious meat lovers” and “concerned meat consumers”, both with a strong perception of meat risks, constitute two-thirds of the market. The characteristics of these two specific segments make them receptive to product information and therefore ideal to target with communication efforts aimed at consumer reassurance of quality improvement, traceability and labelling. Verbeke and Vackier (2004) maintain that market information targeted at these two segments is likely to be effective. The main focus of “straightforward meat lovers” on taste as the decisive criterion and “indifferent consumers” on price did not make these segments ideal targets for market communication. Verdurme and Viaene (2003) identified four segments of consumers, based on attitudes and beliefs, which were profiled in terms of socio-economic and demographic characteristics to provide the necessary input for the development of an effective segmented communication strategy.

In summary, generic advertising can be used to play a positive role in the promotion of food products. There is evidence in the literature that generic advertising impacts positively on producers profits and prices (Schmit, Reberte & Kaiser 1997), improves aggregate purchases of products, yields positive returns to producers (Williams, *et al.*, 2002), attracts new participants into markets and increases purchase quantity and intent to purchase (Schmit, *et al.*, 2002). Generic advertising can lower brand differentiation and therefore generic and brand strategies need to be integrated for maximum effect (Bass,

et al., 2005). Marketers also need to choose media channels carefully as demand does not respond equally to all media (Kinnucan and Miao 1999). The positive influence of generic advertising is less effective when used to communicate product information to consumers in response to negative health information and food safety issues (Herrmann, *et al.*, 2002). Consumers can respond quite dramatically to negative health and food safety information. This can cause a short-term shift in demand (Dahlgran and Fairchild, 2002) or a structural change in food preferences (Kinnucan, *et al.*, 1997), depending on the food product involved and the seriousness of the health risk (Kaabia and Angulo 2001). Certain consumers are becoming more aware of what they eat and they expect to be informed (Verbeke, 2005). Producers need to be mindful of the information requirements of consumers but must also be careful not to overload the consumer with too much detailed information. The latter can be addressed through segmentation and targeted information provision (Verbeke, 2005). Another important challenge in generic marketing is to understand the complexities of consumer attitudes and behaviour, in order to ensure that the correct message is communicated to the target market (Drewnowski, 1997). Certain health, attitude and lifestyle factors impact on consumption but not necessarily on product volumes consumed (Capps and Parks, 2002). There is a gap between favourable attitude towards behaviour and behavioural intention to purchase sustainable food products (Vermeir and Verbeke, 2006). Purchasing behaviour is complex. A specific attitude that may suggest a specific behaviour when taken in isolation may be moderated by additional attitudes, which may result in an alternative outcome (Vermeir and Verbeke, 2006). Mainly cognitive processes drive attitudes but they also have inputs from behaviour or habit and emotional origins (McEachern and Willock, 2004). Persuasion is a useful tool to change attitudes. Marketing strategies aimed at increasing consumption should be different from those designed to attract new customers (Moon, *et al.*, 1999). Segmentation is a useful tool to identify and target groups of consumers with characteristics that are more receptive to product information (Verbeke and Vackier, 2004).

Shepherd (1999) proposes that consumer ambivalence and optimistic bias could be two possible reasons for the difficulty experienced in implementing dietary change. Firstly, when consumers hold ambivalent attitudes or mixed feelings, it might be expected that there would be a less clear relationship between attitudes and behaviour. Secondly, if consumers are optimistically biased, (*i.e.* see themselves as being a lower than average risk from a particular hazard), it is unlikely that they will be influenced by messages putting over the need for the general population to make changes.

There is also an ethical aspect to marketing. Economic factors and improved food production technologies have caused lifestyle changes and changes in diet structure that may be contributing towards the rising levels of obesity in developed nations. Promoting a product to the extent that consumers harm their health by consuming excessively would be considered irresponsible and unethical. Hence it would be inappropriate to ignore the ethical aspect of marketing when promoting a product. Furthermore, deceptive advertising engenders distrust, which negatively impacts response to subsequent advertising from both the same source and second-party sources. This negative bias operates through a process of defensive stereotyping, wherein the initial deception induces negative beliefs about advertising and marketing in general, thereby undermining the credibility of further advertising (Darke and Ritchie, 2006: in press).

The reviewed literature places this study in its proper context in terms of prior studies, specifically in the area of attitude and behaviour relationships, segmentation and marketing communication with respect to food products. The general body of knowledge in the field will provide guidance for this study in the form of the work already done and opportunities in the form of the gaps identified in the literature.

CHAPTER 4: Research Methodology

The primary research objective is to analyse sugar consumption by attitudinal segment to determine if attitude is an indicator of sugar consumption. The attitude / consumption findings will be verified with triangulation by dividing the sample into user typologies, which are based on the respondents' stated sugar usage (number of spoons of sugar used yesterday). The user typologies will comprise four categories, viz. light, medium and heavy users of sugar, and non-users. Non-users will comprise all the respondents that answered 'zero' to the sugar spoons per day survey question. The light, medium and heavy users will be determined by first ranking the sample in ascending order of the number of spoons of sugar used and calculating the cumulative frequency of the respondents. Non-users will be excluded from this ranking as they already form one of the user typologies. The first 33.3% of the ranked sample will be classified as light sugar users, the next 33.3% as medium, and the balance as heavy. The sub problems will be to perform statistical tests to analyse the relationship between the attitudinal segments within each sugar user typology and to triangulate the primary research findings *i.e.* establish if there is a similar relationship between attitude and consumption behaviour when the sample is divided into the four typologies (light, medium and heavy and non-user). Finally a profile of negatively predisposed consumers will be compiled by demographics, such as race, age and gender, in order to facilitate the development of a strategy to target and influence these customers, if it is found that attitude does affect sugar consumption.

The data for this research was collected by a consumer research company as part of an ongoing national product survey. The South African Sugar Association (SASA) purchased the right to include a number of sugar-specific questions in the survey that covered the period between October 2005 and February 2006. The research company sample was drawn from a randomly selected sample of 2 516 respondents, which is representative of South African consumers, across all nine provinces, race groups, both sexes and different age groups. The research company employed a random sampling

methodology to select the survey sample. An initial sample of households was drawn from a national householder database using random sampling methodology. A Politz grid was used to randomly select the respondent to be interviewed in each home. Trained interviewers secured interviews with pre-selected respondents at specific addresses and conducted face-to-face interviews with them in order to gather the survey data. The research company, which specialises in surveying a number of consumer products and brands on a regular basis, was responsible for all the fieldwork, data collection, verification and capture. SASA's subscription to the survey allowed access to all the demographic information that formed an integral part of the deliverable dataset, which included the detailed responses to the specific questions relating to respondents' attitudes towards sugar and sugar consumption.

The attitudinal questions were developed from the results of a segmentation study that was conducted by MBI in 2003. The MBI study comprised a qualitative and a quantitative phase. Mortella, Nelson and Marchand-Mortella (1999) describe the differences between quantitative and qualitative research methodologies as follows: "*Quantitative methods offer replicability, numerical data, an opportunity for statistical analysis, allow for comparisons between subgroups, tap individual responses and are less dependent on interviewer skills and orientation. Qualitative research techniques are open-ended, dynamic and flexible, provide a depth of understanding, tap consumer creativity, go beyond the rational or superficial approach, and provide a rich source of ideas. Summarized another way, the former method relies on a firm starting hypothesis and a pre-set design, seeks to detect cause and effect relationships, gathers and presents numerical data, analyses them statistically, avoids bias via design and methods and looks at certain aspects of a system only, separated from the whole. In contrast, the latter starts with a flexible design and develops hypotheses along the way, wants to describe on-going processes, presents narrative and verbal data, relies on the researcher to avoid bias and takes a more holistic view*".

The qualitative phase of the MBI research involved a total of ten focus group sessions in Johannesburg (four), Cape Town (three) and Durban (three), during which professional interviewers used mind-mapping techniques to extract a set of statements that described consumers' feelings towards sugar. Each focus group was conducted in a relaxed environment that promoted in-depth discussion and allowed participants to share on every aspect of their attitudes towards sugar. The respondents' feelings, emotions, knowledge, perceptions, intentions and determinations relating to sugar, were recorded, thereby eliciting each of the three components of consumer attitudes to sugar, as defined by Rice (1997), Schiffman and Kanuk (2000) and Solomon et al. (2002). In other words, the outcome of the focus group sessions presented a comprehensive view of the respondents' attitudes on sugar.

The outcome of the qualitative phase of the MBI research was a set of 126 attitudinal statements that were tested on a national sample of 2000 respondents in the quantitative phase of the research, in order to compile a national profile of sugar consumers. In analysing the output of the quantitative research, factor and cluster analysis techniques were used to segment sugar users, based on their common attitudinal characteristics. The statements were consolidated into five factors viz. "sugar friendly", "sweet reward", "health scholar", "fattening" and "sugar avoiders". Each factor represented a component of the three-component attitude model i.e. affective (emotional), cognitive (knowledge or perceptions) or intentional (behavioural). "Sugar friendly" represented the only affective or emotional component of the model and this factor portrayed positive sentiments or feelings towards sugar. The knowledge, perception or belief that sugar is "fattening" represented the cognitive component. The intentional/ behavioural component comprised the remaining three factors, viz. "sugar avoidance", "sweet reward" and "health scholar", which represented behaviours that were typical of certain respondents. The behaviour of "sugar avoidance" or "don't do sugar" was characterised by a conscious effort on the part of respondents to refrain from eating sugar. "Sweet reward" typified the behaviour of individuals that reward themselves with something sweet in recognition of an achievement or a task successfully accomplished. The last factor "health scholar" typified the

behaviour of individuals that are constantly seeking out health information in the media. The six segments of sugar users were based on this model, and were defined in terms of the combined ratings achieved in the five factors, as seen in Figure 4.1.

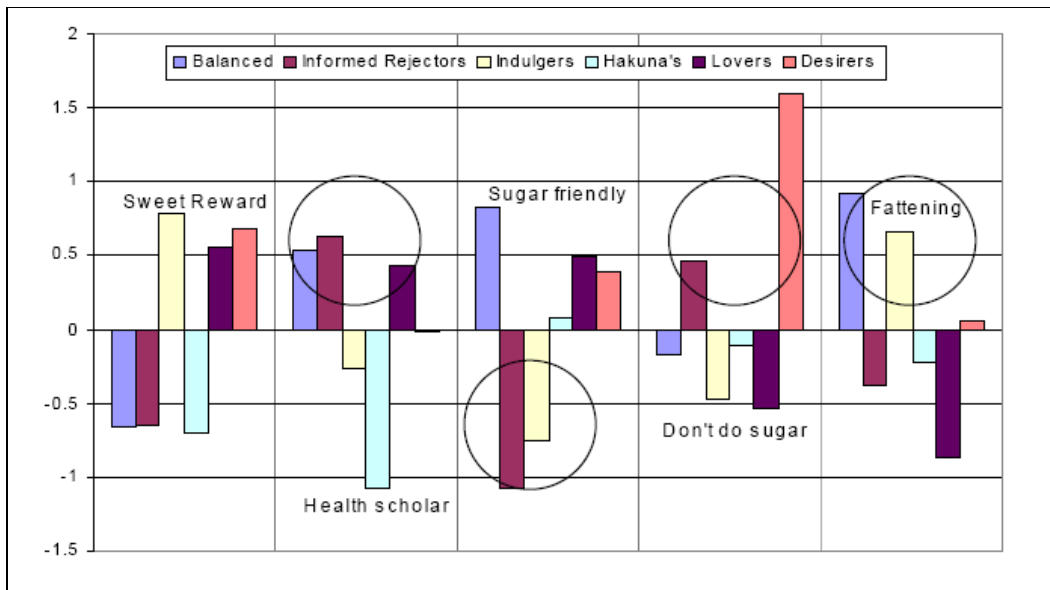


Figure 4.1 Summary of Sugar Segments according to factors

Source: SASA

The segments were labelled “informed rejectors”, “desirers”, “balanced”, “indulgents”, “sugar lovers”, and “hakunas”. Figure 4.1 shows that a typical “informed rejector” has a low ranking with respect to “sweet reward” and “sugar friendliness”, but has a relatively high ranking with respect to “sugar avoidance” and “health scholar” behaviour (i.e. seeking out and reading health information). From the above it can be seen that although the informed rejectors did not believe that sugar is “fattening”, their rankings in the other four factors suggest an overall negative attitude to sugar.

Similarly, Figure 4.1 illustrates that a typical “balanced” sugar consumer perceives sugar to be “fattening”, is generally “sugar friendly” and rates highly as a “health scholar”. Balanced sugar consumers do not actively avoid sugar (low ranking in “don’t do sugar”), nor do they indulge in “sweet rewards”. The remaining four segments were identified in a similar manner as above and a

defining statement was developed for each segment, based on the factors that characterised the segment. The defining statements are shown below:

Informed rejector: *“I read many articles about health and lifestyle and avoid eating sugar in any form.”*

Desirer: *“I avoid eating sugar, I would like to eat more sugar because I have a sweet tooth, but I don’t believe it is healthy.”*

Balanced: *“Sugar is fattening but it is natural and provides energy so I consume sugar in moderation”*

Indulger: *“I don’t believe sugar is good for me but I reward myself with something sweet.”*

Sugar Lover: *“I eat sugar because sugar itself is not fattening and it actually has some benefits in a balanced lifestyle.”*

Hakuna: *“I don’t really have a view about whether sugar is healthy or bad for one. I eat as much sugar as I want”*

In the survey, respondents were asked to choose one of the six statements that best described their attitude towards sugar. The responses were used to allocate each respondent into one of the six sugar attitudinal segments. In addition specific questions relating to sugar consumption were asked to determine the respondents’ sugar usage on the day prior to the survey interview. The specific question *“How many spoons of sugar did you use yesterday?”* was asked in order to compile volumetric data relating to typical daily usage of sugar. The answer to this question provides an indication of the quantity of sugar consumed, although caution needs to be exercised in deriving accurate volumetric information from this data. The assumption is that respondents will answer this question in terms of ‘teaspoons’ of sugar consumed. If this ‘teaspoon’ assumption is valid then the analysis should give a reasonable indication of sugar consumption, although there could still be variation within the teaspoon data itself e.g. level spoons vs. heaped spoons. For the purpose of this study one teaspoon of sugar is equivalent to five grams. A further consideration in using the response to the “spoons of sugar used yesterday” question to approximate sugar consumption is the assumption that the day prior to the survey is typical of the respondent’s daily

direct sugar consumption. If an individual's sugar consumption varied considerably on different days of the week, then using the sugar spoon data would not give a true reflection of that respondent's sugar consumption. Therefore for the purposes of this study it is assumed that the daily sugar consumption of respondents is consistent and the responses to the sugar spoon usage question is representative of the respondent's daily table sugar consumption.

The number of spoons of sugar used by each segment will provide important information about the sugar consumption behaviour of that segment. However the prevalence of non-users within each segment will also provide information that can be used to assess the level of negative behaviour within each segment and thereby allow the researcher to make certain deductions about the segments. Statistical inferences about the relationship between consumer attitudes to sugar and sugar consumption can then be made. The sample size of 2 516 is representative of the South African adult population and is therefore large enough to make valid statistical inferences with respect to the entire South African population.

The questions relating to sugar were included in the survey covering the period October 2005 to February 2006. The survey data is stored in a format that is easily retrievable by the researcher for analysis. The key deliverable from the research company is the specified survey data, within an agreed timeframe, for easy retrieval and analysis. Conventional statistical inference methods will be used to analyse the data and determine the mean daily sugar consumption for each sugar segment. The sample mean differences between segments will be compared for similarity and like segments will be grouped together to form positive or negative attitudinal groupings for comparative purposes. A final comparison of the means of the consolidated groupings of the sample will be conducted, using the two-sample t-test, to determine if the mean sugar consumption of the positively predisposed segments is significantly greater than the mean of the negatively predisposed grouping. If the t-statistic for the equality of means is significant, then the null hypothesis of equal means will be rejected at the 95% level of significance. In this

instance it would be concluded that the means of the two groupings are significantly different. In other words the grouping with a particular attitude towards sugar has a level of sugar consumption that is significantly different from other consumers with a different attitude towards sugar. Alternatively, if the t-statistic for the equality of means is not significant, then the null hypothesis of equal sample means would be accepted and in this instance it would be concluded with 95% confidence that the sample means are equal. Each t-test for the comparison of sample means will be preceded by an F-test for the comparison of sample variances in order to determine if an assumption of equal or unequal variance should be applied when testing for equality of sample means.

The sample will next be ranked in ascending order, according to the number of spoons of sugar used per day. The non-users or the respondents that did not use sugar will be classified as non-users and will be separated from the sugar users in the sample to form the non-user typology grouping. The cumulative frequencies of the sample of sugar users will then be calculated. The first 33.3% of the sugar-user sample will be classified as light sugar users. The next 33.3% will be classified as medium users and the remainder will be classified as heavy sugar users. The means and variances for light, medium and heavy sugar usage will be calculated. Similar F-tests for comparison of sample variances and t-tests for comparison of sample means will be conducted to determine if the means for the sugar user typologies are significantly different. The composition of the attitudinal segments within each usage typology will be analysed to determine the relationship between usage typology and attitudinal segment. If there were a direct relationship between attitude towards sugar and sugar consumption behaviour, one would expect to note a significant difference between the means of the three usage typologies and also a higher incidence of negative attitudinal segments in the light sugar user typology, and a high incidence of positive segments among the heavy sugar users. This analysis will serve to triangulate the earlier analysis of attitudes and consumption behaviour.

Preliminary data from a later survey (June to October 2006) will then be analysed. This survey data was compiled partly before the launch of the sugar generic marketing campaign in August 2006, and partly after the launch. The analysis will therefore not be conclusive and the results cannot be used with any degree of confidence. However, because the sample includes some input from respondents that were surveyed after the launch of the sugar generic marketing campaign, it may prove useful to do a preliminary comparison of the composition of each attitudinal segment with the pre-campaign information. Although there will be some doubt over the results of this analysis, it will provide an early indicator of the likely success or failure of the marketing campaign in influencing the attitudes of negatively predisposed segments. This analysis however will only provide the comparison of how the respondents in the two surveys classified themselves with respect to their attitudes to sugar. The information on sugar usage in the latter survey is unavailable so no comparison can be made with respect to sugar usage. A similar analysis will have to be done using post-campaign survey data in order to draw meaningful conclusions that could facilitate decision-making on marketing expenditure.

CHAPTER 5: Research results

The main focus of this research is to determine if there is a direct relationship between consumer attitude towards sugar and sugar consumption behaviour. The primary research objective is to establish if a positive consumer attitude towards sugar necessarily implies higher sugar consumption, or alternatively, if a negative predisposition towards sugar implies lower sugar consumption. If the abovementioned relationship is confirmed, then the findings will provide insight into determining whether generic advertising can be effectively used as a marketing tool to influence consumer attitudes and thereby improve sugar consumption.

5.1 Description of the data

The survey comprised a random sample of 2 516 respondents, representing the nine South African provinces (KZN, Gauteng, Free State, Limpopo, Western Cape, Eastern Cape, Northern Cape, Mpumalanga and Northwest Province), by gender, age group (adults aged from 16 upwards) and race. Respondents were asked specific questions pertaining to their attitudes towards sugar and their sugar consumption behaviour. The attitudinal questions were developed in previous research undertaken by SASA and were used to allocate each respondent to one of the six predetermined sugar consumer segments. Identifying statements were developed for each segment and these were put to respondents in the survey. An extract from the questionnaire relating to the attitudinal questions follows:

“Which ONE of these statements describes your attitude to sugar? Please read each statement carefully and choose the ONE that comes closest to describing your feelings about sugar.”

- 1. “I read many articles about health and lifestyle and avoid eating sugar in any form.”*
- 2. “I avoid eating sugar, I would like to eat more sugar because I have a sweet tooth, but I don’t believe it is healthy.”*
- 3. “Sugar is fattening but it is natural and provides energy so I consume sugar in moderation”*

4. *"I don't believe sugar is good for me but I reward myself with something sweet."*
5. *"I eat sugar because sugar itself is not fattening and it actually has some benefits in a balanced lifestyle."*
6. *"I don't really have a view about whether sugar is healthy or bad for one. I eat as much sugar as I want"*

The demographic frequency distribution of the sample is shown in Table 5.1:

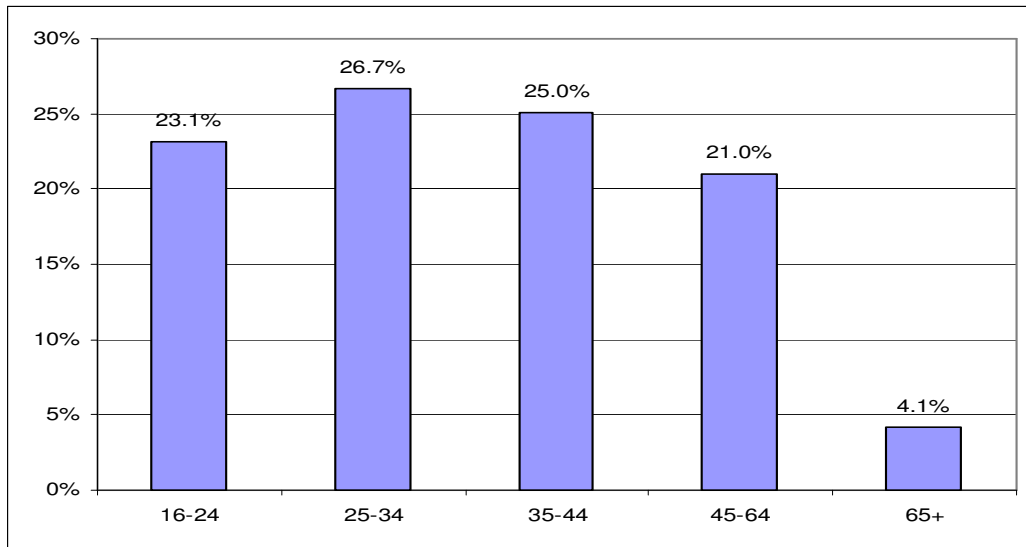
Variable	Value	Relative Frequency	Relative Frequency %	Cumulative Frequency	Cumulative Frequency %
Gender	Male	893	35.5%	893	35.49%
	Female	1,623	64.5%	2516	100.00%
		2,516			
Age	16-24	582	23.1%	582	23.1%
	25-34	672	26.7%	1,254	49.8%
	35-44	630	25.0%	1,884	74.9%
	45-64	528	21.0%	2,412	95.9%
	65+	104	4.1%	2,516	100.0%
		2,516			
Race	Black	1,265	50.3%	1,265	50.3%
	White	628	25.0%	1,893	75.2%
	Coloured	410	16.3%	2,303	91.5%
	Indian	213	8.5%	2,516	100.0%
		2,516			
Province	Eastern Cape	195	7.8%	195	7.8%
	Free State	104	4.1%	299	11.9%
	Gauteng	937	37.2%	1,236	49.1%
	Kwazulu - Natal	439	17.4%	1,675	66.6%
	Limpopo	64	2.5%	1,739	69.1%
	Mpumalanga	97	3.9%	1,836	73.0%
	Northern Cape	64	2.5%	1,900	75.5%
	North - West	91	3.6%	1,991	79.1%
	Western Cape	525	20.9%	2,516	100.0%
		2,516			

Table 5.1 – Demographic frequency distribution

Respondents were also asked a question to determine a snapshot of their daily table sugar consumption, namely, *"How many spoons of sugar did you use yesterday?"*

The survey yielded responses from 2 516 respondents. The level of non-response is not known but the research company delivered on their undertaking to interview a sample of at least 2 500 respondents. The frequency distributions of the age groups, race, province and gender variables are illustrated in Figure 5.1 to 5.4, respectively.

Figure 5.1 - Frequency distribution by age group



The age distribution in Figure 5.1 shows that the sample adequately represents the adult population between 16 and 65 years but only 4.1% of the sample are respondents older than 65 years. This is probably acceptable given the younger age profile of the South African population. However, a potential shortcoming of the sample is the exclusion of children from the survey. This study will therefore be confined to the attitudes and consumption behaviour of the adult population. Official population statistics from Statistics South Africa (2005) show that children under the age of seventeen years accounted for 39% of the South African population in 2005. Judging from the sheer numbers of South African children (more than 18 million) and the fact that more than 85% of the population are sugar consumers, children must account for a fair amount of South African sugar consumption. Furthermore the consumption behaviour of children towards sugar could well be quite different from that of adults. However for the purpose of this study it is assumed that the sugar consumption of children is largely influenced by the attitudes and behaviours of the supervising adults that are responsible for these children. If this assumption is valid then the sample will be representative of the total population's sugar consumption.

Figure 5.2 illustrates that 50.3 % of the sample were Black respondents and 25% were White. This indicates a bias in favour of White, Coloured and Indian respondents and against Black respondents. Official SA statistics show that

79.5% of the population is Black, 9.2% is White, 8.9% is Coloured and 2.5% is Indian. The racial bias in the sample implies that the results could be skewed in favour of the White component if no adjustment is made for this bias when analyzing the results.

Figure 5.2 - Frequency distribution by race group

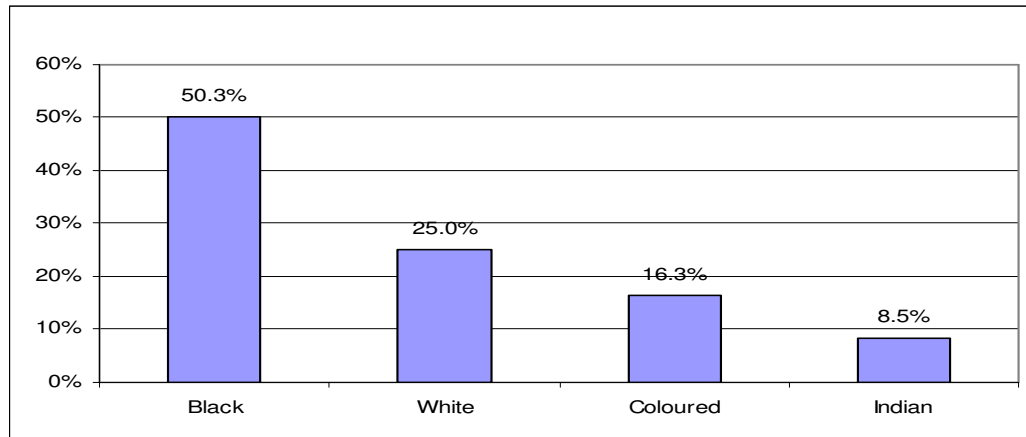


Figure 5.3 indicates that more than 80% of the sample was drawn from residents of Gauteng, KZN, Western Cape and Eastern Cape. The sample selection is indicative of the weighting, based on economic activity and population level in the provinces. An observation worth noting is that Gauteng actually accounts for 20.1% of the SA population but this province makes up 37.2% of the sample respondents.

Figure 5.3 - Frequency distribution by province

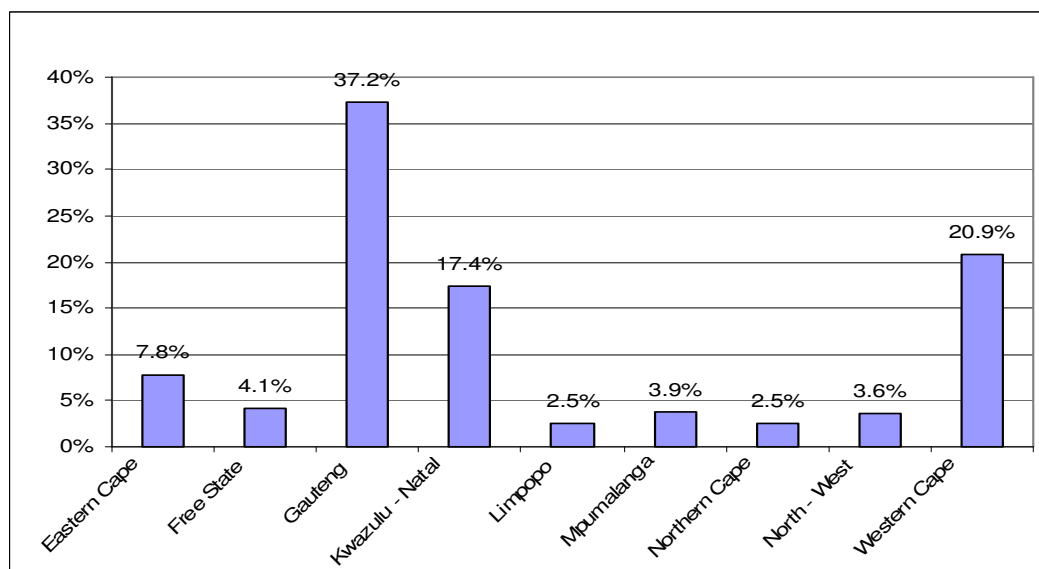
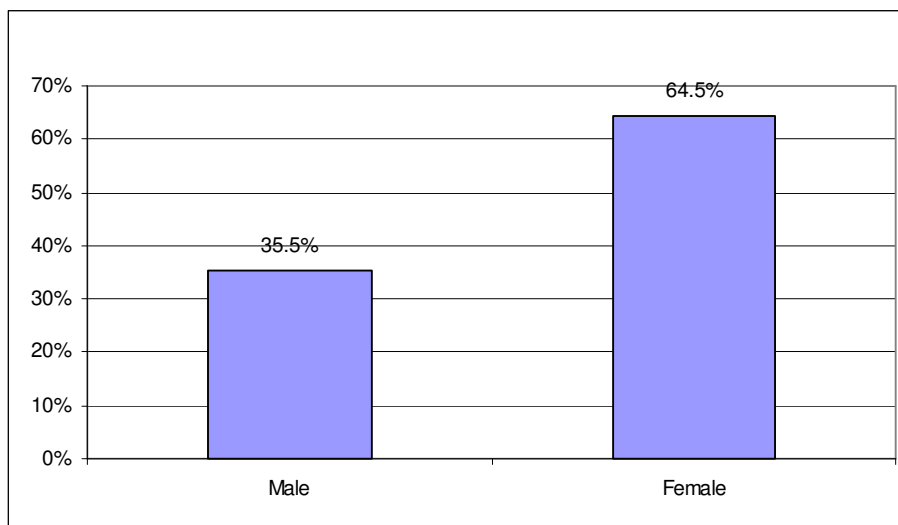


Figure 5.4 suggests that the sample is biased in favour of female consumers. The experience of the research company has shown that females are generally more accessible than men for market research purposes and this is the primary reason for the female bias in the sample. The research company has statistical correction models in place to adjust for this bias when extrapolating the sample to reflect population data. The official population statistics of Statistics SA indicate that males account for 49.1% of the population and females 50.9%.

Figure 5.4 - Frequency distribution by gender



5.2 Analysis of segments

The sample contains sufficient detail to allow for statistical comparison of sugar consumption between segments, but some initial consolidation of the data is necessary to facilitate a more in-depth analysis. The segments are therefore allocated to two groups, one positive and the other negative; depending on respondents' positive or negative predisposition towards sugar. Respondents who identify themselves with 'informed rejectors' and 'desirers', will be classified as having a negative predisposition towards sugar, as the defining statements for both these segments indicate 'avoidance of sugar'. The 'indulgers' segment will also be classified as negative because according to the defining statement, members of this segment 'believe that sugar is not good for them; however they reward themselves with something sweet'. In this instance the 'something sweet' is interpreted as referring to sugar-containing products, such as sweets or chocolates, rather than table sugar. In

other words if indulgers decide to reward themselves with ‘something sweet’ it will probably be a chocolate or some other sugar-containing product rather than a spoonful of table sugar. Therefore, although a typical ‘indulger’ might not consume table sugar, this is compensated for with ‘sweet reward’ in the form of sugar-containing products. The ‘balanced’ segment consumes sugar in moderation but believes that sugar is fattening. Despite this negative connotation (belief that sugar is fattening), the ‘balanced’ segment could be viewed as positive towards sugar because moderate sugar consumption is in line with the sugar industry’s objective of promoting a balanced lifestyle. The remaining two segments, ‘sugar lovers’ and ‘hakunas’ are clearly positively predisposed towards sugar, as the identifying statements contain no negative reference to sugar. A summary of the initial positive / negative category classification based on the literal interpretation of the defining attitudinal statements is shown in Table 5.2 below:

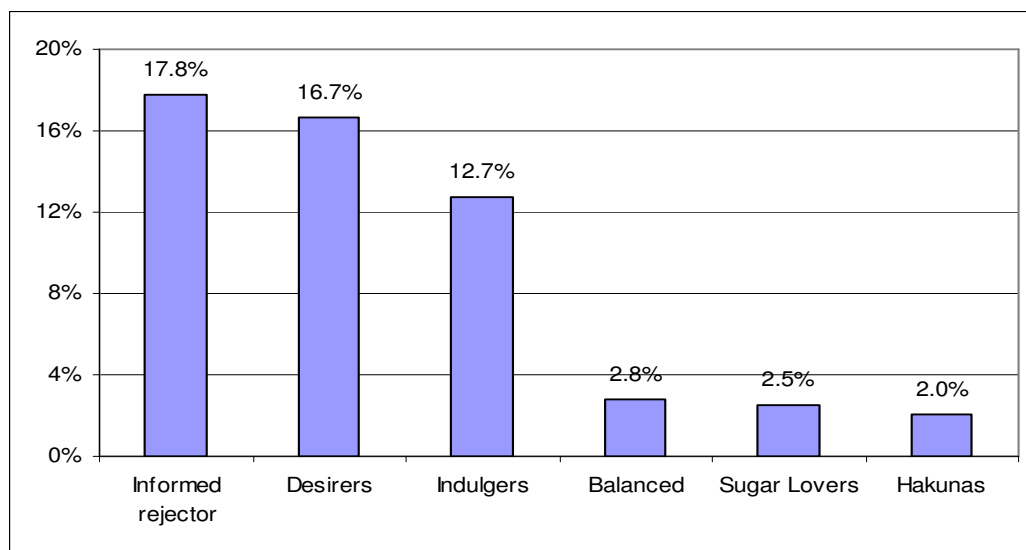
NEGATIVE	POSITIVE
Informed Rejecters Desirers Indulgents	Balanced Sugar Lovers Hakunas

Table 5.2 - Classification based on literal interpretation on defining attitudinal statements

The above positive and negative segment classifications require statistical verification to prove that the interpreted attitudes are valid. The validity of the attitudinal statements is first tested by examining the frequency distribution of non-users. It is interesting to note that non-users of sugar were found in all six segments. This implies that some respondents, despite their positive attitudes towards sugar, do not consume table sugar at all. For the above positive and negative classifications to be valid it is expected that the proportion of non-users within a segment should be higher in the negative segments, (because of the stated avoidance of sugar), and lower in the positive segments. In other words it is expected that the negative segments would have a higher percentage of non-users than the positive segments. Figure 5.5 illustrates the percentage of non-users of sugar within each segment. These respondents answered ‘zero’ to the question ‘how many spoons of sugar did you use yesterday?’

Figure 5.5 confirms that the highest proportion of non-users is found among the negative segments, viz. informed rejectors (17.8%), desirers (16.7%) and indulgers (12.7%). The low proportion of non-users among the 'sugar lovers', 'hakunas' and 'balanced' segments indicates the positive predisposition of these segments. Conversely, it can be deduced from Figure 5.5 that the positively predisposed segments comprise a higher percentage of sugar users than the negatively predisposed segments.

Figure 5.5 - % Non-users by segment



Within the positive segments 98% of hakunas, 97.5% of sugar lovers and 97.2% of balanced respondents, consume sugar. Within the negative segments sugar consumers comprise a relatively lower proportion, viz. 82.2% of informed rejectors, 83.3% of desirers and 87.3% of indulgers. The fact that there are non-users of table sugar in all the segments, even those that are positively predisposed to sugar, probably supports the view that there are factors other than attitude that influence sugar consumption behaviour. For example, affordability could suppress sugar consumption in certain low-income households. In such cases sugar could be regarded as a luxury relative to other staple food products and hence the scarce financial resources would be spent on other more essential food products in preference over sugar. Besides the economic reasons, the influence of negative messages in

the media and perhaps competition from substitutes, such as artificial sweeteners, could also explain why there are non-users in positively predisposed segments. These respondents could possibly be avoiding sugar because of the negative health messages relating to diabetes or obesity.

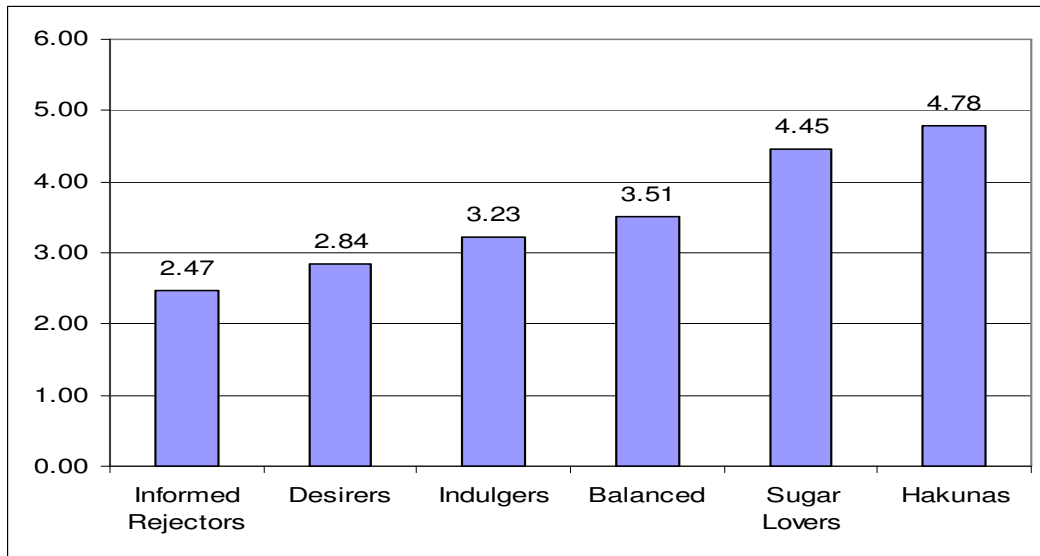
The above analysis of the segments gives an indication of the profile of consumers within each segment. While it provides information on the proportion of sugar users in a segment, it does not indicate how much sugar they actually consume. This detail is provided in analysing of the responses to the sugar spoon question. Table 5.3 gives the summary statistics for each segment based on the responses given to the question “*How many spoons of sugar did you use yesterday?*”

	Informed Rejectors	Desirers	Indulgers	Balanced	Sugar Lovers	Hakunas
Mean	2.4703	2.8444	3.2268	3.5188	4.4494	4.7947
Standard Error	0.1797	0.2173	0.1794	0.1253	0.1949	0.1378
Median	2	2	3	3	3	3
Mode	2	2	3	3	3	3
Standard Deviation	2.7605	2.9156	3.0609	3.0969	3.6771	3.9878
Sample Variance	7.6204	8.5008	9.3691	9.5910	13.5214	15.9029
Kurtosis	17.6839	10.9462	8.0438	11.7864	5.0517	4.2542
Skewness	3.6028	2.7951	2.4404	3.1539	2.1484	2.0803
Range	20	20	20	20	20	20
Minimum	0	0	0	0	0	0
Maximum	20	20	20	20	20	20
Sum	583	512	939	2,150	1,584	4,018
Count	236	180	291	611	356	838

Table 5.3 - Summary Statistics of spoons of sugar used by segment

Table 5.3 shows that the mean number of spoons of sugar consumed daily by informed rejectors was 2.4703, followed by desirers (2.8444), indulgers (3.2268), balanced (3.5188), sugar lovers (4.4494) and hakunas (4.7947). The increase in the average daily sugar spoon consumption by each segment ranging from the negative segments through to the positive segments is clearly evident from Figure 5.6, which graphically displays the average consumption of sugar by segment.

Figure 5.6 - Average daily spoon usage per segment



The evidence from Figure 5.6 suggests that there could be a direct relationship between attitude towards sugar and sugar consumption, but the statistical significance of the relationship is yet to be verified. In order to compare the mean sugar spoon consumption between the six segments, the two-sample t-test will be used. The intent of this analysis is to identify segments with equal means for the purpose of grouping them into positive and negative segments for later comparison.

Before the t-test for the comparison of sample means can be applied, the sample variances are compared for equality by using the F-test. The results of the F-test were used to determine whether to apply an assumption of equal or unequal variance, when using the t-test to compare the sample means. The F-tests showed that the variances of the hakunas and sugar lovers were significantly different at the 95% confidence level. However, the comparison of the variances for informed rejectors, desirers, balanced and indulger segments were not significantly different at the 95% level of confidence. This is borne out by the insignificant p-values illustrated in the F-tests as shown in Table 5.4.

	<i>Informed Rejectors</i>	<i>Desirers</i>	<i>Desirers</i>	<i>Balanced</i>	<i>Balanced</i>	<i>Indulgents</i>	<i>Desirers</i>	<i>Indulgents</i>
Mean	2.4703	2.8444	2.8444	3.5188	3.5188	3.2268	2.8444	3.2268
Variance	7.6204	8.5008	8.5008	9.5910	9.5910	9.3691	8.5008	9.3691
Observations	236	180	180	611	611	291	180	291
df	235	179	179	610	610	290	179	290
F	0.8964		0.8863		1.0237		0.9073	
P(F<=f) one-tail	0.2158		0.1660		0.4131		0.2391	
F Critical one-tail	0.7952		0.8152		1.1841		0.7985	

Table 5.4 - F-test for equal variances

The purpose of comparing the sample means is to group together the segments with equal means in order to create combined groupings of similar segments. Therefore, after establishing the equality / inequality of segment variances, each segment's sample mean was compared with the other by using the two-sample t-test. For example, the sample mean of the informed rejectors segment was first compared with the sample mean of desirers. The two-sample t-test yielded a t-statistic of 1.32668, which fell within the 1.966328 critical t-value. In this instance the null hypothesis of equal means could not be rejected at the 95% level of confidence. It was therefore concluded that there was no significant difference in the mean daily sugar spoon consumption between informed rejectors and desirers. Similar t-tests for the equality of means were conducted to compare all the segments. In most of the other comparisons the null hypothesis of equal means had to be rejected at the 95% level of confidence. Besides the comparison above between informed rejectors and desirers, there were three other pairings that indicated equals means; desirers and indulgers, balanced and indulgers and sugar lovers and hakunas. In each of these cases the t-statistic fell within the acceptance region and therefore the null hypothesis of equal means could not be rejected at the 95% level of confidence. The statistics relating to the t-tests that yielded no significant differences between the means are shown in Table 5.5.

	<i>Informed Rejectors</i>	<i>Desirers</i>	<i>Desirers</i>	<i>Indulgents</i>	<i>Balanced Indulgents</i>	<i>Balanced Indulgents</i>	<i>Sugar Lovers</i>	<i>Hakunas</i>
Mean	2.470339	2.844444	2.844444	3.226804	3.518822	3.226804	4.449438	4.794749
Variance	7.620393	8.500807	8.500807	9.369072	9.591039	9.369072	13.52138	15.90286
Observations	236	180	180	291	611	291	356	838
Hypothesized Mean Difference	0		0		0		0	
df	374		393		577		722	
t Stat	-1.32668		-1.35675		1.334354		-1.44688	
P(T<=t) one-tail	0.092712		0.08782		0.091307		0.074183	
t Critical one-tail	1.648937		1.648741		1.6475		1.646968	
P(T<=t) two-tail	0.185425		0.17564		0.182614		0.148366	
t Critical two-tail	1.966328		1.966018		1.964086		1.963253	

Table 5.5 - Two sample t-test for difference in sample means

The t-test results suggest that there could be three consolidated groupings of sugar consumers; firstly, a positive grouping consisting of sugar lovers and hakunas, then a balanced or neutral grouping, comprising the balanced and indulger segments, and lastly, a negative grouping, consisting of informed rejectors and desirers. This is because the sample means of the above pairings of segments are not significantly different at the 95% level of confidence. The summary statistics relating to these positive, neutral and negative attitudinal groupings are shown in Table 5.6.

	Negative	Neutral	Positive
Mean	2.6322	3.4246	4.6918
Standard Error	0.1388	0.1028	0.1129
Median	2	3	3
Mode	2	3	3
Standard Deviation	2.8313	3.0867	3.8995
Sample Variance	8.0162	9.5276	15.2059
Kurtosis	14.1142	10.5910	4.4751
Skewness	3.2028	2.9182	2.1026
Range	20	20	20
Minimum	0	0	0
Maximum	20	20	20
Sum	1,095	3,089	5,602
Count	416	902	1,194

Table 5.6 - Summary statistics of spoons sugar per attitudinal group

It is clear from Table 5.6 that the mean daily consumption of spoons of sugar ranges between a low of 2.3622 spoons among the negatively predisposed group and a high of 4.6918 among the positively predisposed group, with the neutral group between the two extremes at 3.4246 spoons per day.

Furthermore, highly significant p-values in the F-tests in Table 5.7 indicate that the variances of the positive, negative and neutral groupings are all significantly different at the 95% level of confidence.

	<i>Negative</i>	<i>Neutral</i>	<i>Negative</i>	<i>Positive</i>	<i>Neutral</i>	<i>Positive</i>
Mean	2.6322	3.4246	2.6322	4.6918	3.4246	4.6918
Variance	8.0162	9.5276	8.0162	15.2059	9.5276	15.2059
Observations	416	902	416	1194	902	1194
df	415	901	415	1193	901	1193
F	0.8414		0.5272		0.6266	
P(F<=f) one-tail	0.0214		0.0000		0.0000	
F Critical one-tail	0.8692		0.8736		0.9020	

Table 5.7 – F-tests for equality of variance

If it can be shown that there is a significant difference between the means of these attitudinal groupings, then conclusions can be made with respect to the relationship between attitude towards sugar and sugar consumption.

Table 5.8 displays the two-sample t-test results for the comparison of the sample means between the three attitudinal groupings.

	<i>Negative</i>	<i>Neutral</i>	<i>Negative</i>	<i>Positive</i>	<i>Neutral</i>	<i>Positive</i>
Mean	2.6322	3.4246	2.6322	4.6918	3.4246	4.6918
Variance	8.0162	9.5276	8.0162	15.2059	9.5276	15.2059
Observations	416	902	416	1194	902	1194
Hypothesized Mean Difference	0		0		0	
df	874		994		2089	
t Stat	-4.5878		-11.5125		-8.3019	
P(T<=t) one-tail	0.0000		0.0000		0.0000	
t Critical one-tail	1.6466		1.6464		1.6456	
P(T<=t) two-tail	0.0000		0.0000		0.0000	
t Critical two-tail	1.9627		1.9624		1.9611	

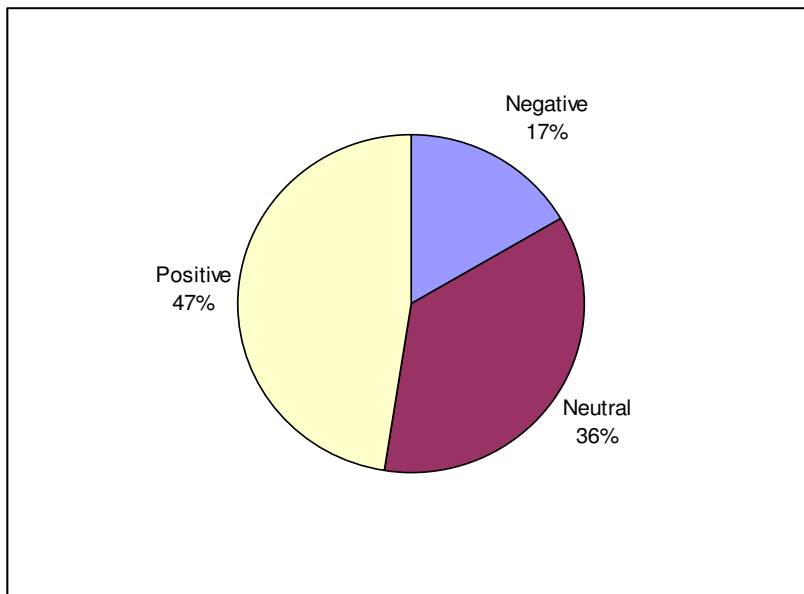
Table 5.8 – two-sample T-test: assuming unequal variances

In all three comparisons the null hypothesis of equal means is rejected at the 95% level, as the t-statistics fall outside the acceptance ranges in each case. This is further verified by the significant p-values, which allow the conclusion at the 95% level of confidence that there are significant differences between the mean sugar consumption of negatively, neutrally and positively

predisposed consumers. This analysis has therefore shown that based on their attitudes towards sugar, consumers can be divided into three groups that are either negatively, neutrally or positively predisposed towards sugar. Furthermore the analysis shows that negatively predisposed consumers use lower amounts of sugar than positively predisposed consumers. The mean consumption of neutrally predisposed consumers falls between the positive and negative, but all three means were significantly different. These findings prove that there is a direct relationship between consumer attitude toward sugar and sugar consumption behaviour. This leads to the conclusion that consumer attitude towards sugar does impact on sugar consumption behaviour. In other words, if a consumer's attitude towards sugar can be positively influenced, then the above analysis suggests that this would more than likely result in improved sugar consumption.

Figure 5.7 shows that 47% of sugar consumers are positively predisposed to sugar consumption while 36% are neutrally predisposed. Consumers with a negative predisposition to sugar make up only 17% of the population. This latter grouping would form the target for a marketing campaign directed at influencing the attitudes of negatively predisposed consumers.

Figure 5.7 – Composition of attitudinal groupings of sugar consumers



5.3 Analysis by user typology

A further test of the relationship between attitudes to sugar and sugar consumption behaviour was conducted to triangulate the above findings. This test involved using all the consumers of sugar *i.e.* the respondents that reported that they had used at least one spoon of sugar on the day before the date that they were surveyed. Non-users of sugar were excluded from this test, as this group formed a subset of the sugar user typologies, viz. “non users”. The responses to the question regarding the ‘number of spoons of sugar used yesterday’ were ranked in ascending order and the cumulative frequency of each response was noted. The sample was divided into three partitions to represent the sugar user typologies; firstly ‘light sugar users’, which included all responses falling within the cumulative frequency of 33.3% of the sample; ‘medium sugar users’, which included responses falling within the cumulative frequencies greater than 33.3% and less than 66.7%, and finally ‘heavy sugar users’, which are made up the remainder of the sample, including all the responses with cumulative frequencies greater than 66.7%. The results of this exercise showed that ‘light sugar users’ consumed between one and two spoons of sugar per day, ‘medium sugar users consumed three to four spoons per day, while ‘heavy users’ comprised those consumers who ate five or more spoons of sugar per day. The summary statistics of the sugar user typologies are displayed in Table 5.9, which shows that light sugar users consume an average of 1.8 spoons per day; medium users consume 3.31 spoons and heavy users 9.46 spoons of sugar per day.

	<i>Light</i>	Medium	<i>Heavy</i>
Mean	1.80	3.31	9.46
Standard Error	0.01	0.01	0.19
Median	2	3	8
Mode	2	3	6
Standard Deviation	0.40	0.46	4.33
Sample Variance	0.16	0.22	18.79
Kurtosis	0.26	-1.35	0.34
Skewness	-1.50	0.81	1.08
Range	1	1	15
Minimum	1	3	5
Maximum	2	4	20
Sum	1377	3601	4808
Count	765	1087	508

Table 5.9 - Summary statistics, Light, medium and heavy sugar usage

Table 5.10 shows that the grouping of the sugar user typologies is valid, as the mean sugar usage of the light, medium and heavy sugar typologies are all significantly different at the 95% level of confidence. This is borne out by the highly significant t-statistics and p-values displayed in Table 5.10.

	<i>Light</i>	<i>Medium</i>	<i>Light</i>	<i>Heavy</i>	<i>Medium</i>	<i>Heavy</i>
Mean	1.80	3.31	1.80	9.46	3.31	9.46
Variance	0.16	0.22	0.16	18.79	0.22	18.79
Observations	765	1,087	765	508	1,087	508
Hypothesized Mean Difference	0		0		0	
df	1775		513		512	
t Stat	-74.9535		-39.7406		-31.9017	
P(T<=t) one-tail	0.0000		0.0000		0.0000	
t Critical one-tail	1.6457		1.6478		1.6478	
P(T<=t) two-tail	0.0000		0.0000		0.0000	
t Critical two-tail	1.9613		1.9646		1.9646	

Table 5.10 - Two sample t-test for comparison of means; light, medium and heavy sugar users

This analysis indicates that sugar usage (light, heavy and medium), is significantly different but this needs to be expanded in order to link the usage profile with consumer attitudes. This can be achieved by analyzing the distribution of the attitudinal segments among light, medium, heavy and non-users of sugar as in Figure 5.8.

Figure 5.8 - Distribution of attitudinal segments by sugar usage typology

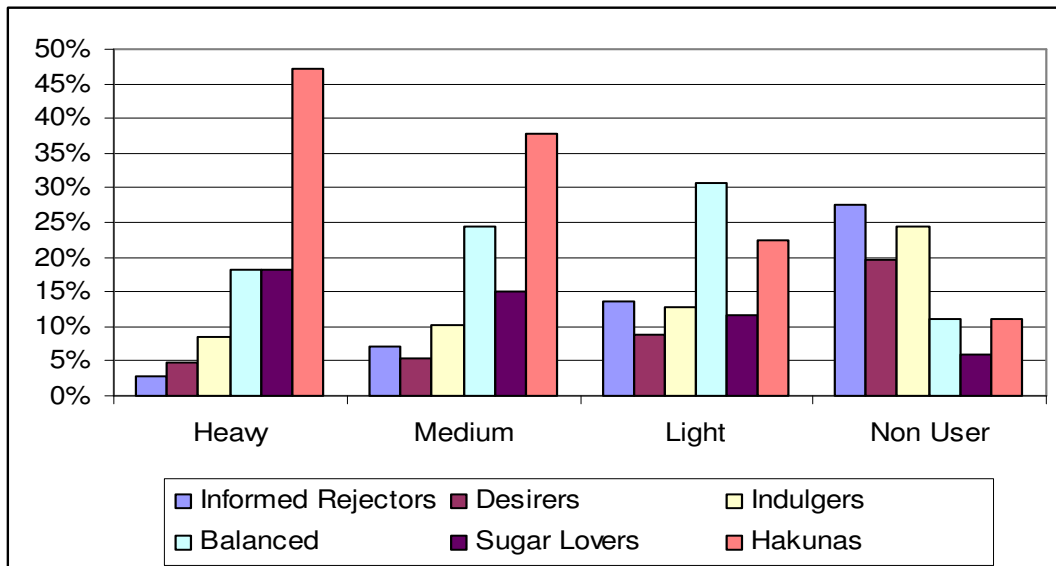
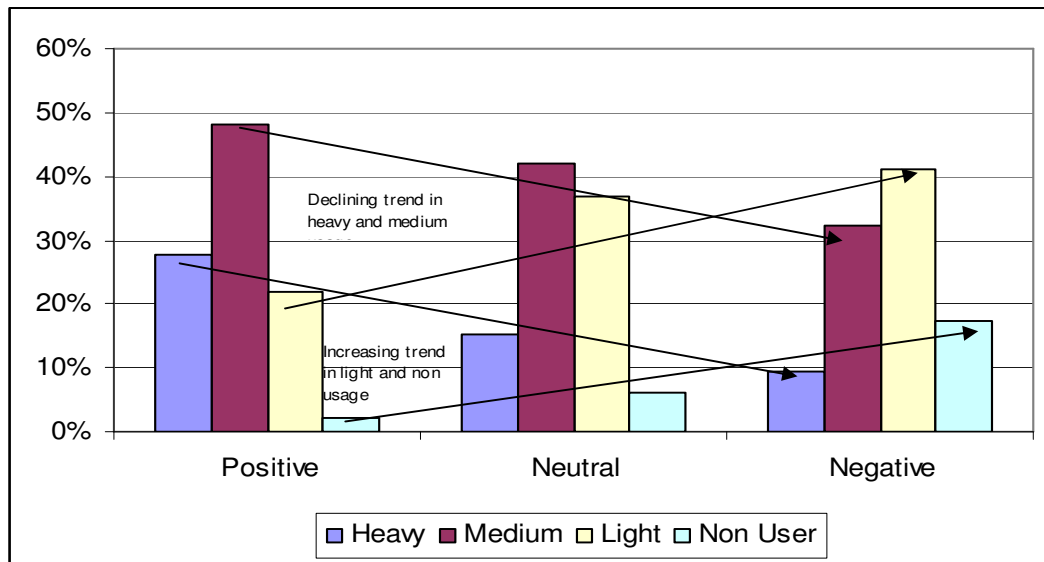


Figure 5.8 clearly shows the decline in the proportion of positive attitudinal segments (hakunas and sugar lovers), as one moves from heavy usage to

non-usage of sugar. There is also a noticeable increase in the composition of negative attitudinal segments (informed rejectors and desirers) in the shift from heavy usage to non-usage. With respect to the neutral group, the proportion of “indulgers” increases from heavy to non-usage, the “balanced” proportion increases from heavy to light usage but drops in the non-user category.

The foregoing changes in sugar consumption in response to changes in attitude are clearly illustrated in Figure 5.9, which reduces the six attitudinal segments into the three attitudinal groupings (positive, neutral and negative) that were derived earlier. Figure 5.9 illustrates the reduced incidence of heavy and medium sugar usage as attitudes to sugar change from positive to negative. There is also an increased incidence of light sugar usage and non-usage as attitudes shift from positive to negative. This is further indication of the positive relationship between consumer attitude to sugar and sugar consumption behaviour.

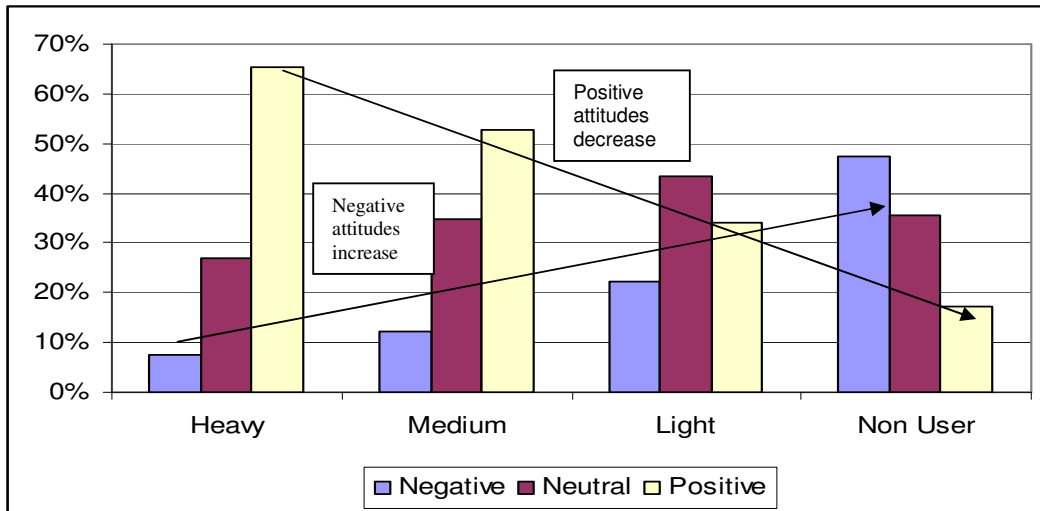
Figure 5.9 - Sugar usage by attitudinal grouping



It has already been shown that the mean sugar usage of the positive attitudinal grouping is significantly higher than the neutral grouping, which in turn is significantly higher than the negative grouping. In addition it has also been shown that there is a significant difference between light, medium and heavy sugar usage. Furthermore Figure 5.10 shows that the proportion of

positively predisposed sugar users decreases as sugar usage moves from heavy to light, while the proportion of negatively predisposed users increases.

Figure 5.10 – Attitudinal groupings by sugar usage



The foregoing analysis firstly consolidated the consumer segments into larger groupings of positively, neutrally and negatively predisposed sugar consumers. It was found that users in the positive segment consumed more sugar than the neutral segment, which in turn was higher than the negative segment.

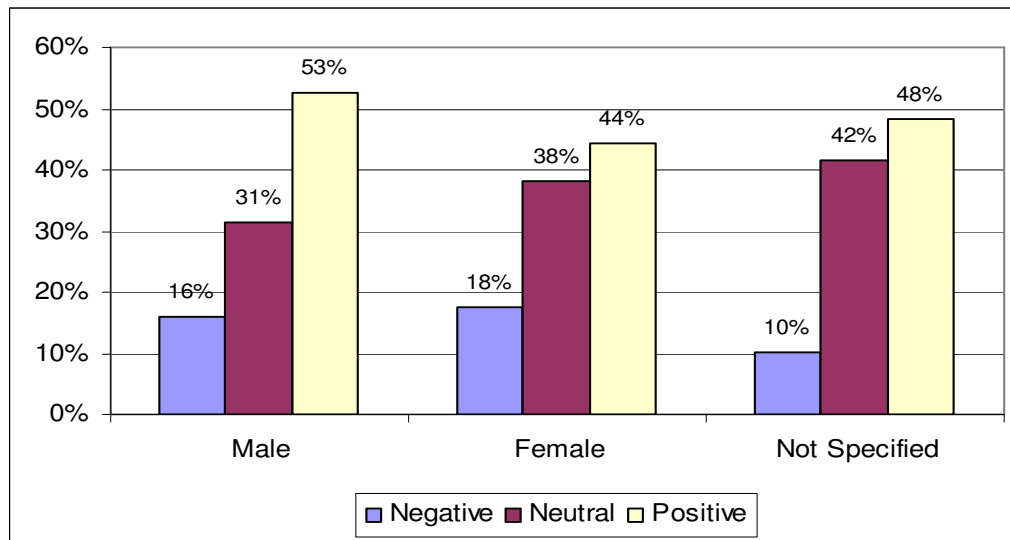
The analysis allowed the researcher to conclude that there is a direct relationship between consumer attitude to sugar and sugar consumption behaviour. Further analysis ranked the sample in ascending order of sugar usage and divided respondents into three typologies of sugar user, *viz.* light, medium and heavy, according to the cumulative frequencies of the sugar usage data. Non-users were also considered as a user typology. This analysis then linked the sugar user typologies to attitudinal groupings to triangulate the findings of the first analysis *i.e.* that there is a direct relationship between consumer attitude to sugar and sugar consumption behaviour.

5.4 Analysis of demographics by sugar attitudinal grouping

This section of the analysis looks at the distribution of demographic variables, *viz.* gender, race and age group within the three attitudinal groupings *viz.* negative, neutral and positive respondents.

Figure 5.11 illustrates the distribution of negative, neutral and positive respondents among males and females in the sample. It is evident that males are more positively predisposed to sugar than females (53% vs. 44%), but females have a more neutrally predisposed or balanced attitude to sugar (38% vs. 31%).

Figure 5.11 Gender analysis by sugar attitudinal groupings



If the positive and neutral groupings are combined, then males are still 2% more positively predisposed to sugar than females (84% vs. 82%). For a marketing campaign targeted at negatively predisposed consumers, this difference of 2% appears insignificant and does not necessarily warrant different approaches when communicating to males and females.

Figure 5.12 shows the distribution of the attitudinal groupings among the race groups. In all four race groups positive and neutral consumers account for more than 80% (Blacks 81%, Whites 85%, Coloured 87% and Indians 84%). It is also evident from Figure 5.12 that Blacks and Indians, at 19% and 17%, respectively, have slightly more negatively predisposed consumers than Whites (14%) and Coloured (13%). It is not obvious why these differences should occur but it could be related to economic factors, which could be constraining attitudes, mainly because of affordability. However this is speculation and requires further investigation in order to substantiate. More

qualitative research may need to be done to clarify some of this speculation. These differences need to be taken into consideration when communicating to the different race/language groups.

Figure 5.12 – Race group analysis by sugar attitudinal groupings

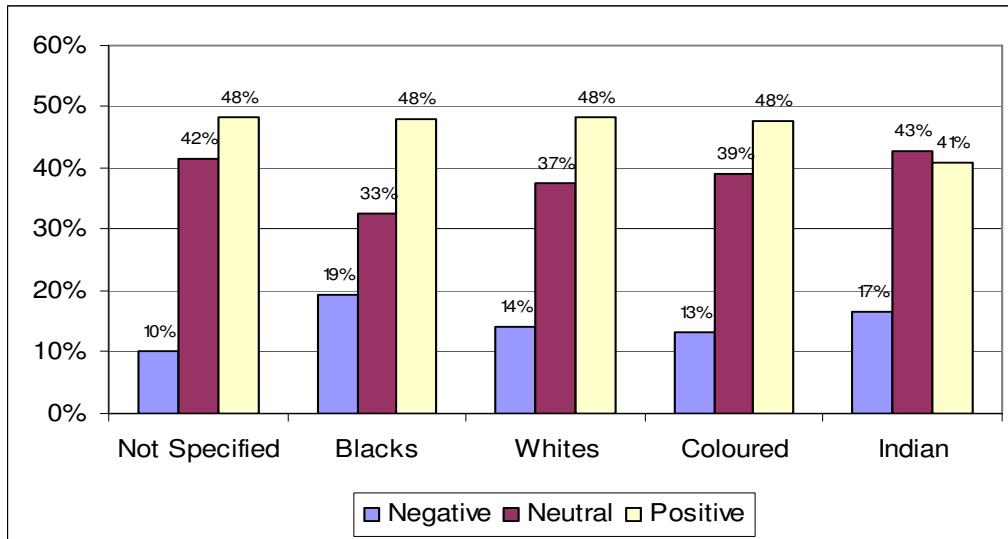
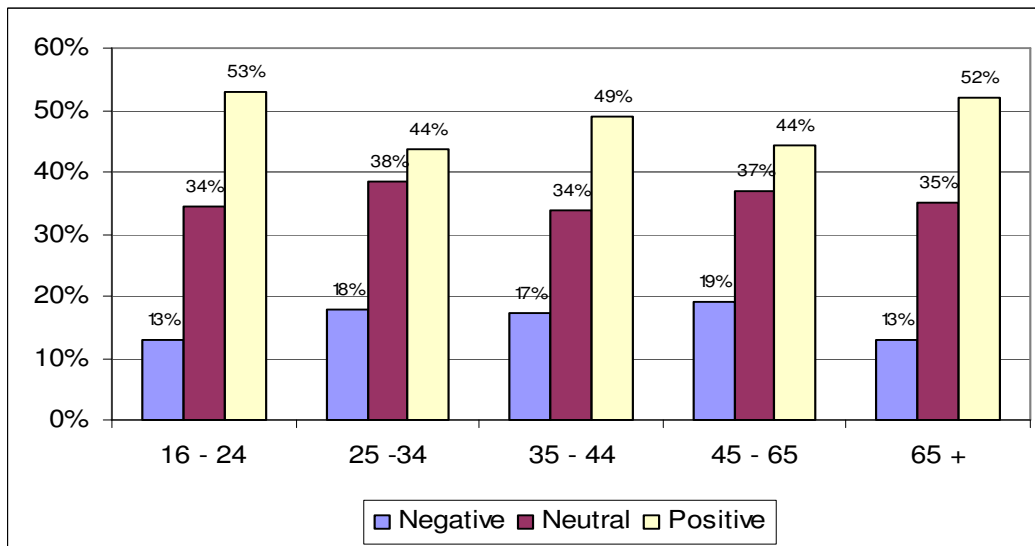


Figure 5.13 illustrates the distribution of attitudinal groups among the age groups.

Figure 5.13 - Age group analysis by sugar attitudinal groupings



It is interesting to note that there is a marked similarity in the distribution of attitudinal groups among the extreme age groups. This implies that consumers in the 16 - 24 age group have an identical attitude profile as the 65+ age group. Another observation is that balanced or neutrally predisposed

consumers comprise between 34% and 38% of all consumers, irrespective of age group. It is also noted that there is a significant increase in the proportion of negatively predisposed consumers as younger consumers (16-24) move into the 25-34 age group category (13% to 18%). This is possibly because consumers become more aware and sensitive to health information as they get older, and this remains the case until they reach the over-65-age group, when they again become less concerned about health information. These findings need to be taken into consideration in a marketing campaign that targets a wide spectrum of age groups.

The final part of this analysis is to determine if generic marketing can be used to influence consumer attitudes and thereby improve sugar consumption. It has been shown that a positive consumer attitude towards sugar implies higher daily sugar consumption. Furthermore, research has shown that in the information age, consumers are demanding more and more information on food products. There is evidence of the existence of negatively predisposed consumer segments, namely the 'informed rejectors' and 'desirers', who have been adversely influenced by misinformation and other negative media relating to sugar. It is these consumers that need to be targeted in order to promote a more balanced attitude towards sugar consumption. In addition, it is known that attitudes are situational and can be influenced and ultimately changed. The negative media information relating to sugar, *viz.* obesity, diabetes, dental caries and hyperactivity, relate broadly to sugar as a product and not to any specific sugar brand. These issues therefore cannot be addressed with brand advertising and clearly fall within the realm of generic advertising, which provides a means of communicating positive information about a product to the consumer. Given the above it follows that generic advertising provides an appropriate way to convey positive information about sugar to negatively predisposed consumers and to influence and change their attitudes towards sugar.

Attitudinal segmentation of sugar consumers makes it possible to measure the effectiveness of a generic marketing campaign by monitoring the change in the share of each segment and attitudinal grouping, specifically after a

generic advertising campaign has been implemented for a reasonable period of time. Figure 5.14 illustrates how this can be achieved by comparing the preliminary information for the 2006B survey, which includes two months of post-campaign information, with the pre-campaign data (2005B).

Figure 5.14– Comparison of attitudinal segments pre-campaign vs. two months after launch

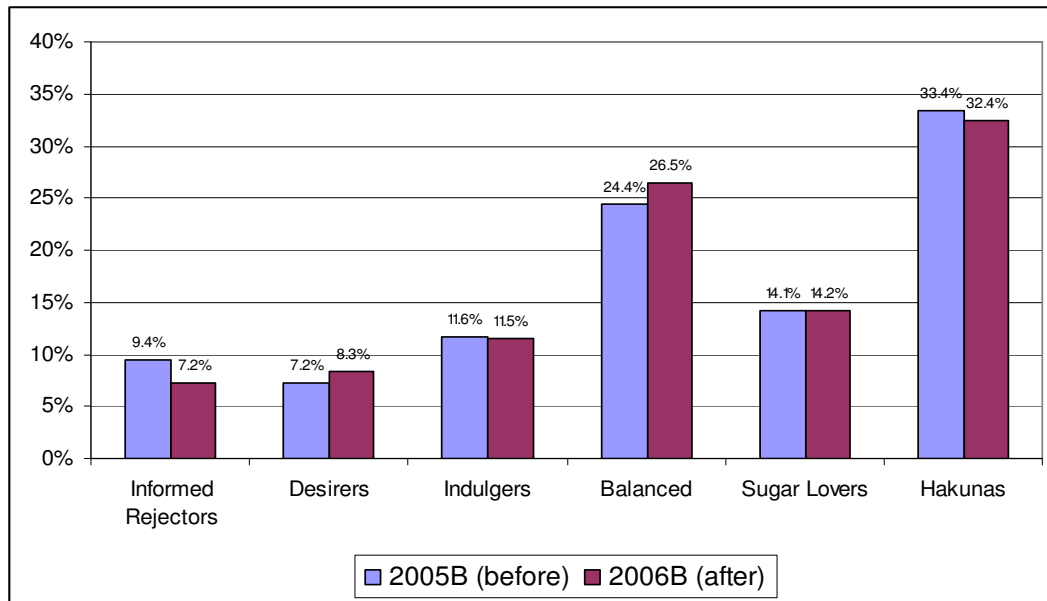
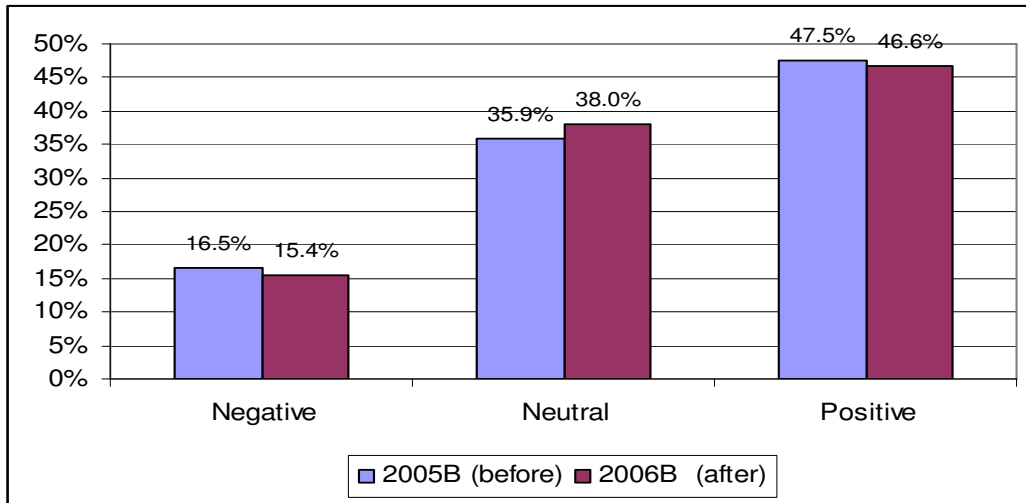


Figure 5.14 shows that the proportion of informed rejectors dropped from 9.4% in the pre-campaign survey to 7.2% in the later survey. Desirers increased from 7.2% to 8.2% and indulgers decreased marginally from 11.6% to 11.5%. The balanced segment increased from 24.4% to 26.5%. Sugar lovers increased marginally from 14.1% to 14.2% and hakunas decreased by 1% from 33.4% to 32.4%.

Figure 5.15 consolidates the segments into the three attitudinal groupings, positive, neutral and negative.

Figure 5.15 also shows that there were reductions in the negatively predisposed and positively predisposed segments after the launch of the generic marketing campaign. The decline in the positive and negative groups was compensated for by the increase in the neutrally predisposed grouping from 35.9% to 38.0%. These preliminary results are encouraging for the sugar generic marketing campaign, as the intention of the campaign is to promote balanced usage of sugar.

Figure 5.15 – Comparison of attitudinal groupings – pre campaign vs. two months after launch



The increase in the neutral grouping at the expense of positive and negative groupings indicates that there could be a general move towards balanced sugar usage. However, the available data after the campaign launch in August 2006 covers only two months of the campaign and therefore cannot be used as conclusive evidence of the generic campaign's success or failure. The information is also insufficient to attribute any success or failure to the generic marketing campaign. This analysis can only be done when more post-campaign information becomes available. Nevertheless, the tools are in place in the form of ongoing subscription to the sugar-related questions in the survey, to monitor the performance of the generic advertising campaign.

CHAPTER 6: Discussion, conclusions and recommendations

6.1 Discussion and recommendations

This study reveals that there is a direct relationship between consumer attitudes to sugar and sugar consumption behaviour and that sugar attitudes are good predictors of sugar consumption behaviour. The findings were consistent with Moon *et al.* (1999), who found that the peanut generic advertising campaign consistently and positively influenced peanuts consumers' attitudes, purchase decision and consumption intensity and thus played a pivotal role in expanding and sustaining consumption of peanuts and peanut products. However, the findings are in conflict with the study by Capps and Park (2002), which concluded that certain attitude and lifestyle variables impacted the probability of product consumption but not necessarily on the amount consumed. One possible reason that there was no impact on the amount consumed is the difference in the methodologies applied to determine volumetric information. In the case of sugar the volumetric data represented a snapshot in time *i.e.* "*How many spoons of sugar did you use yesterday?*" In the pork study, Capps and Park (2002) asked broader questions such as "*How many times per week do you eat pork (1-6 times)?*" and "*When you eat pork do you eat large, medium or small servings?*" To a certain extent the pork study by Capps and Park (2002) is more subjective in determining the quantity consumed, as there is no direct measure of quantity besides the number of occasions per week and whether small, medium or large portion were consumed. A possible problem with the sugar research is that the respondent's answer to the question on the day of the survey is taken to be the respondent's daily consumption. However, the number of spoons leaves little doubt as to the quantity (number of spoons) consumed and this would provide a better proxy for the quantity consumed, compared with the subjective responses obtained by Capps and Park (2002).

"Attitude", as defined in this study, was based on the tri-component model of attitude, as proposed by a number of attitude theorists (Schiffman and Kanuk, 2000; Solomon et al, 2002; Rice, 1997), which state that attitude comprises three components, *viz.* affective (emotional), cognitive (knowledge or

perception) and intention (behavioural). Five factors were used to determine the attitudes of respondents. These included a single factor to measure the affective component (“sugar friendliness”), one to measure the cognitive component (“sugar is fattening”), and three factors to measure intention or behaviour (“sugar avoidance”, “sweet reward” and “health scholar”). The findings show that there are three distinct attitudinal groupings of sugar consumers that are positively, neutrally or negatively predisposed to sugar and that each attitude is a predictor of sugar consumption behaviour. These three attitudinal groupings support the view that attitudes are “favourable or unfavourable” (Schiffman and Kanuk, 2000), *i.e.* attitudes can be positive or negative. Consumers can thus be sub-divided into two opposite groups according to positive or negative attitudes and a third grouping reflecting indifference or a neutral attitude.

The fact that this study has found a strong relationship between attitude and consumption behaviour could be a consequence of the way that attitude was defined in the research design. In applying the tri-component attitude model the defining statement for each attitudinal segment was based on five factors, one cognitive, one affective, and three behavioural. It is apparent that ‘attitude’, as defined in this study is strongly weighted in favour of the behavioural component. The strong relationship between attitude and consumption behaviour could therefore be a result of this ‘behavioural bias’ and this could provide a pointer to future studies of this nature. However, further research is required to test if ‘behavioural bias’ in attitude impacts favourably on the attitude-behaviour relationship.

It was confirmed that consumers in the positively predisposed segments consumed higher daily amounts of sugar compared with neutrally predisposed consumers, who in turn, had a higher average daily sugar consumption level than negatively predisposed consumers. The sugar consumption of respondents with a neutral predisposition to sugar was measured at 3.42 spoons per day, which was 30.0% higher than the daily consumption of negatively predisposed consumers (2.63 spoons per day). Neutral sugar consumption was found to be 27.1% lower than that of positively predisposed

consumers (4.69 spoons per day). These findings provide a basis for justifying targeted marketing communication to negatively predisposed segments, on the understanding that it is possible to positively influence these customers and thereby change their attitudes. A segmented and targeted approach in communicating with consumers is consistent with other studies (Verbeke, 2005; Verbeke and Vackier, 2004; Verdurme and Viaene, 2003). The approach used in this study is similar to that used by Verdurme and Viaene (2003), who developed an efficient and effective segmented communication strategy by identifying four consumers segments, based on their attitudes and beliefs, and then profiling these segments in terms of their socio-economic and demographic characteristics, knowledge, attitudes, information needs and purchase intentions.

The segmented and targeted approach applied in this campaign is also a deviation from previous sugar marketing campaigns, which communicated a single message to the entire population. The latter approach to market communication would ultimately result in a lower marketing expenditure per capita as the funding would have to be spread quite thin in trying to reach a much wider audience than a targeted campaign. Furthermore the findings show that there are groups of consumers that are specifically interested in health and lifestyle information; these consumers would not be interested in messages that promote the taste of sugar or sugar as an energy source. Other segments are indifferent to product information and no amount of marketing communication would be of interest to them or would influence their consumption behaviour. Given the above it appears that a general campaign would be less efficient and less effective than a segmented and targeted campaign.

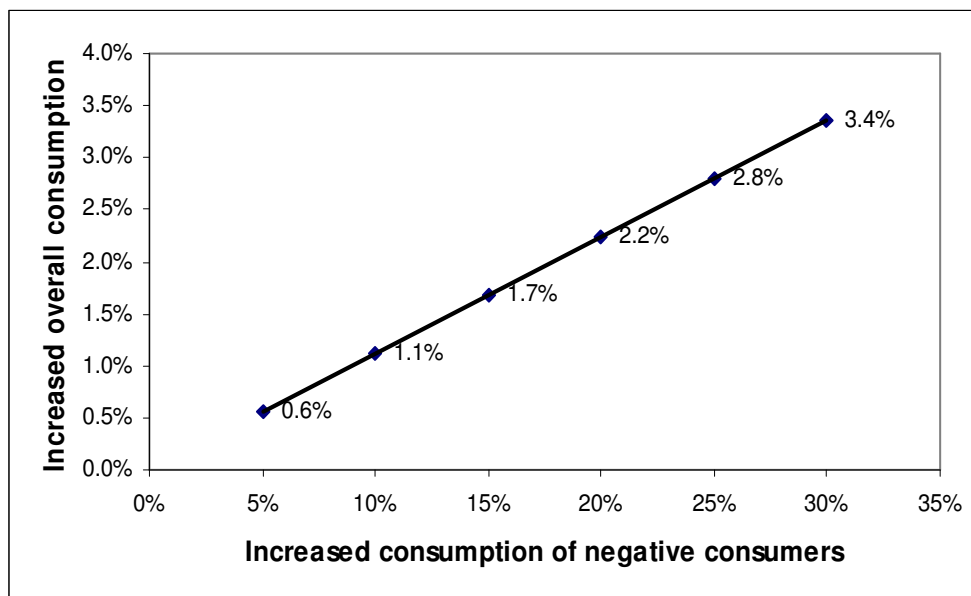
The literature also favours segmentation and target marketing over the 'one size fits all' approach to communication. Verbeke (2005) warns that in the effort to keep customers informed with product information, marketers should be cautioned not to provide them with too much or too detailed information, as this could result in consumer indifference or loss of confidence. Also careful consideration should be given to what aspect of the product to market, as

promoting the wrong product attribute in a marketing campaign will probably not achieve the desired effect on consumption (Drewnowski, 1997). According to the findings of Drewnowski (1997), it would not be advisable to direct a marketing campaign based on the taste aspect of sugar to informed rejectors and desirers, as both these segments have attitudes of concern relating to health and lifestyle information. These segments would probably not respond to any communication relating to taste. In developing a marketing campaign, it must also be noted that positive health information alone is insufficient to ensure improved consumption of a product (Moon, 2005).

According to Ambler (2003) “marketing is the sourcing and harvesting of inward cash flow, which can be maximized through vertical and horizontal expansion of the customer base”. In this case vertical expansion refers to the existing base of sugar users that can be positively influenced to increase their sugar consumption levels. In the case of sugar, vertical expansion would be the recommended approach and would involve a campaign directed at the negatively predisposed segments, *viz.* informed rejectors and desirers. A targeted campaign of this nature would also take into account ethical marketing considerations that would frown upon the indiscriminate promotion of a product, which could result in excessive usage and deterioration of the consumer’s health. The vertical approach is therefore favoured over a horizontal campaign, which would involve converting non-users of sugar into users. This would present a challenge, given that only 6% of the population are non-users of sugar and that these non-users occur in every segment. Therefore a campaign that is to be directed at non-users would require further research, as there could be a number of reasons for non-usage *e.g.* affordability and health concerns such as diabetes or obesity. It is because of the small size of the non-user grouping and the diversity of the non-user segments that horizontal expansion is not recommended. The recommendation for a vertical campaign and not a horizontal campaign is consistent with the findings of Moon *et al* (1999), which suggest that marketing strategies aimed at increasing consumption should be different from those designed to attract new customers.

Indications are that there is potential to influence negatively predisposed consumers to increase their daily sugar consumption by as much as 30% to achieve a 'balanced' sugar usage level, similar to that of neutrally predisposed consumers. Negatively predisposed consumers account for 17% of sugar users and 11% of the volume of table sugar consumed. It is this grouping of consumers that presents an opportunity for improved sugar consumption once their attitudes have been positively influenced. This implies that if all negatively predisposed consumers were positively influenced and changed their consumption behaviour to levels similar to that of neutrally predisposed consumers, then the overall direct sugar consumption would increase by 3.4%. However, it is unlikely that any marketing campaign would achieve a 100% success rate and the estimated sugar demand growth of 3.4% represents an optimistic scenario. Depending on the level of success of a marketing campaign, overall growth in sugar demand could vary between 0% and 3.4%, as illustrated in Figure 6.1.

Figure 6.1 – Targeting negatively predisposed consumers: impact on total sugar consumption



For example, Figure 6.1 shows that if a marketing campaign were to succeed in increasing the sugar consumption of negatively predisposed consumers by 10%, then this would result in an overall sugar consumption increase of 1.1%. Given that the sugar industry turnover is in the order of R6.5bn per annum, a 1.1% increase in sales represents increased earnings of R71.5m, or a 14:1

return on advertising expenditure, (assuming an annual advertising expenditure of R5m). This estimated return is significantly higher than the “typically small” generic advertising returns of 3:1 determined by Kinnucan and Myrland (1999).

The result of the analysis shows that the “indulgers” segment is neutrally predisposed to sugar and that the daily level of sugar consumption by this segment is similar to ‘balanced’ sugar usage. Given that the consumption level of this segment is already in line with SASA’s marketing campaign objective of ‘balanced sugar usage’, it appears wasteful and futile to target ‘indulgers’. The ideal groups to target are “informed rejectors” and “desirers”. The characteristics of these two specific segments make them receptive to product information and therefore ideal to target with communication efforts (Verbeke and Vackier, 2004). A point worth noting in targeting these negative segments is that this group of consumers will be most susceptible to negative information in the media. In particular, negative information tends to have a greater impact on overall evaluation than comparably extreme positive information (Ajzen, 2001; Moon, 2005). It may therefore prove to be quite a challenge to persuade these consumers to improve their sugar consumption. However, persuasion has been widely and effectively used in health promotion campaigns, and thus persuasion is considered a useful tool to change attitudes (McEachern and Willock, 2004). An effective communication strategy should be developed in order to improve consumer understanding of products, so that they can make informed choices. Communicating effectively implies knowing the consumer as well as possible, so as to provide very specific information through the appropriate channels, resulting in high impact, coverage and penetration (Verdurme and Viaene 2003).

As noted previously, the exclusion of children under the age of 16 years is a limitation of this study, as this age group constitutes 39% of the population. If children’s attitudes towards sugar and their sugar consumption behaviours are markedly different from that of the adults in their households, then the findings of this study will be skewed towards adults and will not be representative of the whole population. Furthermore, it may not be possible to

survey the attitudes and behaviour of children because of the legal restrictions in this regard. Given these constraints, the current survey of the adult population will have to suffice and perhaps the relevant information on children's sugar consumption could be obtained via special nutritional national studies that are conducted by government sources from time to time.

Confining this study to table sugar is a further limitation, as is evidenced by the existence of the "indulger" segment, (*"I don't believe sugar is good for me but I reward myself with something sweet"*). This segment is characterised by 'sweet reward', despite the negative belief about sugar. The analysis shows that the daily sugar usage of this segment is equivalent to that of the balanced segment, which is the targeted usage level in the sugar industry's marketing campaign. It would be interesting to determine the total sugar consumption of this group, which is inclined towards a sweet reward. The sugar equivalent of these 'sweet rewards' or sugar-containing products could easily cause this group to rank among heavy sugar users. Alternatively, these sweet rewards could be artificially sweetened and therefore may not involve sugar at all. This illustrates the need for more comprehensive and broader-based research in order to get the true picture of sugar consumption. The usage of table sugar alone cannot be taken in isolation.

6.2 Conclusion

This study has confirmed the direct relationship between attitudes towards sugar and sugar consumption behaviour. Furthermore segments of negatively predisposed consumers have been identified that are ideal to target with marketing communication. The negative media information relating to sugar, *viz.* obesity, diabetes, dental caries and hyperactivity, relate broadly to sugar as a product and not to any specific sugar brand. These issues therefore cannot be addressed with brand advertising and clearly fall within the scope of generic advertising. Research has also shown that 17% of all consumers are negatively predisposed to sugar. Considering that the characteristics of these negatively predisposed segments make them receptive to health and lifestyle information relating to sugar, it follows that a targeted generic marketing campaign, directed at this specific group of consumers, would be most

appropriate and effective for improving sugar consumption. Also the existence of marketing tracking tools to monitor the change in attitudinal segments on an ongoing basis also provides the facility to measure the effectiveness of the generic marketing investment.

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