

The Impact of Sugar-labelling on Consumer Purchase Intention for Canned Beverages

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Abstract

The increasing rates of worldwide obesity and diet-related diseases, plus the rising numbers of health conscious consumers has prompted policy makers, regulators and consumer guardians to adopt package labelling that is easier to understand and interpret. Research finds that consumer preference and purchase behaviour towards beverage products has changed drastically in the last decade (Beckett, 2018; Newhart, 2019). Consumers have become increasingly health conscious and aware of labels placed on the front-of-pack of food and beverage products. Due to this emphasis on front-of-pack labelling, and the increasing role of colour in drawing attention and breaking through clutter (Spence & Velasco, 2018; Spence, 2018), this research study investigates the impact of beverage sugar-labelling on the package perception (interpretation of labels) and the concomitant purchase intention of consumers. Further, this study will provide an enhanced and detailed understanding of consumers' behavioural intention towards sugar labels on beverages, presented on red and green colour strips on the front of canned sugar and no sugar drinks. Moreover, this research looks into how the different colour bands (red and green background colours) placed behind the word "sugar" or "no sugar" on the front-of-pack label of a canned beverage product, affects the purchase intent of consumers. This study hypothesises that the impacted perception is likely to affect consumer health perception and ultimately their purchase intention. The study also contributes to the current debate on sugar tax, health-conscious consumers and obesity. It further extends the existing literature on the use of colour on labels and helps marketers understand the implications of placing red and green colours behind labels on beverages.

Keywords: beverage sugar-labelling, colour theory, canned beverages, consumer perception, front-of-pack labelling, health-conscious consumers, purchase intention.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed

Date 21/10/2020

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Chapter 1: Introduction

1.1 Background

Sugar is an essential ingredient in our daily lives. Over centuries, sugar has been regarded as a symbol of royalty and more recently as an instrument of addiction and disease (Mucci, 2017). There are numerous benefits that have been associated with sugar. The preservation of food products has become possible with the help of anti-bacterial properties present in sugar (Daniels, n.d.). Sugar is found to be beneficial to an individual's brain health (Hosie, 2017). In theory, sugar is categorised into natural sugars that are found in dairy products, vegetables, fruits, etc and added sugars that are found in canned sugary drinks, ice cream, pastries and candy (Todd, 2019). Natural sugars present in foods provide health benefits of nutrients, water and fiber, while added sugars that are present in sugary beverages do not provide any positive health benefits (Hagensick, 2017). In the years between 1942-1980, researchers categorised sugar as a public health menace and claimed that consumption of sugar would lead to a greater risk of being diagnosed with diabetes, obesity and other diseases (Mucci, 2017). Recent studies undertaken in this field also confirm that consumption of added sugars can lead to obesity, heart disease, diabetes and some cancers (Corliss, 2014; Rippe & Angelopoulos, 2016). Sugar has also been regarded as more addictive than cocaine (Schaefer & Yasin, 2020).

This has paved the way for the manufacturing of healthier beverage alternatives that contain no sugar on the front-of-pack labels of beverages. In view of this recent trend in beverage consumption, the researcher aims to explore and understand whether “no sugar” beverage alternatives placed on the front-of-pack labels would change purchase intention of consumers as compared to the regular sugar label or no label present on the front-of-pack of sugar-sweetened beverages. More specifically, the researcher undertakes an online scenario experiment to test the above beverage labels on red and green background colour to further understand any interacting effects and the impact it has on the attention, attitude and purchase intention of consumers.



Figure 1. Proposed Experimental Treatment Conditions

1.1.2 Health Risks and Global Diet Change

Obesity is a major global public health hazard. The rate of obesity across the globe has nearly tripled since 1975 and around 4 million people die worldwide every year as a result of the health risks associated with obesity such as heart disease, diabetes, strokes and high blood pressure (World Bank, 2020; World Health Organisation, 2020). Moreover, obesity has also been ranked as one of the top three killers in most countries worldwide. One study finds that obesity is responsible for more global deaths than terrorist attacks, Alzheimer's and car crashes combined (Belluz, 2017). In addition, a ground-breaking study conducted by researchers at the Harvard School of Public Health (2012), find that the genetic risk of obesity is greater among individuals who regularly consume sugar-sweetened beverages. Ludwig et al. (2001) also finds that sugar-

sweetened beverages have a direct link to obesity and an increase in body mass index (BMI) among ethnically diverse school children in four Massachusetts public schools.

Apart from obesity, there are other health risks associated with sugar-sweetened beverages. A study conducted by Huang et al. (2014), find that sugar-sweetened beverages are associated with a higher risk of developing coronary heart disease and diabetes. Likewise, another study conducted by Ockhuysen (2019) in New Zealand, finds that sugary drinks are worse than foods that contain sugar because sugary drinks have a higher risk of causing deadly metabolic changes due to the quantity, concentration and speed at which the metabolic changes take place. This has resulted in a change in the purchase of sugar-sweetened beverages and a shift towards the consumption of alternative low or no sugar beverages.

1.1.3 *Alternative Beverage Consumption*

In view of the increased efforts by countries to reduce the consumption of sugary beverages, major beverage manufactures such as Coca-Cola™ and Pepsi™ have started introducing low or “no sugar” alternatives. For example, in 2015, Coca-Cola™ sold 39% of beverages in UK with low or no calories with an aim to become the first country in the world to sell 50% of their beverages with no or low calories (Coca-Cola Great Britain, 2015). This indicates a high consumer demand for low or no sugar beverages which is predicted to grow in the coming years. Similarly, Coca-Cola™ New Zealand has also introduced various low or no sugar alternatives such as Coca-Cola Stevia, Diet Coke and Coca-Cola no sugar, in line with their goal to reduce sugar intake by 20% by the year 2025 (Lim, 2020). Furthermore, it is reported that in a study conducted on 40 undergraduate students from the University of Sydney and University of New South Wales in Australia, the background colours such as red and green displayed on food and beverage products had an impact on the purchase decision of 85% of students that participated in this study (Hemphill, 1996). This is because consumers associate different colours with different meanings. For example, the colour red is associated with danger and warning while the colour green is associated with nature, health and the environment (Elliot & Maier, 2012; Hemphill, 1996). These associations further impact consumer purchase intention. In the beverage context, a study was conducted in two phases at a Massachusetts General Hospital cafeteria. In the first phase, participants were exposed to a colour-coded labelling intervention (red =unhealthy, yellow =less healthy, green = healthy) while in the second phase, participants were exposed to a choice architecture intervention where

the convenience and visibility of few green items were increased. The study finds that the beverage sales of unhealthy beverages displayed in red colour at the cafeteria reduced in both phases while the beverage sales of healthy beverages displayed in green colour significantly increased only in the first phase (Thorndike et al., 2014).

The introduction of these low or no sugar alternatives has also proved to be beneficial to beverage manufacturers. In 2019, Pepsi™'s stock rose to a great level, beating Coca-Cola™ and other major market averages by a huge margin due to a significant growth experienced in the no sugar product line of Pepsi™ (Mourdoukoutas, 2019). Coca-Cola™ (Australia) also reported an increase of 6.5% in total revenue in 2020 as a result of the solid growth in the Coca-Cola™ no sugar product line (Mickleboro, 2020). This indicates that consumers have increasingly started consuming beverages with low or no sugar labels displayed on the packaging of beverages which is in line with the focus of this research.

Even though there is recent increase in demand for low or no sugar beverages, there is little research undertaken in the area of no sugar labels displayed in combination with changes to the background colours. Further, there is a dearth of research into the corresponding impact of colour-sugar content labelling on the attitude and purchase intentions of consumers. Hence, the researcher aims to fill this research gap by investigating the impact of “no sugar” labels on the attitude and purchase intentions of consumers. This study here, specifically investigates how red and green background colours (to highlight the sugar content using a strip placed on the same product, same package design) in combination with the sugar labelling (i.e., sugar, no sugar and no label) has an impact on the purchase intentions of consumers.

1.1.4 Packaging, Labelling and Colour

In the past decade, countries mainly used the back-of-pack labels that were in grid or table form, to display nutritional information on food products. The nutrient information displayed on back-of-pack labels tend to be in larger type and gives less importance to the ingredients list that is displayed alongside the nutrient information. In order for consumers to interpret the nutrient and ingredient information on back-of-pack labels, a certain level of nutritional literacy is required (Scrinis & Parker, 2016). Researchers also find that consumers struggle to process complex information on back-of-pack labels (Graham & Jeffery, 2012; Grunert, Wills & Fernández-Celemín, 2010). In order to overcome this difficulty faced by consumers, front-of-pack nutritional labels

were introduced to help simplify the complex nutritional information found on the back of the pack (Ikonen, Sotgiu, Aydinli & Verlegh, 2020).

In recent years, an increase in worldwide obesity rates and a rise in the number of health conscious consumers has prompted many countries to adopt front-of-pack labelling that is easier to understand and interpret. Front-of-pack labelling overcomes the shortcomings of back-of-pack labelling by helping consumers identify healthier food options, making information easy to understand and more noticeable with the use of a simple format and prominent position on the front of the pack (Magnusson et al., 2010; Machín et al., 2018; Newman et al., 2014). Moreover, the use of colour on front-of-pack labels has further helped in making information more easily noticeable and understandable (Antúnez, Giménez, Maiche & Ares, 2015). Due to these limitations of back-of-pack labelling, the researcher focuses mainly on front-of-pack nutritional labelling in this research.

Background colour used on front-of-pack labels of food and beverage products could also have an impact on the way consumers perceive a product. Previous marketing literature has found that the “Traffic-light” labelling system that makes use of red, amber and green colours helped in drawing consumer attention and gives a better understanding of healthier food products as compared to monochromatic labels (Borgmeier & Westenhoefer, 2009; Kelly et al., 2009). In the UK, the use of the Traffic-light labelling on brands such as Dr. PepperTM, Coca-ColaTM and PoweradeTM has been introduced as a measure to reduce obesity rates (Campbell, 2014). In the retail environment, background colour has been found to have an impact on the emotional response of consumers (Cheng, Wu & Yen, 2009). Ikonen et al. (2020) states that the use of interpretative front-of-pack labels such as Traffic-light labels in various contexts helps in providing a quick glance of the nutritional information on labels by displaying a summary of the overall product healthiness into one indicator which in turn helps in drawing attention and making a favourable purchase decision. Research studies have mainly focused on the impact of interpretative front-of-pack labels in drawing consumer attention and influencing purchase intentions in the category of both food and beverage products (Acton, Vanderlee & Hammond, 2018; Ares et al., 2018; Volkova et al., 2014). However, to the best of the author’s knowledge, there is little significant research that has collectively focused on whether a no beverage label, no sugar label or a sugar label displayed with the help of front-of-pack background colours can have an impact on the consumer purchase intention of canned beverages. Therefore, the focus of

this research is to understand if the red and green background colours of a front of can panel/strip for a (generic) cola drink in combination with the sugar labelling (i.e., sugar, no sugar and no label) has a significant/low impact on the purchase intention of consumers.

1.2 Research Questions:

- *How does front of package sugar labelling influence shopper purchase intent of a carbonated sugary drink?*
- *More specifically, how does the presentation of the words “sugar” or “no sugar” in combination with the colour red or green influence consumers’ intent to purchase the beverage?*
- *How does attention and product involvement affect the relationship between sugar-labelling and purchase intention?*
- *Does sugar-labelling have an impact on the attitude and feelings of consumers while purchasing canned beverage products?*

1.3 Objective of Research:

- To study how red and green background colours placed on the front-of-pack of sugar, “no sugar” and no label canned beverages has an impact on the purchase intention of consumers as well as the attitude and feelings of consumers.
- To study how attention and product involvement of a canned beverage product has an impact on the purchase intention of canned beverage consumers.

1.4 Aim of Research:

The main aim of this research is to develop an understanding of front of package nutritional labelling, with a particular focus on background colour and the presence of the word(s) “sugar” or “no sugar” on sugar-sweetened beverage labels and the corresponding impact on consumers’ purchase intentions. The researcher also aims to get a clear understanding of the impact of attention and product involvement on the relationship between sugar-labelling and purchase intention.

1.5 Purpose of Study:

This area of research is interesting to the author, because the author has, since studying marketing as a discipline, desired to get a deeper understanding of the potential impact of background colours in the marketing of food and beverage products. This research would help

the author in gaining some marketing insights into understanding how consumers change their intention to purchase on the basis of a sugar or no sugar label present on the canned beverage. The purpose of this research is to help marketers and consumer psychologists understand how consumers perceive canned beverages in a store and this could help them market beverages effectively. This is important for marketers and consumer psychologists to capitalise on canned beverages that have a greater public demand and invest more time and resources in the development of such canned beverages. This research could also help policymakers determine whether background colour on canned beverages could serve as an alternative measure to reducing sugar intake and introducing a sugar tax on beverages.

1.6 Dissertation Structure:

The dissertation is structured as follows:

Chapter 1 consists of the introduction which briefly outlines the background and the objectives of the research.

Chapter 2 will consist of the literature review which gives a detailed understanding of sugar-labelling, background colour, attention, product involvement and their impact on attitude and consumer purchase intention. This chapter will also include the proposed hypotheses. In addition, this chapter includes a conceptual framework which clearly illustrates the proposed hypotheses.

Chapter 3 will include the research methodology which will outline the ethics approval, research design, experimental conditions, sample, methods of data collection, data cleaning and data analysis techniques which will be carried out with the help of an online survey.

Chapter 4 will discuss the several findings from the data analysis.

Chapter 5 will include the discussion chapter that will provide a deeper understanding of the findings that have been collected and analysed. This section will also discuss the managerial and theoretical implications of this study.

Chapter 6 will include the conclusion which will highlight the main aspects of the research and also include the limitations and areas for future research.

Chapter 2: Review of Literature

2.1 Introduction

This chapter provides an overview of the colour-in-context theory and past research studies undertaken on the impact of sugar-labelling and background colour on the purchase intention of consumers towards canned beverages. The attention and product involvement of front-of-pack sugar-labelling and its corresponding impact on purchase intention and consumer attitude are highlighted in the following chapter. The researcher also gives a brief insight into product and nutritional labelling in this chapter. The main aim of this chapter is to help the researcher to propose several hypotheses based on past literature and give a deeper understanding of the impact of sugar-labelling and background colour on the attention, product involvement and purchase intention of consumers.

2.2 Product Labelling

In today's marketplace, extrinsic cues, such as, product package labelling, and the reputation and perceived equity of a brand, can influence the decision-making of consumers. Mueller and Szolnoki (2010) find that brand evaluation and the style of package labelling on a product leads to a greater purchase intention and informed liking of the brand among consumers. The appearance of a product helps to make the product aesthetically pleasing, draw consumer attention and ease in the categorization of products (Creusen and Schoormans, 2005). Although, appearance and style of packaging is important in drawing attention towards the product, some research studies also find that sensory packaging for beverage products is important in creating a deeper experience for consumers to engage with the beverage packaging and to raise brand value by giving consumers more interaction with the brand (Mohan, 2013; Carter, 2013),

In the context of wines, as an example of beverage labelling, the label on wine bottles is found to be the main factor that underlines the perception of wine packaging and is the main attraction that draws consumer attention towards the wine bottle (Rocchi & Stefani, 2006). The use of eco-labels on wine bottles, as proxy for a trend towards healthy and ecologically sound choices, has also increased. A study conducted by Berghoef and Doods (2011), finds that 90% of wine consumers are willing to buy eco-labelled wine and around 65% of wine consumers do not mind paying a premium of \$0.51 or more. However, there are other extrinsic cues that could also influence consumer demand for wine. One study finds that expert reviews and the country-of-origin information on wine bottles has an impact on the perceived quality of wines (Aqueveque, 2008). There are certain consumers who give more

importance to the country-of-origin information on wine bottles compared to other consumers. Hollebeek, Jaeger, Brodie and Balemi (2007) find that consumers that are high in product and purchase involvement give greater importance to the country-of-origin information compared to those that are low in product and purchase involvement. These recent studies indicate the impact of extrinsic product cues on the attention and decision-making of consumers.

2.3 Nutritional Labelling

Nutritional labelling on beverages, especially soft drinks has become quite common in recent years and has had an impact on the purchase of sugar-sweetened beverages. Although some research studies have highlighted the benefits of nutritional labelling on beverage products, a number of studies find nutritional labelling in the form of low or no sugar claims to be misleading on beverage products. For example, a study conducted by Taillie, Wen Ng, Xue, Busey and Harding (2017), finds that it is not necessary for beverage products with a low/no-nutrient claim to offer better nutritional value as compared to beverage products without any claim. However, there is also research in support of nutritional labelling. A study conducted by Reis, Alcaire, Deliza and Ares (2017), finds that information displayed on a package can play a key role in consumer sensory, hedonic and well-being perception of sugar-related products. It also finds that beverage label information leads to an increase in consumer sensory and hedonic discrimination of the samples when the orange/pomegranate juice is sweetened with stevia and this can further influence the perception of consumers towards aspects of physical health and well-being. A similar study found that hedonic claims among low hedonic sensitivity consumers towards sugar reduction had an increased liking as compared to the most sensitive consumers (Oliveira, Ares & Deliza, 2018). In general, nutritional labelling in the form of health claims leads to an increased perception of healthiness among consumers, such that this leads to an increase in consumer purchase intention (Lähteenmäki, 2013). Research also finds that consumers may significantly switch from unhealthy food and beverage consumption to the consumption of healthy food and beverage consumption in the presence of nutrition labels (Zarkin & Anderson, 1992). These recent studies have begun to provide an insight into how nutritional labelling on beverage products can have an impact on consumer perception. In the next section, the researcher gives further insight into the impact of sugar-labelling on the attention and perceived healthiness of consumers.

2.4 Purchase Intention

The inclusion of sugar labelling on a product, is found to have a direct impact on a consumer's intention to purchase a product. According to a study conducted by Bollard et al. (2016) on sugar-sweetened beverages in New Zealand, the likelihood of participants purchasing sugar-sweetened beverages reduced significantly when both graphic and text warning labels are present on the package; as compared to when no warning label is present on sugar-sweetened beverages. Claims made on front-of-pack labels of food and beverages are also found to change consumers' perception towards food and beverage products. A study conducted by Burton, Wang and Worsley (2015), finds that low fat, sugar and salt (LFSS) food products are more preferred by over half of the study respondents. Furthermore, this research concludes that low or no sugar claims displayed on front-of-pack food and beverage labels can have an impact on the preference of consumers, such that there is a significant reduction in the consumption of high fat, sugar and salt food products.

The purchase of sugar-sweetened beverages has greatly reduced with the introduction of the sugar tax. According to a study conducted by Colchero, Molina and Lopez (2017) in Mexico, after the introduction of the sugar tax in 2014, there was a 6.3% drop in purchases of sugar-sweetened beverages and a 16.2% rise in the purchase of water among children and lower-income households. Claro, Levy, Popkin and Monteiro (2012) also find that the consumption of sugar-sweetened beverages in Brazil dropped by 0.85% when the price of sugar-sweetened beverages increased by 1%. The sugar tax has led to a rise in the purchase of non-taxed sugary drinks. A study finds that the sugar tax in France led to a 6.7% reduction in the purchase of sugar-sweetened beverages and a subsequent rise in the demand for non-taxed juices that are considered as a product substitute (European Competitiveness and Sustainable Industrial Policy Consortium, 2014). On the contrary, studies also find that a decrease in purchases of sugar-sweetened beverages does not result in an increased consumption of other non-taxed beverages such as fruit juices (Finkelstein et al., 2013; Waterlander, Mhurchu & Steenhuis, 2014).

The age and gender of consumers can also have an impact on the purchase of sugary drinks. There is a growing concern regarding the high consumption of sugary drinks among adolescents worldwide. Larson, DeWolfe, Story and Neumark-Sztainer (2014), find that a weekly consumption of energy and sports drinks by 14.7% of adolescents significantly resulted in a higher consumption of fruit juices and other sugar-sweetened beverages. During childhood, consumers tend to consume more fruit juices and this consumption gradually reduces and gets replaced with the consumption of more sugar-sweetened beverages during

teenage years (Wuenstel et al., as cited in Wądołowska, 2010). According to a study conducted by Wuenstel et al. (2015) on Polish girls and boys in the age group of 13-19 years, boys consumed sugary beverages more frequently while girls consumed fruit juices more frequently than boys. Wuenstel et al. (2015) also finds that consumption of fruit juices and sugary beverages among girls and boys gradually reduces with age. Bjelland et al. (2011) finds that the consumption of sugar-sweetened beverages among school girls is significantly lower during the weekend days, while no differences are found in consumption among school boys in Norway. In Australia, girls in the age group of 12-18 years consumed fewer energy drinks than same-age boys (Costa, Hayley & Miller, 2016).

The purchase of sugary drinks varies across cultures. A study finds that American university students consumed less sugar-sweetened beverages as compared to Belgian university students (Deliens, Clarys, Bourdeaudhuij & Deforche, 2015). A similar global study conducted by Popkin and Hawkes (2016), finds that Chile was the highest consumer of sugar-sweetened beverages in 2009-2014, followed by Mexico in second place, and America in third place. While another study conducted in the supermarkets of four countries namely New Zealand, Australia, UK and Canada, finds that supermarket beverage consumers in New Zealand consumed 52% of added sugar drinks as compared to 42.8% in Canada and 42.2% in Australia, thereby making New Zealand the highest consumer of sugary drinks compared to these countries (Chepulis et al., 2018; Nyika, 2018). Countries like Singapore have gone one step further and banned the ads of all sugary drinks in 2019, in an effort to prevent diabetes. However, Coca-Cola Singapore had embraced this move by saying that it would launch more no sugar alternatives which would have helped in regaining lost consumers and raising their beverage sales (Cheung, 2019). These studies reveal that consumption of sugary drinks is still high in some countries, and there is a need for a shift in consumption patterns in these countries due to the health benefits associated with low or no sugar beverages.

The prevalence of new beverages in the market has also led to hyper competition. According to Fiegenbaum, Thomas and Tang (2001), hyper competition can be defined as “a lens developed for a strategy perspective that focuses on particular aspects of competition and rivalry, including the dynamics of strategic manoeuvring, competences and capabilities, speed, timing and differentiation.” (p. 266). In the energy drinks sector, Red Bull™ is found to have a competitive advantage over other energy drinks such as Monster™, Rockstar™ and Amp™ because of Red Bull’s sweet and unique taste, appealing brand image with sports that are extreme and also because of their successful online marketing strategy (Dudovskiy, 2016). According to Cole (2020), Red Bull™ has various social media accounts such as their Red

Bull Music Academy accounts, Red Bull Surfing accounts and their own sports team Aston Martin Red Bull Racing account. Red Bull also partners with various athletes to post content on their YouTube channel and have also launched an organic drinks known as Red Bull Organics drinks in 2016 which is a 100% natural soft drink with a view to stay ahead in the competition.

In terms of soft drinks, Pepsi is found to have a competitive advantage over Coca-ColaTM because of PepsiTM diversifying into the snack and water business (Mourdoukoutas, 2019). However, according to Wiener-Bronner (2018), Pepsi lost their competitive advantage over Coca-ColaTM as they started focusing more on their snacks business as compared to their cola business. During this period, Coca-ColaTM took the lead by introducing more healthier options such as Diet Coke in the market, thereby gaining a competitive advantage over PepsiTM. One study conducted by Bailey (2014), finds that both Coca-Cola and Pepsi have a competitive advantage over other beverage brands such as Dr.PepperTM, MonsterTM and CottTM because of their strong international presence, strong brand portfolios and heavy investment on advertising and marketing campaigns. This indicates that both Coca-ColaTM and PepsiTM continue to dominate the beverage market.

2.4.1 The Role of Sugar Labelling on Purchase Intention

The purchase intention of consumers towards canned sugary drinks has changed drastically in the last decade. In order to understand this change in beverage consumption, it is important to understand past beverage consumption patterns. In 1977-2001, a major trend was the consumption of unhealthy beverages such as sugar-sweetened beverages as compared to the consumption of healthy beverages such as milk and fruit juices (Nielsen & Popkin, 2004; Rajeshwari, Yang, Nicklas & Berenson, 2005). A study conducted by French, Lin and Guthrie (2003), finds that soft drink consumption among American youth in 1977-1978 and 1994-1998 increased by nearly 48%. Nielsen and Popkin (2004), also finds that in 1977-2001, sugar-sweetened beverage consumption increased by 135% and the consumption of milk reduced by 38%. Likewise, Bowman (2002), finds that from the late 1970s to the mid-1990s, consumption of sodas significantly doubled whereas consumption of milk reduced by 36%. More affordable prices of sugary beverages in various low and middle income countries was the main reason for this increased consumption of sugary beverages (Blecher, Liber, Drope, Nguyen & Stoklosa, 2017).

However, this rapid rise in the consumption of sugar-sweetened beverages also led to consumers becoming obese and overweight. Several researchers raised their concerns about

how the rapid consumption of sugar-sweetened beverages in the past would result in an obesity epidemic in the future (Bray, Nielsen & Popkin, 2004; French et al., 2003; Ludwig, Peterson & Gortmaker, 2001). Health consciousness among younger consumers also increased tremendously in recent years (Gustafson, 2017). As a result, beverage patterns and trends began to change in the early 2000s. There was a reverse trend in beverage consumption. Consumers became more health conscious and began choosing more healthy beverages over unhealthy beverages. Kit, Fakhouri, Park, Nielsen and Ogden (2013), find that consumption of sugar-sweetened beverages over a 12 year period from 1999 to 2000 and between 2009 to 2010 across age groups, sex and ethnicity groups significantly reduced. Likewise, Duffey and Popkin (2007) in USA, also find that even though consumption of sugar-sweetened beverages were high between 1965 and 2002, there was a sudden decline in beverage consumption after 2002 as a result of the rise in diet sugar beverages. This could be due to the public becoming more aware and educated through government guidelines and initiatives about the benefits of having a healthy diet (Fogli-Cawley, 2007; Benjamin, 2010; White House Task Force on Childhood Obesity Report, 2010).

This has led to an increased popularity for low or no sugar beverages in recent years. “No sugar” beverages are the most popular choice among teenagers and adults across the world, having a global net worth of 392.6 billion dollars in 2016. Burrell (2019), suggests that this is expected to reach \$2.2 billion by the year 2020, with most of the market share being concentrated in Asia, Europe and North America (Menke, 2019). The popularity of no sugar beverages also has a positive impact on sales. In Australia, the sales of Coca-Cola no sugar significantly increased in the second half of 2018 and has become a preferred beverage choice for most of the Classic Coke drinkers (Coca-Cola No Sugar shows strong sales volume in Australia, 2019). The introduction of the sugar tax has further increased the sales of no sugar beverages. In UK, the sales of Coca-ColaTM zero sugar and Pepsi sugar-free max rose to 50% and 17% respectively in 2019 whereas the sales of the Classic Coca-ColaTM and PepsiTM with full sugar dropped (Fry & Winkler, 2019). In USA as well, the sales of sugar-sweetened beverages dropped significantly in 2019 after the sugar tax was introduced while there was a substantial increase in the consumption of no sugar beverages (Dalli, 2019).

Research scholars have also found an upward trend in the consumption of no sugar beverages. A study conducted by Patterson, Sadler and Cooper (2012) finds that sugar-sweetened beverages that have a claim for no added sugars are more preferred by consumers as compared to a reduced sugar claim, because not adding sugar to a beverage is considered as a more natural process than taking something out. This finding is relevant to this current study

as it shows that “no sugar” labelled beverages are preferred by consumers and since earlier studies by Carneiro et al. (2005) and Wang (2010) find that consumer preference is closely associated with purchase intention, this would indicate that a higher consumer preference would lead to a higher purchase intention.

The “no sugar” label placed on beverages has a direct impact on the purchase intention of consumers. Hartigan, Patton-Ku, Fidler and Boutelle (2016) find a 38% increase in the purchase of sugar-sweetened beverages with a no sugar label (green labelled beverages) and a 32% decrease in the purchase of sugar-sweetened beverages with a sugar label (red labelled beverages). A survey conducted in 2016 finds that roughly 60% of consumers are conscious of their sugar intake and around 25% of consumers are more likely to purchase beverages with a no sugar label, as they consider such beverages to be healthy (Nichols, 2019). A “no sugar” label acts as a health warning on sugary beverages and this is a main reason for the increase in consumer purchases of no sugar labelled beverages. Grummon and Hall (2020) find that consumer purchase intention of sugar-sweetened beverages is higher when a “no sugar label” is displayed on a canned beverage. This is because consumers are more likely to perceive a no sugar label displayed on a beverage product to be healthy as compared to a beverage without a “no sugar” label. As consumers perceive a no sugar label beverage as healthy, this leads to a positive attitude towards the beverage which in turn leads to a higher purchase intention. For these reasons, there is an increase in the consumer purchase intention of no sugar beverages. Based on this discussion, the researcher proposes the following hypothesis:

H1: “No sugar” (vs. “sugar” and “no label”) front-of-pack label on beverages leads to higher consumer purchase intentions.

2.5 Consumer Attitude

The attitude and feelings of consumers plays a key role in their decision-making. Guerrero, Colomer, Guàrdia, Xicola and Clotet (2000) find that consumer attitude towards store brands is an important predictor of behavioural intention. Likewise, another study finds that the purchasing behaviour of young Italian students is influenced by a safety-oriented attitude towards food (Savelli, Murmura, Liberatore, Casolani & Bravi, 2019). However, these studies do not indicate the potential impact of labelling on consumer attitude and feelings. For example, a study on the impact of food labels on the purchasing behaviour of Malaysian consumers, finds that consumers are significantly influenced by food labelling which in turn has a positive impact on purchase intention (Latiff, Rezai, Mohamed & Ayob,

2016). Verbeke and Viaene (1999) also note that consumer attitude towards beef is influenced by the quality of beef labels. Although these studies indicate the impact of food labelling on consumer attitude and feelings, the impact of beverage labelling on consumer attitude and feelings is not discussed.

The labelling on beverage products has a significant impact on consumer attitude and feelings. Rebouças, Rodrigues and Freitas (2019) find that consumer attitude was strongly influenced by the beverage label information and nutritional claims which in turn led to a greater consumer purchase intention. Likewise, Ferrarezi, Minim, Dos Santos and Monteiro (2013) find that beverage label information has a strong influence on the attitude of consumers towards ready to drink orange juice and nectar. A unique study conducted by Deliza, Rosenthal and Silva (2003) on the attitude of consumers towards fruit juice label information on non-conventional technology, finds that when consumers are provided information in the form of a beverage label regarding the technology being used for beverage production, there is a positive impact on the attitude of consumers towards the beverage. These studies have developed marketers' understanding of and insight into the impact of beverage labelling on the consumer attitude and buying behaviour. This study extends marketers' understanding by investigating the following hypothesis:

H2: The “no sugar” (vs. “sugar” and “no label”) on the front-of-pack label of a canned beverage leads to a positive attitude towards the canned beverage product.

2.6 Background Colour

The background colour displayed along with the sugar-labelling on beverages can have a significant impact on how consumers perceive a product. The thoughts, feelings and behaviours of consumers can be influenced by colour used on the product package (Labrecque, Patrick & Milne, 2013). Changes made to the background colour of a product can also alter the taste of a product. According to a study conducted by Spence (2018), consumers taking part in a taste test found the flavour of a can of 7-Up to be more lemony, when the outside of a 7-Up can had 15% more yellow colour added to it (as cited in Samuel, 2010). Furthermore, this change in background colour also has a significant impact on consumer expectations of a beverage. Labrecque et al. (2013), noted that the clear look of the Crystal Pepsi beverage leads to consumers expecting a different taste as compared to the regular Pepsi™. However, after tasting the beverage, consumers realised that the taste is almost identical to the regular Pepsi™. The taste of the beverage could in turn have an impact on consumer purchase intention.

The gradation or hue of colour can further affect a consumer's perception and is determined by long and short wavelengths. Long wavelengths are associated with colours that are warm such as red and orange whereas shorter wavelengths are associated with cool colours such as blue and violet (Babin, Hardesty, & Suter, 2003). Longer wavelength colours such as red and orange are found to impair performance on complex tasks in comparison with shorter wavelength colours such as green and blue (Elliot, Maier, Moller, Friedman & Meinhardt, 2007). The red, orange and yellow colours lead to arousal and excitement while the green colour is associated with nature, which in turn creates a feeling of security (Labrecque & Milne, 2012). Babin et al. 2003 and Wilson (1966), finds that that colours that belong to more extreme wavelengths such as red and yellow are associated with danger and evoke more activation as compared to colours from shorter wavelengths such as green, blue and violet. These findings provide support for the use of the Traffic-light labelling format on front-of-pack labels of food and beverage products.

In the Traffic-light labelling system, the colour red indicates that the product is unhealthy, amber indicates that the product is neither healthy nor unhealthy and green indicates that the product is healthy to consume (Mackrell, 2018). The colour red in the Traffic-light labelling system is found to act as a subtle stop sign for consumers which in turn is found to result in a drop in the consumption of beverage products (Genschow, Reutner, & Wänke, 2012). In the next section, the researcher with the help of the colour-in-context theory shall discuss how colour has a much bigger role to play in the beverage choice of consumers. The researcher shall also discuss how background colour has an impact on the sugar-labelling of beverage products.

2.6.1 Colour-in-context theory

The colour-in context theory is a theory proposed by Elliot and Maier in 2012. In this world of perception, colour is a stimuli that is found everywhere (Lichtenfeld, Elliot, Maier & Pekrun, 2012). This theory explains and predicts the relationship between colour and behaviour, cognition and affect (Elliot & Maier, 2012). In other words, this theory states that the way colour is perceived in the physical and psychological contexts has an influence on its meaning and responses to it (Elliot, 2015). Furthermore, this theory states that colours such as red and yellow are associated with danger and caution whereas the colour green is associated with success and growth (Elliot & Maier, 2012). The most basic premise of the colour-in-context theory is that colour carries different meanings in different contexts and it is not just about aesthetics (Elliot & Maier, 2012). For example, a red shirt may increase the

attractiveness of a person but may not enhance the competence of a person as red is associated with failure (Elliot, 2015).

In terms of aesthetics, when the colour blue is observed on a pair of dress pants, it looks more attractive, whereas the colour blue seems less attractive when it is observed on a pair of dress shoes (Elliot & Maier, 2012). In the intellectual achievement context, the colour red impairs performance and invokes an avoidance motivation due to the association of the colour red with danger (Elliot et al., 2007). Similarly, another study conducted by Elliot et al. 2007 on the colour red in achievement contexts, finds that participants turned their body away from the cover of an IQ test when the colour red was shown as compared to when the colour green or grey was shown to them. This is because red in achievement contexts is associated with the psychologically danger of failure.

On the other hand, the colour green carries the meaning of success and is closely associated with nature (Elliot & Maier, 2012). The colour green also helps in relieving stress and is considered as more healthy (O'Connor, 2011; Schuldt, 2013). A study conducted by Lichtenfeld et al. (2012), finds that participants who see the colour green before a creativity task, displayed higher levels of creativity as compared to participants who viewed the colour red, blue and grey. In terms of packaging, the colour green is often used in the packaging of ecological products either to communicate how the product is natural and healthy or to greenwash consumers into buying the product. Greenwashing refers to misguiding and misleading consumers regarding the environmental benefits of a food and beverage product (Parguel, Benoît-Moreau & Larceneux, 2011). On the other hand, the colour red is used to draw the involuntary attention of consumers towards the product (Kauppinen-Räsänen, 2014). The colour green is also regarded as the best choice when marketers want to make a claim about the health benefits that are associated with the product (Clark, 2016).

The red and green colours also have different meanings in different cultures. In America, the colour green denotes danger and envy whereas in Japan and China, the colour green denotes good taste, happiness, love and adventure (Hupka, Zaleski, Otto, Reidl & Tarabrina, 1997; Jacobs, Keown, Worthley & Ghymn, 1991). Similarly, in Germany, USA, Mexico, Russia and Poland, the colour red is associated with jealousy and anger while in China, the colour red is regarded as lucky (Schmitt, 1995; Jacobs et al., 1991). In order to market products effectively in different countries, it is important to understand the meaning that is associated with different colours. According to Jacobs et al. (1991), marketers in Korea, Japan and America use the colour green to sell vegetable cans as the colour green carries the meaning of purity, trustworthiness and good-taste in these countries. On the other hand, the

colour red in China symbolizes happiness and is used to market lingerie, shoes and belts (Kommonen, 2011). Brands also change the colour of their websites in order to adapt to the local culture. In Europe, McDonald's changed the colour of their website from the traditional red to the colour green in an effort to develop a more environment friendly image of the brand (An international guide to the use of colour in marketing and advertising, n.d.). Similarly, in India, the website background colour of McDonald's is changed to a saturated red colour because the colour red is regarded as auspicious in India (How Translating Colors Across Cultures Can Help You Make a Positive Impact, 2020). These studies provide an insight into the impact of red and green background colours when applied in different cultural contexts.

2.6.2 Sugar Labelling and Background Colour

Background colour can change the consumer perception towards a product. The colour red used in the Traffic-light labelling system has a positive association with danger and various phrases associated with danger such as "code red", "red flag" and "red tape" whereas the colour green is positively associated with nature and the meaning of "go" in traffic-lights (Moller, Elliot & Maier, 2009). Schuldt (2013) states that the "go" meaning of the colour green may activate and shape the perception of hungry consumers in a way that will make foods and beverages that are poor in nutrition to also seem like healthy options. This is because the colour green is considered as less arousing, more agreeable and focused on growth and success as compared to the colour red that is associated with "stop eating bad food" and "stop and think" (Caivano, 1999; Elliot et al., 2009; Moller, Elliot & Maier 2009; Koenigstorfer, Groeppel-Klein & Kamm, 2014; Wilson 1966). The use of specific background colours on front-of-pack labels can also alter the perception of consumers towards the product. In terms of shopping behaviour, research finds that the colour red reduces browsing and search, increases purchase postponement and reduces purchase incidence. Similarly, in terms of willingness-to-pay in auctions, the colour red increases arousal and aggression which in turn leads to an increase in auction bid jumps but less negotiation offers (Bagchi & Cheema, 2013).

There have been several studies undertaken on how red and green background colours on food products can have an impact on purchase intentions. A study conducted by Olstad, Vermeer, McCargar, Prowse and Raine (2015) on menu items at recreation and sports facilities, finds that green labelled items are purchased more as compared to red labelled items. Thorndike et al. (2012) also finds similar results in a large hospital cafeteria, where the sale of red food items were 24.9% and the sale of green food items were 42.2%, thereby indicating a greater number of green food items sold. Even in the cultural context, a study

conducted by Chen et al. (2017) in a Taiwan worksite, finds that buffet customers were more likely to eat meals with a green traffic-light label than meals with a red traffic-light label. Levy et al. (2012), finds that black, Latino and white races reduced their consumption of red labelled food items and increased their consumption of green labelled food items. These findings indicate that a green coloured label is considered as a more healthy and preferred choice as compared to a red coloured label.

Background colour has a major impact on the purchase intention of beverage consumers. As mentioned earlier, the colour red acts as a stop and warning signal while the colour green acts as a healthy and green signal (Moller, Elliot & Maier, 2009). Moreover, this meaning that is associated to red and green background colours has an impact on the purchase intention of consumers. The use of the colour red (vs. green) in combination with a “sugar” label leads to a significant reduction in the purchase intention of canned beverage consumers. According to McGreevey (2014), there was a 39% drop in the consumption of red colour beverages with a “sugar” label and a 10% increase in the consumption of green colour beverages with a “sugar” label among employees and customers at the Massachusetts General Hospital. Likewise, Franckle, Levy, Macias-Navarro, Rimm and Thorndike (2018), find that participants purchased less sugar-sweetened beverages when the red colour was present on the front-of-pack. In a field study conducted at two Belgian schools using the traffic-light coding, where the assortment of healthy (green) drinks and relatively healthy drinks (amber) were tripled and the assortment of sugar-sweetened (red) drinks were kept constant, it revealed that the consumption of red labelled sugar-sweetened beverages dropped by 30 points while the consumption of green labelled sugar-sweetened beverages significantly increased (Stamos, Lange and Dewitte, 2019). These findings are relevant to this current study as it shows the impact of background colours on product packaging on consumer purchase intention. More specifically, these studies indicate a significant reduction in the purchase of sugar labelled beverages in the presence of red colour as compared to the green colour on front-of-pack labels. A sugar label in combination with the colour red has a negative impact on consumer attitude and when displayed with the colour red which is perceived as a stop signal, there is a higher possibility of a negative impact on purchase intention. Based on this discussion, the researcher proposes the following hypothesis:

H3: “Sugar” (vs. “no sugar” and “no label”) front of package label on beverages has a negative impact on purchase intent, when moderated by red (vs. green) background colour.

2.7 Sugar Labelling

2.7.1 Sugar Labelling and Attention

The impact of sugar-labelling on consumer attention has been greatly researched in recent years. A survey conducted in Switzerland by Hagmann, Siegrist and Hartmann (2018) finds that front-of-pack labels that highlight the sugar content on products are supported the most as an intervention to reduce sugar intake. On the contrary, Neuhofer et al. (2020) and Taub-Dix (2020), finds that even though the updated Nutrition Facts Label that displays new nutrients such as potassium and vitamin A, C and D with the use of bolder and larger letters to draw greater consumer attention, there is no change in the beverage choice of consumers.

Prior research studies find that text and graphic (symbols, icons, pictorial) warning labels placed on food and beverage products have an impact on consumer attention. A study conducted by Donnelly, Zatz, Svirsky and John (2018) find that graphic warning labels presented below the brand logo of beverages, when compared to text warning labels, leads to greater attention towards sugary drinks which in turn leads to a lower purchase of sugary drinks and a higher purchase of water. Popova, Nonnemaker, Taylor, Bradfield and Kim (2019) also finds that the attention of consumers towards the marketing elements of a sugar-sweetened beverage greatly reduces as a result of the text warning label. However, an online survey conducted by Bollard, Maubach, Walker, & Mhurchu (2016), finds that both text and graphic warning labels displayed on the front of a sugar-sweetened beverage canned beverage helps in reducing the interest of young consumers towards sugary drinks which in turn reduces the purchase of sugar-sweetened beverages. These recent studies give an insight into how text and graphic warning beverage labels have an impact on consumer attention.

Packaging colour is an important attribute that can draw more consumer attention to front-of-pack labels. Bialkova et al. (2014), finds that colour-coded and GDA monochrome labels helps in drawing greater attention towards products and increases the likelihood of consumers selecting those products. More specifically, the red and green colours are found to have a significant impact on consumer attention. One study states that warm colours such as red and yellow are useful in capturing the involuntary attention of consumers whereas the colour green is associated with feelings of comfort, happiness, relaxation and peace (Kauppinen-Räsänen & Luomala, 2010; Kaya & Epps, 2004). Pravossoudovitch, Cury, Young and Elliot (2014), also finds that there is an implicit association between the colour red and danger. On the other hand, the colour green is found to have a positive association with health, organic food and nature.

The green colour is also found to trigger an approach motivation whereas the colour red is found to trigger an avoidance motivation (Elliot & Maier, 2007; Elliot, Maier & Binser, 2009; Mehta & Zhu, 2009; Schuldt, 2013). Buechner, Maier, Lichtenfeld and Schwarz (2014), examined the impact of colour and emotion on attention and finds that the colour red leads to an increase in attentional engagement reward. Another study conducted by Kuniecki, Pilarczyk and Wichary (2015), that uses the colour-in-context theory by Elliot and Maier (2012) which proposes that colour carries meaning and has a direct influence on attention, states that the colour red facilitates motor responses and captures the attention in both positive and negative conditions of the events-related potentials (ERP) study.

The attention of modern consumers towards the “sugar” label could be linked to the evolutionary past of consumers. In ancient times, the survival of humans greatly relied on the consumption of sugar in their diets because sugar resulted in the storage of fat and energy among ancient humans, which was necessary for survival (Spector, 2014). During these ancient times, there was a scarcity of food and due to this, sugar was not regarded as a health risk but more as a necessity to hold onto fat and survive longer (Garnas, 2014; Spector, 2014). However, in modern times, an abundance of sugary foods and beverages has created a health risk and has made it a cause for obesity (Lieberman, 2012). This has made consumers more conscious about consuming beverages with a “sugar” label and this could further indicate a decrease in the consumption of sugar labelled beverages. On the whole, these recent studies give a clear insight into the impact of sugar-labelling on the attention of consumers. Moreover, the researcher also explains how the red (vs. green) colour along with a “sugar” label draws the attention of consumers in different ways. Based on this prior literature review and the analysis/interpretation here, the researcher proposes the following hypothesis:

H4: Background colour red (vs. green) moderates the relationship between sugar labelling (“sugar”, “no sugar”, “no label”) on attention which leads to purchase intent. More specifically, participants exposed to the “sugar” (vs. “no sugar”, “no label”) label will have greater purchase intent, when greater attention is paid and the background colour is red.

2.8 Product Involvement

The involvement of consumers with food and beverage products often impacts their purchase intention. Product involvement can be defined as “a person's perceived relevance of [an] object based on inherent needs, values, and interests” (Zaichkowsky, 1985, p. 342). Product involvement can be classified into high and low involvement which in turn determines a consumers’ intention to purchase a product (Zaichkowsky, 1985). Tsotsou

(2006) finds that product involvement has an indirect effect on consumer purchase intention through perceived product quality and overall consumer satisfaction. In terms of low and high product involvement, a study conducted on car owners after their car purchase by Richins and Bloch (1991) finds that car owners with high product involvement were more satisfied with their car purchase as compared to car owners that had low product involvement. However, two months after purchasing the car, there was a significant increase in the satisfaction of low involvement car owners as compared to car owners with high product involvement. This study shows that overall satisfaction level changes and differs over time among consumers with low and high product involvement.

Consumer food and beverage involvement of consumers has a significant impact on the purchase intention of consumers. In the food context, a study involving 352 American university students, finds that product involvement plays a significant role in consumers' willingness to pay for local food products at the university canteen (Campbell, DiPietro & Remar, 2014). Similarly, Tarkiainen and Sundqvist, (2009), find that product involvement acts as a moderator in the relationship between purchase frequency and attitude towards purchasing organic food. Moreover, product involvement is important to ensure hedonic value and sign value leads to shopping enjoyment and usage frequency (Juhl & Poulsen, 2000). In the beverage context, the level of involvement of wine consumers has a significant positive effect on the frequency and quantity of wine consumption (Bruwer & Buller, 2013). A similar study conducted by Hollebeek et al. (2007) on 187 New Zealand wine consumers, find that high product involvement consumers purchased more wine as compared to consumers who are low in product involvement. Colour plays an important role in the purchase intention of consumers. According to Bagchi and Cheema (2013), the colour red leads to a higher willingness to pay as it gives rise to arousal among consumers. Another study shows that red colour is commonly used to increase consumer purchase intentions at the time of clearance sales (Sean, 2015). These findings indicate that high (vs. low) product involvement displayed with the colour red (vs. green) leads to an increase in excitement among consumers which could in turn affect their purchase intentions. Based on the above discussion, the researcher hypothesizes that:

H5: The mediating effect of “sugar” (vs. “no sugar”, “no label”) front of package label on beverage purchase intent through high (vs. low) product involvement is moderated by red (vs. green) background colour, such that this effect is stronger for products with red (vs. green) background colour.

2.9 Conceptual Framework

The conceptual framework illustrated below as figure 1 provides a visual representation of the conceptual relationships and several hypotheses proposed in this research. The framework proposes that there will be a main effect, in that, consumers exposed to sugar labelling on a canned beverage will increase purchase intention (H1) and more positive consumer attitude (H2). It also shows that the relationship between sugar labelling and purchase intention will be moderated by background colour (H3). A moderated mediation effect of the red (vs. green) background colour on sugar labelling of a canned beverage leads to an increase in consumer attention and in turn increase purchase intention (H4). Similarly, the moderated mediating role that red (vs. green) background colour displayed on sugar labelling of a canned beverage in increasing purchase intention among “high” (vs. “low”) product involvement (H5).

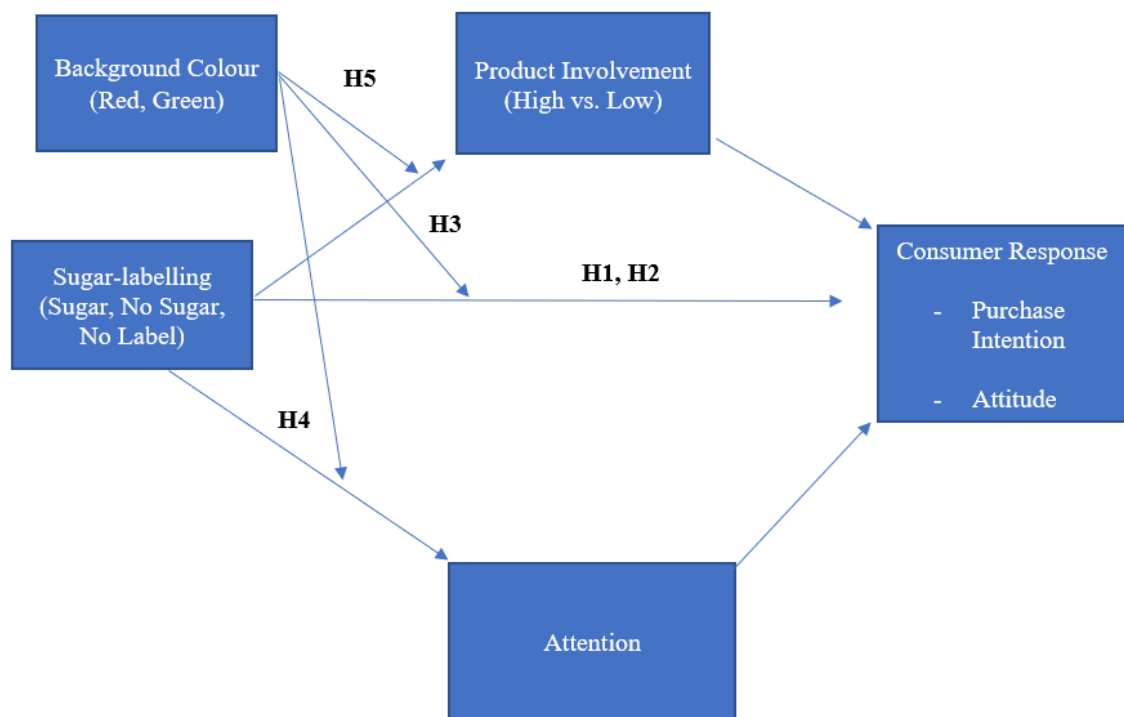


Figure 2. Conceptual Framework

3.0 Summary

This chapter provided a detailed overview of the past research studies undertaken in the field of sugar-labelling, attention, purchase intention, attitude and background colour. In addition, the colour-in-context has also been discussed in great detail which has helped in the formulation of the various hypotheses. The conceptual framework was helpful in providing a clear visual description of the proposed hypotheses. The research methodology followed in testing these proposed hypotheses will be discussed in chapter four.

CHAPTER 3: Research Methodology

3.1 Introduction

This chapter explains the research methodology adopted to test the proposed hypotheses based on past literature in the field of sugar-labelling, attention, product involvement, consumer attitude, background colour and purchase intention. The following chapter will cover the ethics approval, research design, experimental conditions, sample, methods of data collection, data cleaning and the data analysis that was performed in this research. There are four objectives of this chapter:

- Provide an overview of the research design and experimental conditions
- Describe the sample
- Explain the methods of data collection
- Explain the techniques of data analysis

3.2 Ethics Approval

The research was granted ethics approval on 31st March, 2020 by the Auckland University of Technology Ethics Committee (AUTEC) until the 31st March, 2023 (see Appendix A for a copy of the Ethics Approval Letter). The ethics application number submitted to AUTEC is 20/70.

3.3 Research Design

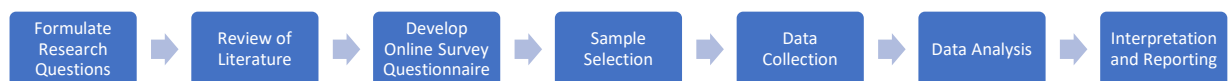


Figure 3. Research Process

The research process Figure 2 indicates the seven stages undertaken in this research. The first stage is an important step and forms the basis of this research. The research questions provide direction to the researcher. Based on the research questions, the researcher can review existing literature on consumer attention, attitude, sugar-labelling, product involvement and purchase intention. The third stage involves the process of developing an online survey questionnaire based on the research questions and past literature review. The fourth stage includes the process of stratified random sampling followed by the collection of data. In stage

six, data analysis is performed with the help of the SPSS software. Stage seven involves interpreting the data to seek answer(s) to the original research question and to report the findings to the beneficiaries of the study.

3.4 Quantitative Research

The researcher adopted a quantitative approach to test the proposed hypotheses. The quantitative method is the best method for this study as an experimental design can test the proposed relationships. It will also help in generating measures that are unbiased and reliable (Steckler, McLeroy, Goodman, Bird & McCormick, 1992). Moreover, the results from a quantitative study are unambiguous and sharp because of the use of statistical tools such as SPSS (Mukherjee, 2015).

3.4.1 Experimental Research

The researcher conducted a three (Text: “No Label”, “No Sugar”, “Sugar”) \times two (Band Colours: Red, Green) between subjects experimental design as set out in Table 3. An experimental research is important in this research to explain the impact of sugar-labelling and its colour on the consumer attitudinal and behavioural response. Moreover, an experimental research will help explain the impact of perceived healthiness, product involvement, background colour and attention on consumer purchase intention of canned beverages. This study was carried out using an online survey questionnaire provider QualtricsTM (<https://www.qualtrics.com/au/>), through an online survey panel Cint Access[®] (www.cint.com). A prior study in 2011 indicated that sampling via Cint is more demographically diverse compared to standard internet samples (Buhrmester, Kwang & Gosling, 2011).

3.4.2 Questionnaire Research

An efficient, cost effective and well-known method of data collection, in recent years, is the introduction of internet surveys that are administered by respondents. Researchers are increasingly making use of web-based surveys for both commercial and academic research surveys as the behaviour of respondents in web-based surveys and “pen and paper” mail surveys are similar (Couper & Bosnjak, 2010; Groves et al., 2013). The methodology of web-based surveys as well as the limitations and advantages of the survey mode are mentioned in various contemporary survey method texts (Bethlehem & Biffignandi, 2011; Groves et al., 2013).

The present study has used an internet survey package, Qualtrics®, that can provide various advantages over printed survey questionnaires as it consists of more paradata or metadata (Kreuter, 2013) and can apply greater situational control in order to reduce the shortcomings of internet survey instruments. The IP address of the respondent, screen size information, time of completion, browser identification and the plug-ins that are installed on the internet browser of the respondent is included in this paradata. Olson and Parkhurst (2013) state that the quality of recorded responses can be easily gauged and collected when a detailed paradata is available. Multiple submissions given by the same respondent can also be easily identified with the help of this paradata (Konstan, Simon Rosser, Ross, Stanton, & Edwards, 2005; Van Selm & Jankowski, 2006) and is also helpful in screening responses that are careless (Barge & Gehlbach, 2012; Meade & Craig, 2012). This information is important as the present research study makes use of Qualtrics® to survey participants on the impact of sugar-labelling on the purchase intention of canned beverage consumers. Furthermore, the Qualtrics® survey measures various constructs such as perceived healthiness, product involvement, background colour and consumer attention and their corresponding impact on the attitude and purchase intention of canned beverage consumers.

3.5 Measurement of Variables

3.5.1 Dependent Variables

The dependent variables measured in this study are purchase intention and consumer attitude and feelings towards canned beverages. The participants had to undertake one of the six scenario experiments indicating their likelihood to purchase, followed by their willingness to purchase the canned beverage based on a 7-point Likert scale (Likert scale: 1= extremely unlikely and 7= extremely likely; adapted from Aschemann-Witzel, 2018; Barbarossa, Pelsmacker, Moons & Marcati, 2016; Liébana-Cabanillas, Sánchez-Fernández & Muñoz-Leiva, 2014) (see Table 1). The product evaluation (attitude and feelings) of participants towards the canned beverage were measured using a 5-item, 7-point semantic differential attitude and feelings scale based on 10 questions (adapted from Burke & Edell, 1989; Choi & Rifon, 2012) (see Table 2).

Table 1

Purchase Intention scale items

Purchase Intention Items
1. How likely are you to purchase this canned beverage?

2. How willing are you to purchase this canned beverage?

Table 2

Product Evaluation scale items

Attitude towards canned beverage	Feelings towards canned beverage
1. Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage (Soothing)	1. Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below) (Freshness)
2. Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage (Naturalness)	2. Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below) (Comforting)
3. Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage (Level of calories)	3. Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below) (Good)
4. Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage (Familiarity)	4. Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below) (Favorable)
5. Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage (Attractiveness)	5. Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below) (Positive)

3.5.2 Independent Variable

The sugar-labelling is the independent variable that is measured in the present study. The sugar-labelling (sugar, no sugar and no label) is displayed to participants under six scenario conditions (see Table 3). The Qualtrics survey system used, was programmed to randomly allocate the participants to one of the six conditions. A mock-up of generic canned beverages with various sugar-labelling was designed and the photo-like image was included in the survey, to be viewed online by respondents (see Appendix C).

Table 3

Experimental conditions

Colour Band	“No Label”	“No Sugar”	“Sugar”
Red	Red “Control condition”	Red “No sugar condition”	Red “Sugar condition”
Green	Green “Control condition”	Green “No sugar condition”	Green “Sugar condition”

3.5.3 Moderating Variable

The moderating variable in the present study is background colour (red, green) displayed on the canned beverage product. The Hayes Process Macro tool is used to measure the moderating effect of background colour on sugar-labelling and consumer purchase intention. The moderating effect of background colour on sugar-labelling and consumer purchase intention has been measured on a 7-point Likert scale (adapted from Aschemann-Witzel, 2018; Barbarossa, Pelsmacker, Moons & Marcatti, 2016; Liébana-Cabanillas, Sánchez-Fernández & Muñoz-Leiva, 2014) (see Table 3).

3.5.4 Mediator Variables

The mediator variables in this study are attention and product involvement. The researcher aims to first measure the moderated mediation effect of background colour on sugar-labelling and consumer attention and its corresponding impact on consumer purchase intention using a 5-item, 7-point Likert scale as well as a 4-item Likert scale (adapted from Goodrich, 2011; Miloch & Lambrecht, 2006; Walsh, Kim & Ross, 2008) (see Table 4). In order to measure whether background colour has a moderated mediation effect on sugar-labelling and consumer purchase intention among high (vs. low) product involvement consumers, a 7-item personal involvement inventory (PII) semantic differential scale (not at all interesting/very interesting, means very little to me/means very lot to me, not at all important/very important, not at all fascinating/very fascinating, not at all needed/very needed, not at all appealing/very appealing, not at all excited/very excited) developed by Zaichkowsky (1985) was used (see Table 5). The personal involvement inventory scale is also used by researchers to measure consumer involvement with travel services, fashionable clothing and relationship quality (adapted from Bortree & Waters, 2010; Flynn & Goldsmith, 1993).

Table 4

Attention scale items

Attention items
1. Please recall the product you considered in the scenario and indicate on a scale of 1 to 7 (1= extremely likely to 7=extremely unlikely) whether you recalled any sugar labelling on the canned beverage?
2. If you did recall the sugar label on the canned beverage, please indicate the color and what was stated on the label.
3. Please indicate whether the sugar label on a canned beverage helped in drawing your attention towards the canned beverage (1= strongly disagree and 7= strongly agree).

Table 5

Product Involvement scale items

Product involvement items
1. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Interesting)
2. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Meaning)
3. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Importance)
4. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Fascination)
5. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Needed)
6. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Appealing)
7. Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question (Excitement)

3.6 Sample

A total number of 180 participants included a deliberate equal split in the number of male and female participants. This equal selection of males and females at random helps in eliminating sampling bias (Foley, 2018). A sample of participants range in age from 18 to 55 years of age will be recruited. The researcher has selected this age group to check whether

both younger and middle-aged participants would generate similar results. The age and gender of participants was asked to participants in the online survey based on the New Zealand Statistics Standards for demographic data (Stats NZ, n.d.). Only participants falling within the age range of 18 to 55 years (with a mean/medium age of 43) were included in the final data analysis.

Table 6

Demographic data

AGE GENDER	18-25	26-33	34-41	42-55
Male	15	15	15	15
Female	15	15	15	15
Gender Diverse	15	15	15	15

A stratified random sample was selected, and respondents were allocated randomly to the experimental conditions and the control group. A fairly large sample size was selected for this study as it will help in obtaining accurate estimates and reducing sampling errors (Kardes, Herr & Schwarz, 2019). Moreover, selecting a stratified random sample ensures complete representation of every subgroup (such as age, gender, economic segment) within the population, which in turn gives a greater description of the population as there is more control over the demographic subgroups by the researcher (Murphy, 2019).

3.7 Data Collection

In this section, the online survey panel Cint Access® invited participants to partake in the survey. The average response time of the survey was 10 minutes. To begin, the participants were exposed to a participant information sheet (see Appendix B). The participant information sheet helps to clarify the purpose of this study and has detailed information for them to be able to make an informed decision to participate in the study. The participant information sheet outlines the details of the study and the means in which the information will

be obtained, making sure that the anonymity and confidentiality of the participants are maintained.

Next, participants are exposed to a screening question right to assess their consumption level of sugary drinks. Screening questions are included in the survey to disqualify certain participants that do not fit the survey criteria from undertaking the survey and also helps in receiving quality survey responses by removing any respondent bias that may arise during the survey (A guide to using screening questions in your survey, n.d.). It is important to disqualify certain participants from undertaking the survey in order to get more accurate and consistent results.

The participants were asked to indicate if they consumed sugary drinks “never”, “rarely”, “about once per month”, “about once per day”, “3-4 times per week”, “once to two times per week” and “about once per fortnight” on the verbal category scale (adapted from Luckow & Delahunty, 2004). Participants were also asked whether they had any pre-existing health conditions that may prevent them from drinking sugary beverages.

In the control variable block of the survey, participants were asked whether they had consumed a canned beverage in the past week. The response was tested using a 3-item, 7-point Likert scale measuring their likelihood to consume sugary drinks (adapted from Ailawadi, Neslin & Gedenk, 2001; Donthu & Gilliland, 1996; Darden & Perreault Jr, 1976; Donthu & Garcia, 1999). The feeling of consumers after consuming sugary drinks was measured using a 6-item, 7-point semantic differential scale (adapted from Ellen & Bone, 1998). The participants’ level of resistance towards consuming sugary drinks was rated on a 7-point Likert scale (adapted from Bolton, Kannan & Bramlett, 2000). The mood of participants was also measured using a 7-point hedonic depression scale (adapted from Kendall et al., 2016).

In order to check participants’ attention level, a set of manipulation questions were included in the next block of the survey. Manipulation check questions are included by a researcher in a survey to check whether the survey respondents perceive the experimental conditions in the same way that the researcher would like them to perceive it (Morton & William, 2010). The most common reason for a researcher to include a manipulation check question in a survey is to check whether the survey respondents are carefully reading the survey questions and providing accurate answers (Kane & Barabas, 2019).

3.8 Data Cleaning

For this study, data cleaning techniques include the completion time of the survey, IP address of the respondent and multiple submissions paradata from the online survey software Qualtrics®. Multiple responses from the same participant, also called “ballot box stuffing” within internet survey behaviour was prevented and screened out with the help of multiple submissions paradata and respondents that do not reside in Australia or New Zealand were screened out with the help of the IP address of the respondents. More importantly, the researcher screened for invalid data with the use of respondent survey completion time. The participants who took two or less than two minutes to complete the online survey were categorised as speeders and were deleted from the data set based on a rigorous and scientific process. The researcher also utilized a case by case logical reasoning approach to scan for participants who were straight liners in the data set. The participants that provided the same response to all the survey questions (answering all survey questions with a “7” or a “3”) were categorised as straight liners and were subsequently deleted from the SPSS data set. The identification and deletion of speeders and straight liners from the data set helps in generating a more refined set of responses which in turn helps in increasing the credibility of research findings (Gitlin, n.d.).

Several researchers have proposed that such suspicious cases should be removed from the data in order to reduce overall accuracy and reduce Type II errors (Leiner, 2013; Wang & Strong, 1996; Meade & Craig, 2012). More importantly, however, if such suspicious data is systematically different from data regarding response distributions that is valid (Van Vaerenbergh & Thomas, 2013), researchers risk drawing incorrect conclusions, or Type I errors, due to measurement artefacts and may make recommendations that are detrimental (Woods, 2006).

The tested and systematic assumptions that the post hoc identification of meaningless data is based-upon for this study is in an attempt to present unmanipulated and unbiased data. If data cleaning is based on assumptions that are untested, removing data may contribute to new biases (Harzing, Köster, & Zhao, 2012). A study conducted by Leiner (2013), that tests whether multiple indicators of post hoc are applicable when identifying low data quality cases, suggests that meaningless data can be best identified with the help of completion time. The questionnaire completion time was accepted as a reliable indicator to identify cases of meaningless data and the availability of questionnaire completion time also proved to be beneficial in this study. Leiner (2013, p. 24) also stated that “such paradata is probably uncorrelated to most constructs regarding a study’s research question – if the field of research

is not about age, reading or computer literacy”. It has been noted by a scholar that eliminating cases based on completion time is not likely to cause systematic bias, which is a common criticism of data cleaning based on atypical responses (Leiner, 2013). Guided by Leiner (2013), individual questionnaire responses that recorded a response time of less than 10% average completion time (two minutes) were regarded as invalid and removed from the data set (Leiner, 2013).

3.9 Data Analysis:

This section provides an overview of how the data will be analysed. The SPSS (Statistical Package for the Social Sciences) software (<https://www.ibm.com/analytics/spss-statistics-software>) was used for conducting the data analysis in this current research. According to Connolly (2007), the use of a statistical software such as SPSS, makes analysing data easier and less time consuming. The SPSS software is beneficial in getting small details from complex data sets and also provides for endless opportunities while conducting statistical analysis (Foley, 2018). Hence, the SPSS software is the most suitable for this study based on the various benefits offered.

The researcher conducted the SPSS data analysis in a step-by-step manner. A reliability analysis (Cronbach alpha) was performed to check the internal reliability of the scales used in this current research. This is important in checking whether the scale is actually measuring the construct that had been proposed. A scale with a Cronbach alpha of .07 and above is generally considered as highly reliable in research (Churchill, 1979). The researcher also used descriptive statistics to summarize each variable in the data set.

An ANOVA analysis was used to test the impact of sugar-labelling on purchase intention because a study finds that ANOVA is an extremely important and useful tool in grouping together coefficients and predictor variables into batches which is key to analysing complex data sets (Gelman, 2005). More specifically, the researcher used a one-way ANOVA as it is useful when analysing an independent variable with two or more categorical groups (Mackenzie, 2018). A one-way analysis of variance (ANOVA) will be performed to test the effect of sugar-labelling and background colour on the purchase intention of canned beverage consumers.

A one-way ANOVA is useful in statistically analysing the means of two or more groups in the data set. The Tukey post-hoc test was chosen to determine whether the means were significantly different from each other. This post-hoc test is the best and most useful method when there is a need for confidence intervals in the data set (Schlegel, 2018). In order to test

the moderating effect of background colour on sugar-labelling and purchase intention, the researcher conducted a regression analysis using the Process Macro tool developed by Andrew Hayes. The Process Macro is a widely used tool to analyse either a two or three way interaction effect in moderation models. The Process Macro tool is very useful for generating indirect and direct moderation and mediation models while also testing two and three way moderation and mediation effects on the dependent variable (Hayes, 2012).

4.0 Summary:

This chapter provided a detailed discussion of the research methodology being used in this current research. The ethical considerations, sample and the experimental conditions were covered in this chapter. In the data collection chapter, the researcher covered the various scales that have been applied to each question in the online survey. The data cleaning techniques used in SPSS have also been discussed. Lastly, the rigorous and scientific steps undertaken to analyse data in this study have been outlined in great detail. The findings from the data analysis will be further discussed in chapter 5.

CHAPTER 4: Findings

4.1 Introduction

In this chapter, the researcher discusses the note-worthy findings from the SPSS data analysis. First, the researcher presents the results from the reliability analysis performed on various scales. Second, the researcher presents the descriptive statistics of the sample and manipulation check questions. Third, the findings from the hypotheses testing are discussed. Finally, the researcher concludes the chapter by providing a summary of the results being discussed.

4.2 Reliability Analysis

In order to check the internal reliability of the scales used in the present study, the researcher used Cronbach's Alpha which is the most commonly used measure to access the quality and reliability of the scale (Churchill, 1979). A low Cronbach Alpha ($\alpha < 0.7$) generally indicates that the sample of items is a poor measure of the construct being studied (Churchill, 1979). The item-total statistics table has also been displayed to indicate any unreliable items which needs to be deleted in order to achieve a higher reliability.

4.2.1 Purchase Intention scale

A reliability analysis was performed on two purchase intention items. The reliability analysis run on these two items showed very satisfactory results with a Cronbach Alpha of .956 ($\alpha = .956$), displayed in Table 7. This indicates that the scale is highly reliable and no items need to be deleted in order to increase the scale reliability.

4.2.2 Product Evaluation scale

A reliability analysis was conducted on the attitude and feelings of consumers towards canned beverages based on 10 items. The 10 items were divided into five attitude questions and five feeling questions. For all the 10 items, the reliability analysis indicated very satisfactory results with a Cronbach Alpha of .927 ($\alpha = .927$) shown in Table 7. However, none of the items are required to be deleted as the Cronbach Alpha for all the 10 items is highly reliable and satisfactory.

4.2.3 Product Involvement scale

A reliability analysis was performed on the seven items in the product involvement scale. For all the seven items, the reliability analysis results were very satisfactory with a

Cronbach Alpha of .977 ($\alpha = .977$) (see Table 8). All things considered, as indicated in Table 7, all the items were retained as the Cronbach Alpha in the present analysis was highly reliable and satisfactory.

Table 7

Summary of reliability analysis results

Scale	Cronbach's Alpha	No. of items
1. Purchase Intention scale	.956	2
2. Product Evaluation scale	.927	10
3. Product Involvement scale	.977	7

4.3 Descriptive Statistics

4.3.1 Sample Characteristics

In this section, the researcher summarises the sample characteristics of participants in the online survey. The participants were exposed to two screening questions at the beginning of the survey test their frequency of sugary beverage consumption and to check for any pre-existing health conditions that would prevent them from consuming sugary drinks. In the first screening question, a greater number (41.8%) of participants indicated that they never consumed sugary drinks, followed by 20.9% of participants indicating that they consumed sugary drinks about once per day. For the second screening question, around 72.3% of participants responded with not having any pre-existing health condition, followed by 16.4% of participants responding with probably not having any pre-existing health conditions. Due to this, a total of two participants were screened out from the study.

From a total of 180 participants that participated in this study, two participants were identified as speeders and were subsequently screened out from the study. Hence, there was a total number of 178 participants being analysed in this study, with around 53.4% of participants being female, 44.9% of participants being male and only around 1.7% of participants being gender diverse (see Appendix D and Figure 3). This indicates that a greater number of female participants have participated in the online survey. A reason for an increased number of female participants in this study may be because females in the United States make up a higher share in the total population which explains why the present study has a higher percentage of American female participants (Fallows, 2005).

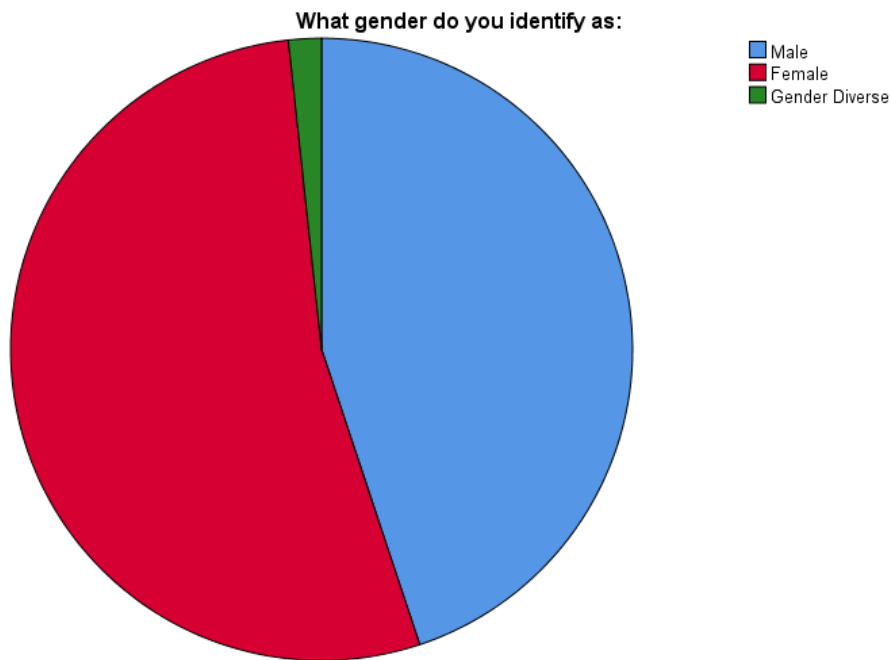


Figure 4. Gender characteristics

The participants ranged in age from 18 to 55 years old, mean age 43 years, median age 42 years and mode 55 years (see Appendix E). The majority of participants (27.8%) were between the age group of 45 and 55 years old. The second highest (25.7%) of participants were between the age group of 28 and 38 years old. The age group of 18-27 and 39-44 represented only 17.7% and 12.5% of the total sample population respectively.

4.3.2 Manipulation check

The recall and perceived healthiness towards canned beverages were analysed in this section. In terms of recall, a high number of participants (30.7%) indicated that they definitely recalled the canned beverage, with the red colour on a sugar label being the most recalled by 41.5% of participants (see Appendix F and Appendix G). The perceived healthiness of canned beverages in this present study was divided into three categories namely, perceived healthiness in the level/presence of calories, perceived healthiness in the presence of a sugar label and perceived healthiness in the presence of background colour. In the first category (level/presence of calories), around 24.4% of participants indicated a higher perceived healthiness when the canned beverage has very low calories while another 24.4% of participants indicated higher perceived healthiness when there is neither high nor low calories on the canned beverage (see Appendix H). In the second (presence of a sugar label) and third (presence of background colour) category, around 26.7% and 31.3% of participants respectively indicated that a canned beverage is perceived as healthy when there is neither a

“sugar” or a “no sugar” label, and also when there is neither a red or green background colour on the canned beverage (see Appendix I and Appendix J). Similarly, a high number of participants (29.5%) indicated that they are uncertain about the colour red on a canned beverage being perceived as a warning/stop signal (see Appendix K).

4.4 Hypotheses testing

4.4.1 Hypothesis 1: “No sugar” (vs. “sugar” and “no label” as control group) front-of-pack label on beverages leads to higher consumer purchase intentions.

The proposed hypothesis (H1) tests the impact of sugar-labelling on the purchase intention of canned beverage consumers. In the present hypothesis (H1), the independent variable sugar-labelling is categorized into three groups: (Sugar, No Sugar and No Label). Hence, in the present study, a one-way ANOVA is the most suitable method to test the impact of the three groups of sugar-labelling (Sugar, No Sugar and No Label) on the dependent variable purchase intention. This would determine whether the hypothesis is supported or unsupported.

The one-way between subjects ANOVA tested did not yield a statistically significant effect [$F(2, 173) = 1.326, p = .268$] (see Appendix L). Thus, the null hypothesis of no difference between the means cannot be rejected. Contrary to the proposed hypothesis (H1), the one-way ANOVA found no significant impact of sugar-labelling on the purchase intention of canned beverage consumers. More specifically, the “no sugar” label (vs. “sugar” and “no label” as control group) front-of-pack label on canned beverages does not lead to higher consumer purchase intentions. Hence, the proposed hypothesis is unsupported (see Appendix L).

The descriptive statistics associated with purchase intention across the three sugar-labelling groups are displayed as Appendix M. It can be seen that the sugar label group on the canned beverage was associated with a numerically higher mean level of purchase intention as compared to the no sugar label group ($M = 3.69, SD = 2.01$ vs. $M = 3.59, SD = 2.08$). Furthermore, the no label group was found to be associated with the numerically lowest mean level of purchase intention ($M = 3.13, SD = 1.91$). In addition, the assumption of homogeneity of variances were tested and satisfied based on Levene’s F test [$F(2, 173) = .265, p = .768$] (see Appendix N). On the whole, the above statistics also indicate that consumers are not very likely to generally consider purchasing the canned beverage.

4.4.2 Hypothesis 2: The “no sugar” (vs. “sugar” and “no label”) on the front-of-pack label leads to a positive attitude towards the canned beverage product.

The proposed hypothesis (H2) tests whether the no sugar label (vs. sugar and no label as the control group) on the front-of-pack of a canned beverage product leads to positive attitude

and feelings among canned beverage consumers. An ANOVA analysis was used to test the proposed hypothesis. More specifically, the researcher has used the one-way analysis of variance (ANOVA) to test the proposed hypothesis (H2).

The researcher finds that the one-way between subjects ANOVA was statistically not significant [$F(2, 173) = .890, p = .413$] (see Appendix O). This indicates that the no sugar label on the front-of-pack of a canned beverage product does not have a positive effect on the attitude and feelings of consumers. Hence, the proposed hypothesis (H2) is unsupported.

The descriptive statistics related to consumer attitude and feelings across the three labelling groups. As indicated in Appendix P, the sugar label group was associated with a higher numerical mean level of consumer attitude and feelings as compared to the no sugar label group ($M = 3.78, SD = 1.53$ vs. $M = 3.62, SD = 1.45$). The lowest mean level ($M = 3.42, SD = 1.42$) of consumer attitude and feelings was found in the no label group. Furthermore, the homogeneity of variances were tested and satisfied based on Levene's F test [$F(2, 173) = .633, p = .532$]. Since, the p-value is ($p > .05$) in this case, it means that the variances are homogenous (see Appendix Q).

4.4.3 Hypothesis 3: “Sugar” (vs. “no sugar” and “no label”) front of package label on beverages has a negative impact on purchase intent, when moderated by red (vs. green) background colour.

A two-way between subjects ANOVA has been used by the researcher to test the impact of the two independent variables (sugar-labelling and background colour) on the dependent variable (purchase intention). The overall interaction effect of sugar-labelling and background colour on purchase intention is found to be statistically not significant [$F(2, 170) = .607, p = .546, \eta^2 = .007$], indicating that the colour red (vs. green) present on a “sugar” label (vs. “no sugar or “no label”) of a canned beverage product does not have a significant impact on the purchase intention of consumers, such that there is no significant reduction in the purchase intention of canned beverage consumers. This shows that there is enough evidence that the null hypothesis cannot be rejected. Hence, the proposed hypothesis (H3) is unsupported (see Appendix O).

The researcher also finds that the main interaction effect of sugar-labelling on purchase intention is not statistically significant [$F(2, 170) = 1.263, p = .286, \eta^2 = .015$]. Similarly, the main interaction effect of background colour on purchase intention is not statistically significant [$F(1, 170) = .435, p = .510, \eta^2 = .003$].

In the second part, the proposed hypothesis (H2) tests the moderating impact of background colour (Red, Green) on the relationship between sugar-labelling and the purchase intention of canned beverage consumers. A moderation analysis was conducted using Andrew Hayes

Process Macro tool. The Process macro tool is used to test the proposed hypothesis (H3) of the moderating effect of background colour on the sugar-labelling and purchase intention of canned beverage consumers. The model 1 has been used to test the basic moderating effect in this study. The level of confidence has been set at 95% for testing the moderation effect.

The overall regression model is found to be not significant [$F(3, 172) = .989, p > .001, R^2 = .017$]. An ($R^2 = .017$) explains what purchase intention is comprised of in this data set. The model reveals that the overall interaction or moderation effect between sugar-labelling and background colour on the purchase intention of canned beverage consumers is not significant [$b = .190, t(172) = .514, p = .607$]. Thus, there is no significant moderation effect of background colour on the purchase intention of canned beverage consumers. More specifically, the colour red (vs. green) present on sugar-sweetened beverage products, does not moderate the impact of a “sugar” label (vs. “no sugar” or “no label”) on consumer purchase intention and does not lead to a significant reduction in the purchase intention of canned beverage consumers. This suggests that the proposed hypothesis (H3) is unsupported (see Appendix P).

The model also reveals that there is no significant impact of sugar-labelling on the purchase intention of canned beverage consumers [$b = -.5627, t(172) = -.971, p = .3329$]. Similarly, there is no significant impact of background colour on the purchase intention of canned beverage consumers [$b = -.577, t(172) = -.707, p = .4805$]. This indicates that for every one unit increase in sugar-labelling and background colour, there is no impact on the purchase intention of canned beverage consumers.

4.4.4 Hypotheses 4: Background colour red (vs. green) moderates the relationship between sugar labelling (“sugar”, “no sugar”, “no label”) on attention which leads to purchase intent. More specifically, participants exposed to the “sugar” (vs. “no sugar”, “no label” as control group) label will have greater purchase intent, when greater attention is paid and the background colour is red.

In hypotheses 4, the researcher used the Hayes Process Macro tool to test the moderated mediation effect of consumer attention on the relationship between the “sugar” label (vs. “no sugar” and “no label” as the control group) on the canned beverage displayed with the colour red (vs. green) and purchase intention. The model 7 with a 95% confidence interval has been used to carry out the moderated mediation analysis.

A non-parametric bootstrapping is used to test the moderation mediation effect in this analysis. With attention being the mediator, the overall index of moderated mediation of a “sugar” label (vs. “no sugar” and “no label”) displayed with the colour red (vs. green) on consumer purchase intention is found to be not statistically significant ($B = -.03, 95\% CI = [-$

.30, .19]) (see Appendix T). The interaction between sugar-labelling and background colour on consumer attention is not statistically significant [$b = -.0366, t(172) = -.2914, p = .7711$], indicating that when a red (vs. green) background colour is displayed on a “sugar” (vs. “no sugar” and “no label) canned beverage label, it does not increase the attention of consumers towards canned beverage products. Similarly, the effect of a “sugar” (vs. “no sugar” and “no label” as the control group) label on the purchase intention of canned beverage consumers is also not statistically significant [$b = -.2263, t(173) = -1.3006, p = .1951$]. However, the impact of consumer attention on the purchase intention of canned beverage consumers is found to be statistically significant [$b = 1.0073, t(173) = 4.8253, p = .0000$], indicating that consumer attention has a positive impact on their intention to purchase a product. Hence, only the partial mediation effect on purchase intention is supported while the full moderated mediation effect proposed in hypothesis (H4) is unsupported.

4.4.5 Hypothesis 5: The mediating effect of “sugar” (vs. “no sugar”, “no label”) front of package label on beverage purchase intent through high (vs. low) product involvement is moderated by red (vs. green) background colour, such that this effect is stronger for products with red (vs. green) background colour.

In the present hypothesis (H5), the researcher tests the moderated mediation effect of high (vs. low) product involvement of a “sugar” label (vs. “no sugar” and “no label” as the control group) displayed with the colour red (vs. green) on the purchase intention of canned beverage consumers, such that it leads to a significant increase in the purchase intention of canned beverage consumers. Similar to hypothesis H4, the model 7 with a 95% confidence interval has been used for this analysis.

With product involvement as the mediator, the overall index of moderated mediation of a “sugar” label displayed with the colour red (vs. green) on consumer purchase intention is not statistically significant ($B = .04, 95\% \text{ CI} = [-.60, .71]$). The interaction effect of red (vs. green) background colour and “sugar” (vs. “no sugar” and “no label”) on the high (vs. low) product involvement of consumers is not statistically significant [$b = .0460, t(172) = .1243, p = .9012$], indicating that when consumers see a “sugar” label (vs. “no sugar” and “no label”) with the colour red (vs. green), they are not highly involved with a canned beverage. Likewise, the effect of a “sugar” (vs. “no sugar” and “no label” as the control group) label on the purchase intention of canned beverage consumers is not statistically significant [$b = -.0630, t(173) = -.7224, p = .4710$]. On the whole, the full moderated mediation effect proposed in hypothesis (H5) is unsupported (see Appendix U).

4.5 Summary

This chapter outlined the various findings from the SPSS data set that was analysed. The findings from the reliability analysis of the purchase intention, attitude and feelings and the product involvement scales were discussed. The researcher generated descriptive statistics and summarized all the SPSS data with the help of tables and pie charts. The results from the various hypotheses testing were revealed. The overall findings from this study are presented below in Table 8.

Table 8

Summary of research findings

	Hypotheses	Findings
H1	No sugar (vs. sugar and no label as control group) front-of-pack label on beverages leads to higher consumer purchase intentions.	Not supported
H2	The “sugar” (vs. “no sugar” and “no label” as control group) on the front-of-pack label leads to a positive attitude towards the canned beverage product.	Not supported
H3	“Sugar” (vs. “no sugar” and “no label”) front of package label on beverages has a negative impact on purchase intent, when moderated by red (vs. green) background colour.	Not supported
H4	Background colour red (vs. green) moderates the relationship between sugar labelling (“sugar”, “no sugar”, “no label”) on attention which leads to purchase intent. More specifically, participants exposed to the “sugar” (vs. “no sugar”, “no label” as control group) label will have greater purchase intent, when greater attention is paid and the background colour is red.	Full moderated mediation not supported
H5	The mediating effect of “sugar” (vs. “no sugar”, “no label”) front of package label on beverage purchase intent through high (vs. low) product involvement is moderated by red (vs. green) background	Full moderated mediation not supported

colour, such that this effect is stronger for products with red (vs. green) background colour.

CHAPTER 5: Discussion

5.1 Introduction:

This chapter provides a detailed discussion of the findings in this present study. The interpretation of the research findings are discussed in this chapter. Moreover, this chapter provides an overview of the managerial implications to marketers, consumer psychologists and policymakers. The theoretical implications to future researchers have also been discussed in this chapter.

5.2 General Discussion:

This study mainly focused on the impact of sugar-labelling on the purchase intention of canned beverage consumers. Contrary to the proposed hypothesis (H1), the researcher found no evidence of a statistically significant impact of a “no sugar” (vs. “sugar” and “no label” as control group) front-of-pack beverage label on the purchase intention of canned beverage consumers. A possible explanation for this finding could be because consumers may perceive a “no sugar” label on a canned beverage to be deceptive advertising and may prefer to purchase a “sugar” labelled canned beverage as it appears to be genuine. This would indicate that canned beverage brands would not benefit from changing the label as consumers are not convinced that the canned beverage has no sugar. The attitude of consumers towards a “sugar” (vs. “no sugar” and “no label” as the control group) on the front-of-pack label of a canned beverage product was tested based on the proposed hypothesis (H2). The one-way ANOVA found no evidence of a statistically significant impact of a “no sugar” (vs. “sugar” and “no label” as the control group) label on the attitude and feeling of canned beverage consumers. This suggests that consumers are not positively influenced by the “no sugar” label present on a canned beverage product. A possible explanation for not being influenced could be because consumers may already have preconceived attitude and feelings towards canned beverage products and do not feel the need to change their attitude based on a “no sugar” label that is present on a canned beverage product (Huffman, Rousu, Shogren & Tegene, 2007; Raghunathan, Naylor & Hoyer, 2006). Hence, policymakers would find it difficult to reduce the consumption of sugary canned beverages as consumers may not be willing to change their preconceived attitudes and feelings towards canned beverage products.

More specifically, the proposed hypothesis (H3) found that the colour red (vs. green) present on the front-of-pack of a “sugar” (vs. “no sugar or “no label” as control group) label does not have a statistically significant impact on the purchase intention of canned beverage consumers. This indicates that the presentation of the words “sugar” or “no sugar” in

combination with the colour red or green does not have an influence on a consumers' intention to purchase a canned beverage product for this study. This finding is in line with prior studies that have found no impact of beverage labelling and colour on the purchase intention of consumers (Broughton, 2018; Sandoval, Carpio & Sanchez-Plata, 2019). Also, there was no evidence that a red background colour on a "sugar" label would reduce the purchase intention of canned beverage consumers. This indicates that irrespective of red colour being perceived as a stop signal on a sugar label of a canned beverage, consumers would continue to purchase the canned beverage product without considering the impact it has on their health.

The moderated mediation effect of consumer attention towards the "sugar" (vs. "no sugar" and "no label" as the control group) label displayed with the colour red (vs. green) and purchase intention of canned beverage consumers was found to not be significant. On the other hand, the researcher found that the purchase intention of canned beverage consumers was significantly impacted by consumer attention. As indicated in previous literature, attention led to an increase in the purchase intention of consumers (Huddleston, Behe, Minahan & Fernandez, 2015; Monteiro, Guerreiro & Loureiro, 2019). This could mean that when consumers are highly drawn to the canned beverage product, it does have an impact on their intention to purchase a canned beverage product. However, this positive impact of consumer attention on the purchase intention of consumers significantly decreases in the presence of a sugar label with the colour red displayed in the background. Hence, canned beverage brands should make use of a "no sugar" label or "no label" displayed with the background colour green as this would help increase the attention of consumers towards the canned beverage and lead to higher consumer purchase intention.

In terms of product involvement, consumers that were highly involved were not found to be significantly impacted by the "sugar" (vs. "no sugar" and "no label" as the control group) label displayed with the colour red (vs. green) on the front-of-pack of a canned beverage product. Furthermore, this did not lead to an increase in their intention to purchase a canned beverage product. However, in general, when consumers are highly involved with a canned beverage product, it has a significant impact on their purchase intention. This finding has been mirrored in previous studies that highlighted the impact of product involvement on a consumers' intention to purchase a product (Campbell et al., 2014; Tarkiainen & Sundqvist, 2009; Bruwer & Buller, 2013).

5.3 Theoretical Implications:

The research findings are not in line with the colour-in-context theory that has been proposed in this present study. Most notably, there is no evidence of the colour red or green having an impact on the purchase intention of canned beverage consumers. Moreover, the findings reveal that the colours red and green did not draw the attention of consumers towards canned beverage products. This present study is not in line with previous research that has found a link between colour and consumer attention (Elliot & Maier, 2007, Kauppinen-Räsänen & Luomala, 2010; Kaya & Epps, 2004, Kuniecki et al., 2015). Although colour is important in packaging and branding (Cheng et al., 2009, Campbell, 2014), this current study implies that strips of red and green background colour applied to the front-of-pack of a “sugar”, “no sugar” and “no label” canned beverage would have no impact on consumer attention, attitude and purchase intention. Hence, it is recommended that future research scholars replicate this study using a different colour theory or different background colours as the red and green background colours applied to this present study do not yield significant results.

5.4 Managerial Implications:

The above findings in this study have several implications on marketers, consumer psychologists and policymakers of canned beverage products. For marketers and consumer psychologists, the findings from this present study indicate that the demand for a “no sugar” and “sugar” labelled canned beverage is constant and marketers should invest equal time and resources in the development of both “sugar” and “no sugar” labelled canned beverages or adapt the marketing resources to the market segment size, rather than as profitability or market share gain strategy. For policymakers, this study indicates that policymakers should not change the background colour of a beverage product as this does not have an impact on the purchase intention of consumers. Colour can be changed for branding or other aesthetic purpose, but this study indicates that colour changes will not impact purchase intention.

CHAPTER 6: Conclusion

In this study, the researcher tested various conditions likely to impact the purchase intention of canned beverage consumers, with test conditions of labels indicating “sugar” or “no sugar” and using various background colour bands. However, most of the proposed hypotheses were found to not be statistically significant. Attention and high (vs. low) product involvement were found to have a partial mediation effect on consumer purchase intention in this study. Most notably, the researcher observed that the main effect of sugar-labelling presented with red and green background colours did not yield a statistically significant impact on consumers’ intention to purchase a canned beverage product.

This study is not without limitations. Firstly, the researcher has not included a colour-blind test in this study. This would mean that participants with colour blindness have also answered the current online survey. Since, the current study is based on the impact of colour on beverage labelling, the inclusion of colour blind participants in this study could have impacted the accuracy of the research findings. Hence, it is important that future researchers include a colour-blind test while replicating this study. Secondly, there were no attention checks present in the online survey questionnaire to gauge the attention of participants. A lack of attention checks has resulted in a high number of speeders and straight liners in this present study. This is an important area of improvement for future research. Third, the purpose of the study was not conveyed to the participants at the end of the online survey. The participants were not aware of the reason for answering the survey questionnaire. Future studies of this nature should clearly convey the purpose of the study to participants at the end of the survey.

Fourth, the researcher did not conduct a pre-test before launching the online survey. Pre-testing of a survey is important in developing an effective survey by identifying potential errors in the survey questionnaire prior to the actual launch of the survey (Reynolds, Diamantopoulos & Schlegelmilch, 1993). A pre-test would have helped rectify the mistakes of not including a colour-blind test and attention check questions in the current study. Thus, future research should ensure that a pre-test is conducted prior to the full launch of the survey. This research only provides internal validity and does not provide external validity. Hence, in order to provide external validity to this study, future studies could undertake a field experiment to better understand the impact of sugar-labelling on purchase intention. Future research could also look at other methods such as a flash shape or displaying the whole lid of a canned beverage product in different background colours and testing the corresponding impact on consumer purchase intention. The attention questions have been incorrectly positioned as manipulation check questions in the online survey. Future researchers should

rectify this issue by not positioning the attention questions as manipulation check questions and creating a separate block only for attention questions to be used as a mediator. In this present study, the researcher has not tested the mediation effect of perceived healthiness as no direct questions related to health perception have been asked to participants. The perceived healthiness questions have been included as manipulation check questions. Hence, future researchers should ensure that perceived healthiness questions are not included as manipulation check questions. Future research could also measure the health consciousness of participants to ascertain whether health conscious consumers are more likely to purchase sugar-labelled canned beverages as compared to consumers who are not health conscious. The researcher has not measured the preconceived attitude and feelings of consumers. Hence, future researcher should measure the preconceived attitude and feelings of consumers towards canned beverages as this will help in revealing the true attitude of consumers. Future researchers could also investigate whether positioning a “sugar” or “no sugar” label in the middle or lower portion of a canned beverage would lead to higher or lower consumer intentions to purchase a canned beverage. Another interesting area that future researchers that could be tested is whether a canned beverage with a “50% less sugar” front of pack label would lead to a greater attitude and intention to purchase as compared to a canned beverage with a simple “no sugar” front of pack label displayed on a canned beverage. There are also issues associated with predictive validity and generalizability. According to Shuttleworth (2009), predictive validity is generally regarded as a great statistical validity measure but the main disadvantage with predictive validity is that it does not take into account all the available data while conducting statistical tests. Generalizability of research findings is also highly regarded as a quality standard in quantitative studies as there would be no evidence-based research without generalization. However, research has found that generalizable evidence can never be considered as universal (Polit & Beck, 2010).

In conclusion, the researcher hopes that this current research will provide more clarity or more questions to marketers, consumer psychologists and policymakers about the importance of sugar-labelling and also help future researchers to replicate these studies and provide similar results.

7.0 References

- Ailawadi, K. L., Neslin, S. A., & Gedenk, K. (2001). Pursuing the value-conscious consumer: store brands versus national brand promotions. *Journal of marketing*, 65(1), 71-89. <https://doi.org/10.1509%2Fjmk.65.1.71.18132>
- Acton, R. B., Vanderlee, L., & Hammond, D. (2018). Influence of front-of-package nutrition labels on beverage healthiness perceptions: Results from a randomized experiment. *Preventive medicine*, 115, 83-89. <https://doi.org/10.1016/j.ypmed.2018.08.022>
- Ares, G., Varela, F., Machin, L., Antúnez, L., Giménez, A., Curutchet, M. R., & Aschemann-Witzel, J. (2018). Comparative performance of three interpretative front-of-pack nutrition labelling schemes: Insights for policy making. *Food quality and preference*, 68, 215-225. <https://doi.org/10.1016/j.foodqual.2018.03.007>
- An international guide to the use of colour in marketing and advertising*. (n.d.). Retrieved from <https://www.six-degrees.com/an-international-guide-on-the-use-of-color-in-marketing-advertising/>
- Antúnez, L., Giménez, A., Maiche, A., & Ares, G. (2015). Influence of interpretation aids on attentional capture, visual processing, and understanding of front-of-package nutrition labels. *Journal of nutrition education and behavior*, 47(4), 292-299. <https://doi.org/10.1016/j.jneb.2015.02.010>
- Aqueveque, C. (2008). The effect of extrinsic cues on imported wine evaluations: an experimental approach. *Journal of Food Products Marketing*, 14(3), 33-47. <https://doi.org/10.1080/10454440801985910>
- Aschemann-Witzel, J. (2018). Consumer perception and preference for suboptimal food under the emerging practice of expiration date based pricing in supermarkets. *Food Quality and Preference*, 63, 119-128. <https://doi-org./10.1016/j.foodqual.2017.08.007>
- A guide to using screening questions in your survey*. (n.d.). Retrieved from <https://www.surveymonkey.com/resources/guide-to-using-screening-questions/>
- Abdul Latiff, Z. A. B., Rezai, G., Mohamed, Z., & Amizi Ayob, M. (2016). Food labels' impact assessment on consumer purchasing behavior in Malaysia. *Journal of food products marketing*, 22(2), 137-146. <https://doi-org./10.1080/10454446.2013.856053>
- Babin, B. J., Hardesty, D. M., & Suter, T. A. (2003). Color and shopping intentions: The intervening effect of price fairness and perceived affect. *Journal of business research*, 56(7), 541-551. [https://doi.org/10.1016/S0148-2963\(01\)00246-6](https://doi.org/10.1016/S0148-2963(01)00246-6)
- Bagchi, R., & Cheema, A. (2012). The effect of red background color on willingness-to-pay: The moderating role of selling mechanism. *Journal of Consumer Research*, 39(5), 947-960. <https://doi-org./10.1086/666466>
- Bailey, S. (2014). *Why the soft drink industry is dominated by Coke and Pepsi*. Retrieved November 21, 2014, from <https://marketrealist.com/2014/11/soft-drink-industry-dominated-coke-pepsi/>
- Barbarossa, C., De Pelsmacker, P., Moons, I., & Marcati, A. (2016). The influence of country-of-origin stereotypes on consumer responses to food safety scandals: The case of the horsemeat adulteration. *Food Quality and Preference*, 53, 71-83. <https://doi-org./10.1016/j.foodqual.2016.05.015>

- Barge, S., & Gehlbach, H. (2012). Using the theory of satisficing to evaluate the quality of survey data. *Research in Higher Education*, 53(2), 182-200. <https://doi.org/10.1007/s11162-011-9251-2>
- Broughton, C. (2018, November 8). Fizzy drinks study shows labels will fail to fix obesity. *Stuff*. Retrieved from <https://www.stuff.co.nz/national/health/108452069/fizzy-drinks-study-shows-labels-will-fail-to-fix-obesity>
- Beckett, E. (2018). *Consumers are demanding more from their beverage experiences*. Retrieved January 22, 2018, from <https://www.fooddive.com/news/consumers-are-demanding-more-from-their-beverage-experiences/515028/>
- Belluz, J. (2017). *Obesity now kills more people worldwide than car crashes, terror attacks, and Alzheimer's combined*. Retrieved June 19, 2017, from <https://www.vox.com/science-and-health/2017/6/19/15819808/obesity-global-epidemic>
- Benjamin, R. M. (2010). The Surgeon General's vision for a healthy and fit nation. *Public health reports*, 125(4), 514-515. Retrieved from <https://journals-sagepub-com.ezproxy.aut.ac.nz/doi/pdf/10.1177/003335491012500402>
- Berghoef, N., & Dodds, R. (2011). Potential for sustainability eco-labeling in Ontario's wine industry. *International Journal of Wine Business Research*, 23(4), 298-317. <https://doi.org/10.1108/17511061111186488>
- Bethlehem, J., & Biffignandi, S. (2011). *Handbook of web surveys* (Vol. 567): John Wiley & Sons.
- Bialkova, S., Grunert, K. G., Juhl, H. J., Wasowicz-Kirylo, G., Stysko-Kunkowska, M., & van Trijp, H. C. (2014). Attention mediates the effect of nutrition label information on consumers' choice. Evidence from a choice experiment involving eye-tracking. *Appetite*, 76, 66-75. <https://doi.org/10.1016/j.appet.2013.11.021>
- Billich, N., Blake, M. R., Backholer, K., Cobcroft, M., Li, V., & Peeters, A. (2018). The effect of sugar-sweetened beverage front-of-pack labels on drink selection, health knowledge and awareness: An online randomised controlled trial. *Appetite*, 128, 233-241. <https://doi-org./10.1016/j.appet.2018.05.149>
- Bjelland, M., Bergh, I. H., Grydeland, M., Klepp, K. I., Andersen, L. F., Anderssen, S. A., ... & Lien, N. (2011). Changes in adolescents' intake of sugar-sweetened beverages and sedentary behaviour: results at 8 month mid-way assessment of the HEIA study-a comprehensive, multi-component school-based randomized trial. *International journal of behavioral nutrition and physical activity*, 8(1), 63. <https://doi-org./10.1186/1479-5868-8-63>
- Bruwer, J., & Buller, C. (2013). Product involvement, brand loyalty, and country-of-origin brand preferences of Japanese wine consumers. *Journal of wine research*, 24(1), 38-58. <https://doi.org/10.1080/09571264.2012.717221>
- Blecher, E., Liber, A. C., Drope, J. M., Nguyen, B., & Stoklosa, M. (2017). Peer Reviewed: Global Trends in the Affordability of Sugar-Sweetened Beverages, 1990–2016. *Preventing chronic disease*, 14. <https://dx.doi.org/10.5888%2Fpcd14.160406>
- Bollard, T., Maubach, N., Walker, N., & Mhurchu, C. N. (2016). Effects of plain packaging, warning labels, and taxes on young people's predicted sugar-sweetened beverage preferences: an experimental study. *International journal of behavioral nutrition and physical activity*, 13(1), 95. <https://doi-org./10.1186/s12966-016-0421-7>

- Bolton, R. N., Kannan, P. K., & Bramlett, M. D. (2000). Implications of loyalty program membership and service experiences for customer retention and value. *Journal of the academy of marketing science*, 28(1), 95-108. <https://doi.org/10.1177%2F0092070300281009>
- Borgmeier, I., & Westenhoefer, J. (2009). Impact of different food label formats on healthiness evaluation and food choice of consumers: a randomized-controlled study. *BMC public health*, 9(1), 184. <https://doi.org/10.1186/1471-2458-9-184>
- Bortree, D. S., & Waters, R. D. (2010). Applying Zaichowsky's involvement scales to the nonprofit organisation-volunteer relationship: testing the mediating effect of involvement on cultivation strategies and relationship quality. *PRism*, 7(2), 1-15. Retrieved from https://www.researchgate.net/deref/http%3A%2F%2Fpraxis.massey.ac.nz%2Fprism_online_journ.html
- Bowman, S. A. (2002). Beverage choices of young females: changes and impact on nutrient intakes. *Journal of the American Dietetic Association*, 102(9), 1234-1239. [https://doi.org/10.1016/S0002-8223\(02\)90273-7](https://doi.org/10.1016/S0002-8223(02)90273-7)
- Bray, G. A., Nielsen, S. J., & Popkin, B. M. (2004). Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. *The American journal of clinical nutrition*, 79(4), 537-543. <https://doi.org/10.1093/ajcn/79.4.537>
- Buechner, V. L., Maier, M. A., Lichtenfeld, S., & Schwarz, S. (2014). Red-take a closer look. *PLoS One*, 9(9), e108111. <https://doi-org./10.1371/journal.pone.0108111>
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science*, 6(1), 3-5. <https://doi.org/10.1177%2F1745691610393980>
- Burke, M. C., & Edell, J. A. (1989). The impact of feelings on ad-based affect and cognition. *Journal of marketing research*, 26(1), 69-83. <https://doi.org/10.1177%2F002224378902600106>
- Burrell, H. (2019). *UK vs US: low and no-sugar beverage trends*. Retrieved September 16, 2019, from https://www.foodbev.com/news/comparing-uk-and-usa-low-and-no-sugar-beverage-trends/?_cf_chl_jschl_tk=_fd85dbcb2a4485800a877c6ccc82c9e23f6a4491-1593309980-0-AfbSjwyvjw7od3FuQvnG7GVNwvAPOAZ2t5e7DUeUr7gGjxouhY-OucDOtwJg_UPHwyeMjsyvQ4t8CxuPr67eb-16vXCcqBExd7yzueMuwifZN5XUiKikO7P_kpRxWUPeP4xtf6XUeSWSR4zL5NAyocAmN_ojCLaioyDBoeRkT7Znz5DRS_3seBPljp30ixjRhZ7u5nqUOslxsh_8xfEh2k4z7Q1elV8LcM1uFzY94O1ogDgvOV2TWUpAmNOrSZadhtlOZF9V3QwBAQkWnLyIO4Dy2ImZR4Nmh065SKUJRra9KAYKv99U0h0ZNMokwoqiV0dlTQAHFul7gSn9Iy7yZ2g05wgzoAqRzcQuJrrfhK8Y
- Burton, M., Wang, W. C., & Worsley, A. (2015). Demographic and psychographic associations of consumer intentions to purchase healthier food products. *Preventive medicine reports*, 2, 21-26. <https://doi-org./10.1016/j.pmedr.2014.11.006>
- Caivano, J. L. (1998). Color and semiotics: A two-way street. *Color Research & Application: Endorsed by Inter-Society Color Council, The Colour Group (Great Britain), Canadian Society for Color, Color Science Association of Japan, Dutch Society for the Study of Color, The Swedish Colour Centre Foundation, Colour Society of Australia, Centre Français de la Couleur*, 23(6), 390-401. [https://doi.org/10.1002/\(SICI\)1520-6378\(199812\)23:6%3C390::AID-COL7%3E3.0.CO;2-%23](https://doi.org/10.1002/(SICI)1520-6378(199812)23:6%3C390::AID-COL7%3E3.0.CO;2-%23)

- Carneiro, J.d. D.S., Minim, V. P. R., Deliza, R., Silva, C. H. O., Carneiro, J. C. S., & Leão, F. P. (2005). Labelling effects on consumer intention to purchase for soybean oil. *Food Quality and Preference*, 16(3), 275-282. <https://doi-org./10.1016/j.foodqual.2004.05.004>
- Churchill Jr, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of marketing research*, 16(1), 64-73. <https://doi.org/10.1177%2F002224377901600110>
- Connolly, P. (2007). Quantitative data analysis in education: A critical introduction using SPSS. London & New York, NY: Routledge.
- Campbell. D. (2014, September 5). Coca-Cola agrees to traffic-light labelling on drinks sold in UK. *The Guardian*. Retrieved from <https://www.theguardian.com/business/2014/sep/05/coca-cola-traffic-light-labelling-drinks-uk-salt-sugar-fat>
- Carter, N. (2013, August 21). Multi-sensory retail: why stores must appeal to all five senses. *The Guardian*. Retrieved from <https://www.theguardian.com/media-network/media-network-blog/2013/aug/21/multi-sensory-retail-high-street>
- Chen, H. J., Weng, S. H., Cheng, Y. Y., Lord, A. Y. Z., Lin, H. H., & Pan, W. H. (2017). The application of traffic-light food labelling in a worksite canteen intervention in Taiwan. *Public health*, 150, 17-25. <https://doi-org./10.1016/j.puhe.2017.04.005>
- Cheng, F. F., Wu, C. S., & Yen, D. C. (2009). The effect of online store atmosphere on consumer's emotional responses—an experimental study of music and colour. *Behaviour & Information Technology*, 28(4), 323-334. <https://doi-org./10.1080/01449290701770574>
- Cheung, E. (2019). *Singapore to become first country banning ads on sugary drinks*. Retrieved October 11, 2019, from <https://edition.cnn.com/2019/10/11/health/singapore-sugar-drink-ads-intl-hnk-scli/index.html>
- Choi, S. M., & Rifon, N. J. (2012). It is a match: The impact of congruence between celebrity image and consumer ideal self on endorsement effectiveness. *Psychology & marketing*, 29(9), 639-650. <https://doi-org./10.1002/mar.20550>
- Clark, N. (2016). *How Food Packaging Color Influences Consumer Behavior*. Retrieved April 12, 2016, from <https://hartdesign.com/industry-news/food-packaging-color-influences-consumer-behavior/>
- Claro, R. M., Levy, R. B., Popkin, B. M., & Monteiro, C. A. (2012). Sugar-sweetened beverage taxes in Brazil. *American journal of public health*, 102(1), 178-183. <https://doi.org/10.2105/AJPH.2011.300313>
- Coca-Cola Great Britain. (2015). *Tackling Obesity*. Retrieved May 24, 2015, from <https://www.coca-cola.co.uk/ingredients/reducing-sugar/tackling-obesity-choice-and-information>
- Coca-Cola No Sugar shows strong sales volume in Australia*. (2019). Retrieved February 22, 2019, from <https://www.drinks-insight-network.com/news/coca-cola-no-sugar/>
- Colchero, M. A., Molina, M., & Guerrero-López, C. M. (2017). After Mexico implemented a tax, purchases of sugar-sweetened beverages decreased and water increased: difference by place of residence, household composition, and income level. *The Journal of nutrition*, 147(8), 1552-1557. <https://doi-org./10.3945/jn.117.251892>

- Cole, S. (2020). *Three hallmarks of Red Bull's social media content strategy*. Retrieved February 19, 2020, from <https://econsultancy.com/three-hallmarks-of-red-bulls-social-media-content-strategy/>
- Costa, B. M., Hayley, A., & Miller, P. (2016). Adolescent energy drink consumption: An Australian perspective. *Appetite*, 105, 638-642. <https://doi.org/10.1016/j.appet.2016.07.001>
- Campbell, J., DiPietro, R. B., & Remar, D. (2014). Local foods in a university setting: Price consciousness, product involvement, price/quality inference and consumer's willingness-to-pay. *International Journal of Hospitality Management*, 42, 39-49. <https://doi.org/10.1016/j.ijhm.2014.05.014>
- Chepulis, L., Mearns, G., Hill, S., Wu, J. H., Crino, M., Alderton, S., & Jenner, K. (2018). The nutritional content of supermarket beverages: a cross-sectional analysis of New Zealand, Australia, Canada and the UK. *Public Health Nutrition*, 21(13), 2507-2516. <https://doi.org/10.1017/S1368980017004128>
- Couper, M. P., & Bosnjak, M. (2010). Internet surveys. *Handbook of survey research*, 527-550.
- Creusen, M. E., & Schoormans, J. P. (2005). The different roles of product appearance in consumer choice. *Journal of product innovation management*, 22(1), 63-81. <https://doi.org/10.1111/j.0737-6782.2005.00103.x>
- Dalli, K. (2019). *Taxes on sugary drinks reduce consumption, new study shows*. Retrieved June 25, 2019, from <https://www.consumeraffairs.com/news/taxes-on-sugary-drinks-reduce-consumption-new-study-shows-062519.html>
- Daniels, C. (n.d.). *How Salts & Sugars Work to Preserve Foods*. Retrieved from <https://www.livestrong.com/article/432144-how-salts-sugars-work-to-preserve-foods/>
- Darden, W. R., & Perreault Jr, W. D. (1976). Identifying interurban shoppers: Multiproduct purchase patterns and segmentation profiles. *Journal of Marketing Research*, 13(1), 51-60. <https://doi.org/10.1177%2F002224377601300107>
- Deliens, T., Clarys, P., De Bourdeaudhuij, I., & Deforche, B. (2015). Correlates of university students' soft and energy drink consumption according to gender and residency. *Nutrients*, 7(8), 6550-6566. <https://doi.org/10.3390/nu7085298>
- Donnelly, G. E., Zatz, L. Y., Svirsky, D., & John, L. K. (2018). The effect of graphic warnings on sugary-drink purchasing. *Psychological science*, 29(8), 1321-1333. <https://doi.org/10.1177%2F0956797618766361>
- Donthu, N., & Garcia, A. (1999). The internet shopper. *Journal of advertising research*, 39(3), 52-52. Retrieved from <http://web.a.ebscohost.com.ezproxy.aut.ac.nz/ehost/pdfviewer/pdfviewer?vid=1&sid=803dd299-22bc-4ef5-b94c-43b66abaab12%40sessionmgr4008>
- Donthu, N., & Gilliland, D. (1996). The infomercial shopper. *Journal of Advertising Research*, 36(2), 69-77. Retrieved from <http://web.a.ebscohost.com.ezproxy.aut.ac.nz/ehost/pdfviewer/pdfviewer?vid=1&sid=d16a18fc-df3d-48e1-96f0-8180155d85bd%40sessionmgr4007>
- Deliza, R., Rosenthal, A., & Silva, A. L. S. (2003). Consumer attitude towards information on non conventional technology. *Trends in food science & technology*, 14(1-2), 43-49. [https://doi-org./10.1016/S0924-2244\(02\)00240-6](https://doi-org./10.1016/S0924-2244(02)00240-6)

- Dudovskiy, J. (2016). *Red Bull Business Strategy and Competitive Advantage*. Retrieved June 21, 2016, from <https://research-methodology.net/red-bull-business-strategy-and-competitive-advantage/>
- Duffey, K. J., & Popkin, B. M. (2007). Shifts in patterns and consumption of beverages between 1965 and 2002. *Obesity*, 15(11), 2739-2747. <https://doi-org./10.1038/oby.2007.326>
- Ellen, P. S., & Bone, P. F. (1998). Does it matter if it smells? Olfactory stimuli as advertising executional cues. *Journal of Advertising*, 27(4), 29-39. <https://doi-org./10.1080/00913367.1998.10673567>
- Elliot, A. J. (2015). Color and psychological functioning: a review of theoretical and empirical work. *Frontiers in Psychology*, 6, 368. <https://doi.org/10.3389/fpsyg.2015.00368>
- Elliot, A. J. (2015). Color and psychological functioning: a review of theoretical and empirical work. *Frontiers in psychology*, 6, 368. <https://doi.org/10.3389/fpsyg.2015.00368>
- Elliot, A. J., & Maier, M. A. (2007). Color and psychological functioning. *Current directions in psychological science*, 16(5), 250-254. <https://doi-org./10.1111%2Fj.1467-8721.2007.00514.x>
- Elliot, A. J., & Maier, M. A. (2012). Color-in-context theory. *Advances in experimental social psychology* (Vol. 45, pp. 61-125). Academic Press. <https://doi.org/10.1016/B978-0-12-394286-9.00002-0>
- Elliot, A. J., Maier, M. A., Binser, M. J., Friedman, R., & Pekrun, R. (2009). The effect of red on avoidance behavior in achievement contexts. *Personality and Social Psychology Bulletin*, 35(3), 365-375. doi:<https://doi.org/10.1177%2F0146167208328330>
- Elliot, A. J., Maier, M. A., Binser, M. J., Friedman, R., & Pekrun, R. (2009). The effect of red on avoidance behavior in achievement contexts. *Personality and Social Psychology Bulletin*, 35(3), 365-375. <https://doi-org./10.1177%2F0146167208328330>
- Elliot, A. J., Maier, M. A., Moller, A. C., Friedman, R., & Meinhardt, J. (2007). Color and psychological functioning: the effect of red on performance attainment. *Journal of experimental psychology: General*, 136(1), 154. doi:10.1037/0096-3445.136.1.154
- European Competitiveness and Sustainable Industrial Policy Consortium (2014). *Food taxes and their impact on competitiveness in the agri-food sector*. Retrieved from <http://ec.europa.eu/DocsRoom/documents/5827/attachments/1/translations/en/renditions/pdf>
- Fiegenbaum, A., Thomas, H., & Tang, M. J. (2001). Linking hypercompetition and strategic group theories: Strategic maneuvering in the US insurance industry. *Managerial and Decision Economics*, 22(4-5), 265-279. <https://doi.org/10.1002/mde.1015>
- Finkelstein, E. A., Zhen, C., Bilger, M., Nonnemaker, J., Farooqui, A. M., & Todd, J. E. (2013). Implications of a sugar-sweetened beverage (SSB) tax when substitutions to non-beverage items are considered. *Journal of Health Economics*, 32(1), 219-239. <https://doi.org/10.1016/j.jhealeco.2012.10.005>
- Fallows, D. (2005). *How Women and Men Use the Internet*. Retrieved December 28, 2005, from <https://www.pewresearch.org/internet/2005/12/28/how-women-and-men-use-the-internet/>
- Ferrarezi, A., Minim, V. P., dos Santos, K. M., & Monteiro, M. (2013). Consumer attitude towards purchasing intent for ready to drink orange juice and nectar. *Nutrition & Food Science*. <https://doi.org/10.1108/NFS-03-2012-0021>

- Flynn, L. R., & Goldsmith, R. E. (1993). Application of the personal involvement inventory in marketing. *Psychology & marketing*, 10(4), 357-366.
<https://doi.org/10.1002/mar.4220100409>
- Fogli-Cawley, J. J., Dwyer, J. T., Saltzman, E., McCullough, M. L., Troy, L. M., Meigs, J. B., & Jacques, P. F. (2007). The 2005 Dietary Guidelines for Americans and risk of the metabolic syndrome. *The American journal of clinical nutrition*, 86(4), 1193-1201.
- Foley, B. (2018). *How to avoid sampling bias in research*. Retrieved December 6, 2018, from <https://www.surveymoz.com/resources/blog/how-to-avoid-sampling-bias-in-research/#targetText=Use%20Simple%20Random%20Sampling,in%20the%20study%20at%20hand.>
- Franckle, R. L., Levy, D. E., Macias-Navarro, L., Rimm, E. B., & Thorndike, A. N. (2018). Traffic-light labels and financial incentives to reduce sugar-sweetened beverage purchases by low-income Latino families: a randomized controlled trial. *Public health nutrition*, 21(8), 1426-1434. <https://doi-org./10.1017/S1368980018000319>
- Foley, B. (2018). *What is SPSS and How Does it Benefit Survey Data Analysis?*. Retrieved July 3, 2018, from <https://www.surveymoz.com/resources/blog/what-is-spss/>
- French, S. A., Lin, B. H., & Guthrie, J. F. (2003). National trends in soft drink consumption among children and adolescents age 6 to 17 years: prevalence, amounts, and sources, 1977/1978 to 1994/1998. *Journal of the American Dietetic Association*, 103(10), 1326-1331. [https://doi-org./10.1016/S0002-8223\(03\)01076-9](https://doi-org./10.1016/S0002-8223(03)01076-9)
- Fry, T., & Winkler., J. (2019). *UK sugar tax: Historic sales shift to sugar-free*. Retrieved May 21, 2019, from <https://www.beveragedaily.com/Article/2019/05/21/UK-sugar-tax-sees-historic-sales-shift-to-sugar-free#>
- Genschow, O., Reutner, L., & Wänke, M. (2012). The color red reduces snack food and soft drink intake. *Appetite*, 58(2), 699-702. <https://doi-org./10.1016/j.appet.2011.12.023>
- Goodrich, K. (2011). Anarchy of effects? Exploring attention to online advertising and multiple outcomes. *Psychology & marketing*, 28(4), 417-440.
<https://doi.org/10.1002/mar.20371>
- Gitlin, J. (n.d.). *Survey data cleaning: 7 things to check before you start your analysis*. Retrieved from <https://www.surveymonkey.com/curiosity/survey-data-cleaning-7-things-to-check-before-you-start-your-analysis/>
- Garnas, E. (2014). *The Reasons You Crave Sugar. Part I: A Taste for Sweetness*. Retrieved July 12, 2014, from <http://darwinian-medicine.com/the-reasons-you-crave-sugar-part-1/>
- Grummon, A. H., & Hall, M. G. (2020). Sugary drink warnings: A meta-analysis of experimental studies. *PLoS medicine*, 17(5), e1003120.
<https://doi.org/10.1371/journal.pmed.1003120>
- Gelman, A. (2005). Analysis of variance—why it is more important than ever. *The annals of statistics*, 33(1), 1-53. Retrieved from <https://www-jstor-org.ezproxy.aut.ac.nz/stable/pdf/3448650.pdf>
- Graham, D. J., & Jeffery, R. W. (2012). Predictors of nutrition label viewing during food purchase decision making: an eye tracking investigation. *Public health nutrition*, 15(2), 189-197. <https://doi-org./10.1017/S1368980011001303>

- Guerrero, L., Colomer, Y., Guàrdia, M. D., Xicola, J., & Clotet, R. (2000). Consumer attitude towards store brands. *Food Quality and Preference*, 11(5), 387-395. [https://doi-org./10.1016/S0950-3293\(00\)00012-4](https://doi-org./10.1016/S0950-3293(00)00012-4)
- Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2013). *Survey methodology*: John Wiley & Sons.
- Grunert, K. G., Wills, J. M., & Fernández-Celemín, L. (2010). Nutrition knowledge, and use and understanding of nutrition information on food labels among consumers in the UK. *Appetite*, 55(2), 177-189. <https://doi-org./10.1016/j.appet.2010.05.045>
- Gustafson, T (2017). *Younger Consumers Are More Health Conscious Than Previous Generations*. Retrieved January 23, 2017, from https://www.huffingtonpost.ca/timigustafson/younger-consumers-are-more-health-conscious-than-previous-generations_b_14290774.html
- Hagensick, A. (2017). *The Benefits of Subtracting Added Sugars*. Retrieved from <https://intermountainhealthcare.org/blogs/topics/live-well/2017/03/the-benefits-of-subtracting-added-sugars/#:~:text=Added%20sugars%2C%20on%20the%20other,fiber%2C%20water%2C%20and%20nutrients.>
- Hemphill, M. (1996). A note on adults' color–emotion associations. *The Journal of genetic psychology*, 157(3), 275-280. <https://doi-org./10.1080/00221325.1996.9914865>
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Retrieved from <http://www.afhayes.com/index.html>
- Hagmann, D., Siegrist, M., & Hartmann, C. (2018). Taxes, labels, or nudges? Public acceptance of various interventions designed to reduce sugar intake. *Food policy*, 79, 156-165. doi:<https://doi-org./10.1016/j.foodpol.2018.06.008>
- Huffman, W. E., Rousu, M., Shogren, J. F., & Tegene, A. (2007). The effects of prior beliefs and learning on consumers' acceptance of genetically modified foods. *Journal of Economic Behavior & Organization*, 63(1), 193-206. <https://doi.org/10.1016/j.jebo.2005.04.019>
- Hartigan, P., Patton-Ku, D., Fidler, C., & Boutelle, K. N. (2017). Rethink your drink: Reducing sugar-sweetened beverage sales in a children's hospital. *Health promotion practice*, 18(2), 238-244. <https://doi.org/10.1177%2F1524839915625215>
- Harvard School of Public Health (2012). *Regular consumption of sugary beverages linked to increased genetic risk of obesity* [Press release]. Retrieved from <https://www.hsph.harvard.edu/news/press-releases/sugary-beverages-genetic-risk-obesity/>
- Harzing, A.-W., Köster, K., & Zhao, S. (2012). Response style differences in cross-national research. *Management International Review*, 52(3), 341-363. <https://doi.org/10.1007/s11575-011-0111-2>
- Huang, C., Huang, J., Tian, Y., Yang, X., & Gu, D. (2014). Sugar sweetened beverages consumption and risk of coronary heart disease: a meta-analysis of prospective studies. *Atherosclerosis*, 234(1), 11-16. <https://doi.org/10.1016/j.atherosclerosis.2014.01.037>
- Huddleston, P., Behe, B. K., Minahan, S., & Fernandez, R. T. (2015). Seeking attention: an eye tracking study of in-store merchandise displays. *International Journal of Retail & Distribution Management*. <https://doi.org/10.1108/IJRDM-06-2013-0120>

- Hollebeek, L. D., Jaeger, S. R., Brodie, R. J., & Balemi, A. (2007). The influence of involvement on purchase intention for new world wine. *Food Quality and Preference*, 18(8), 1033-1049. <https://doi.org/10.1016/j.foodqual.2007.04.007>
- Hosie, R. (2017, September 12). SUGAR HAS BENEFITS FOR YOUR BRAIN HEALTH, SAYS DOCTOR. *The Independent*. Retrieved from <https://www.independent.co.uk/life-style/health-and-families/sugar-brain-effects-benefit-health-drew-ramsey-glucose-insulin-fruit-slow-release-a7941911.html>
- How Translating Colors Across Cultures Can Help You Make a Positive Impact*. (2020). Retrieved February 3, 2020, from https://www.eriksen.com/marketing/color_culture/
- Hupka, R. B., Zaleski, Z., Otto, J., Reidl, L., & Tarabrina, N. V. (1997). The colors of anger, envy, fear, and jealousy: A cross-cultural study. *Journal of cross-cultural psychology*, 28(2), 156-171. <https://doi-org./10.1177%2F0022022197282002>
- Ikonen, I., Sotgiu, F., Aydinli, A., & Verlegh, P. W. (2020). Consumer effects of front-of-package nutrition labeling: an interdisciplinary meta-analysis. *Journal of the Academy of Marketing Science*, 48(3), 360-383. <https://doi.org/10.1007/s11747-019-00663-9>
- Jacobs, L., Keown, C., Worthley, R., & Ghymn, K. I. (1991). Cross-cultural colour comparisons: global marketers beware!. *International marketing review*, 8(3), 21-30. <https://doi-org./10.1108/02651339110137279>
- Juhl, H. J., & Poulsen, C. S. (2000). Antecedents and effects of consumer involvement in fish as a product group. *Appetite*, 34(3), 261-267. <https://doi-org./10.1006/appe.2000.0318>
- Kardes, F. R., Herr, P. M., & Schwarz, N. (2019). *Handbook of research methods in consumer psychology* (2nd ed.). New York, NY: Routledge.
- Kauppinen-Räsänen, H., & Luomala, H. T. (2010). Exploring consumers' product-specific colour meanings. *Qualitative Market Research: An International Journal*. <https://doi-org./10.1108/13522751011053644>
- Kelly, B., Hughes, C., Chapman, K., Louie, J. C. Y., Dixon, H., Crawford, J., ... & Slevin, T. (2009). Consumer testing of the acceptability and effectiveness of front-of-pack food labelling systems for the Australian grocery market. *Health promotion international*, 24(2), 120-129. <https://doi.org/10.1093/heapro/dap012>
- Kendall, A. D., Zinbarg, R. E., Bobova, L., Mineka, S., Revelle, W., Prenoveau, J. M., & Craske, M. G. (2016). Measuring positive emotion with the mood and anxiety symptom questionnaire: Psychometric properties of the anhedonic depression scale. *Assessment*, 23(1), 86-95. <https://doi.org/10.1177%2F1073191115569528>
- Kit, B. K., Fakhouri, T. H., Park, S., Nielsen, S. J., & Ogden, C. L. (2013). Trends in sugar-sweetened beverage consumption among youth and adults in the United States: 1999–2010. *The American journal of clinical nutrition*, 98(1), 180-188. <https://doi.org/10.3945/ajcn.112.057943>
- Kane, J. V., & Barabas, J. (2019). No harm in checking: Using factual manipulation checks to assess attentiveness in experiments. *American Journal of Political Science*, 63(1), 234-249. <https://doi-org./10.1111/ajps.12396>
- Koenigstorfer, J., Groeppel-Klein, A., & Kamm, F. (2014). Healthful food decision making in response to traffic light color-coded nutrition labeling. *Journal of Public Policy & Marketing*, 33(1), 65-77. <https://doi.org/10.1509%2Fjppm.12.091>

- Kommonen, K. (2011). Narratives on Chinese colour culture in business contexts. *Cross cultural management*, 18(3), 366-383. Retrieved from https://s3.amazonaws.com/academia.edu.documents/11827873/Kommonen_Narratives_on_Chinese_colour_culture_CCM_2011.pdf?response-content-disposition=inline%3B%20filename%3DNarratives_on_Chinese_colour_culture.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%2F20200313%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20200313T213404Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=c3ec0ef89c05092d91f91d91bb875efe5716aec2ec860d96cd46124d51c3e95c
- Konstan, J. A., Simon Rosser, B., Ross, M. W., Stanton, J., & Edwards, W. M. (2005). The story of subject naught: A cautionary but optimistic tale of Internet survey research. *Journal of Computer-Mediated Communication*, 10(2). <https://doi.org/10.1111/j.1083-6101.2005.tb00248.x>
- Kaya, N., & Epps, H. (2004). *Color-emotion associations: Past experience and personal preference*. In AIC 2004 Color and Paints, Interim Meeting of the International Color Association, Proceedings (Vol. 5, p. 31). Jose Luis Caivano.
- Kreuter, F. (2013). *Improving Surveys with Paradata: Analytic Uses of Process Information* (Vol. 580): John Wiley & Sons.
- Kuniecki, M., Pilarczyk, J., & Wichary, S. (2015). The color red attracts attention in an emotional context. An ERP study. *Frontiers in human neuroscience*, 9, 212. <https://doi.org/10.3389/fnhum.2015.00212>
- Labrecque, L. I., & Milne, G. R. (2012). Exciting red and competent blue: the importance of color in marketing. *Journal of the Academy of Marketing Science*, 40(5), 711-727. <https://doi-org./10.1007/s11747-010-0245-y>
- Labrecque, L. I., Patrick, V. M., & Milne, G. R. (2013). The marketers' prismatic palette: A review of color research and future directions. *Psychology & Marketing*, 30(2), 187-202. <https://doi-org./10.1002/mar.20597>
- Larson, N., DeWolfe, J., Story, M., & Neumark-Sztainer, D. (2014). Adolescent consumption of sports and energy drinks: linkages to higher physical activity, unhealthy beverage patterns, cigarette smoking, and screen media use. *Journal of nutrition education and behavior*, 46(3), 181-187. <https://doi-org./10.1016/j.jneb.2014.02.008>
- Lähteenmäki, L. (2013). Claiming health in food products. *Food Quality and Preference*, 27(2), 196-201. <https://doi-org./10.1016/j.foodqual.2012.03.006>
- Leiner, D. J. (2013). Too fast, too straight, too weird: Post hoc identification of meaningless data in internet surveys. *SSRN Electronic Journal*. Retrieved from http://www.researchgate.net/publication/258997762_Too_Fast_too_Straight_too_Weird_Post_Hoc_Identification_of_Meaningless_Data_in_Internet_Surveys
- Levy, D. E., Riis, J., Sonnenberg, L. M., Barraclough, S. J., & Thorndike, A. N. (2012). Food choices of minority and low-income employees: a cafeteria intervention. *American journal of preventive medicine*, 43(3), 240-248. <https://doi-org./10.1016/j.amepre.2012.05.004>
- Lichtenfeld, S., Elliot, A. J., Maier, M. A., & Pekrun, R. (2012). Fertile green: Green facilitates creative performance. *Personality and Social Psychology Bulletin*, 38(6), 784-797. doi:<https://doi.org/10.1177%2F0146167212436611>

- Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2014). Antecedents of the adoption of the new mobile payment systems: The moderating effect of age. *Computers in Human Behavior*, 35, 464-478. <https://doi-org./10.1016/j.chb.2014.03.022>
- Lieberman, D. (2012). *Evolution's Sweet Tooth*. Retrieved June 5, 2012, from <https://www.nytimes.com/2012/06/06/opinion/evolutions-sweet-tooth.html>
- Lim, G. (2020). *Five year goal: Coca-Cola New Zealand wants to reduce sugar in it's beverages by 20%*. Retrieved February 6, 2020, from <https://www.foodnavigator-asia.com/Article/2020/02/06/Five-year-goal-Coca-Cola-New-Zealand-wants-to-reduce-sugar-in-its-beverages-by-20>
- Luckow, T., & Delahunty, C. (2004). Which juice is 'healthier'? A consumer study of probiotic non-dairy juice drinks. *Food Quality and Preference*, 15(7-8), 751-759. <https://doi-org./10.1016/j.foodqual.2003.12.007>
- Ludwig, D. S., Peterson, K. E., & Gortmaker, S. L. (2001). Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. *The lancet*, 357(9255), 505-508. [https://doi.org/10.1016/S0140-6736\(00\)04041-1](https://doi.org/10.1016/S0140-6736(00)04041-1)
- Machín, L., Aschemann-Witzel, J., Curutchet, M. R., Giménez, A., & Ares, G. (2018). Does front-of-pack nutrition information improve consumer ability to make healthful choices? Performance of warnings and the traffic light system in a simulated shopping experiment. *Appetite*, 121, 55-62. <https://doi.org/10.1016/j.appet.2017.10.037>
- Mackrell, D. (2018). What is 'traffic light' labelling and how can it help you be healthier?. Retrieved from <https://metro.co.uk/2018/11/29/what-is-traffic-light-labelling-and-how-is-it-used-for-food-8190467/>
- Magnusson, R. S. (2010). Obesity prevention and personal responsibility: the case of front-of-pack food labelling in Australia. *BMC Public Health*, 10(1), 662. <https://doi.org/10.1186/1471-2458-10-662>
- Monteiro, P., Guerreiro, J., & Loureiro, S. M. C. (2019). Understanding the role of visual attention on wines' purchase intention: an eye-tracking study. *International Journal of Wine Business Research*. <https://doi-org./10.1108/IJWBR-03-2019-0017>
- Morton, R. B., & Williams, K. C. (2010). *Experimental political science and the study of causality: From nature to the lab*. Cambridge University Press.
- McGreevey, S. (2014). *Color-coded labels, healthier food*. Retrieved January 7, 2014, from <https://news.harvard.edu/gazette/story/2014/01/color-coded-labels-healthier-food/>
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological methods*, 17(3), 437. Retrieved from <http://ubc-emotionlab.ca/wp-content/uploads/2012/06/Meade-Craig-2012-Careless-Responding-in-Survey-Data.pdf>
- Mehta, R., & Zhu, R. J. (2009). Blue or red? Exploring the effect of color on cognitive task performances. *Science*, 323(5918), 1226-1229. Retrieved from <https://science.sciencemag.org/content/sci/323/5918/1226.full.pdf>
- Menke, A. (2019). *Soft Drinks Show Popularity Around the World*. Retrieved April 9, 2019, from <https://globaledge.msu.edu/blog/post/55763/soft-drinks-show-popularity-around-the-w>
- Mickleboro, J. (2020). *Coca-Cola Amatil and these ASX 200 shares just hit new highs*. Retrieved February 21, 2020, from <https://www.fool.com.au/2020/02/21/coca-cola-amatil-and-these-asx-200-shares-just-hit-new-highs/>

- Mukherjee, A. (2015). *Why Quantitative Research Is Indispensable*. Retrieved from <https://humansofdata.atlan.com/2015/11/quantitative-research-indispensable/>
- Miloch, K. S., & Lambrecht, K. W. (2006). Consumer awareness of sponsorship at grassroots sport events. *Sport Marketing Quarterly*, 15(3), 147. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.392.4265&rep=rep1&type=pdf>
- Mohan, A. (2013). *The sentient side of package design*. Retrieved February 1, 2013, from <https://www.packworld.com/home/blog/13361746/the-sentient-side-of-package-design>
- Moller, A. C., Elliot, A. J., & Maier, M. A. (2009). Basic hue-meaning associations. *Emotion*, 9(6), 898. <https://psycnet.apa.org/doi/10.1037/a0017811>
- Mourdoukoutas, P. (2019). *Pepsi Beats Coke, Again*. Retrieved July 13, 2019, from <https://www.forbes.com/sites/panosmourdoukoutas/2019/07/13/pepsi-beats-coke-again/#5821eca32bad>
- Mourdoukoutas, P. (2019). *Pepsi's New Winning Formula: Cut The Sugar*. Retrieved October 5, 2019, from <https://www.forbes.com/sites/panosmourdoukoutas/2019/10/05/pepis-new-winning-formula-cut-the-sugar/#92726d57598a>
- Mucci, K. (2017). *The Illustrated History of How Sugar Conquered the World*. Retrieved from <https://www.saveur.com/sugar-history-of-the-world/>
- Mackenzie, R. (2018). *One-Way vs Two-Way ANOVA: Differences, Assumptions and Hypotheses*. Retrieved from <https://www.technologynetworks.com/informatics/articles/one-way-vs-two-way-anova-definition-differences-assumptions-and-hypotheses-306553>
- Mueller, S., & Szolnoki, G. (2010). The relative influence of packaging, labelling, branding and sensory attributes on liking and purchase intent: Consumers differ in their responsiveness. *Food quality and preference*, 21(7), 774-783. <https://doi-org./10.1016/j.foodqual.2010.07.011>
- Murphy, C. (2019). *Stratified Random Sampling: Advantages and Disadvantages*. Retrieved from <https://www.investopedia.com/ask/answers/041615/what-are-advantages-and-disadvantages-stratified-random-sampling.asp>
- Neuhofer, Z., McFadden, B. R., Rihn, A., Wei, X., Khachatryan, H., & House, L. (2020). Can the Updated Nutrition Facts Label Decrease Sugar-Sweetened Beverage Consumption? *Economics & Human Biology*, 37, 1-8. doi:<https://doi-org./10.1016/j.ehb.2020.100867>
- Newhart, B. (2019). *The last 30 years in beverages: How have consumers changed*. Retrieved September 16, 2019, from <https://www.beveragedaily.com/Article/2019/09/16/30-years-in-beverage-how-have-consumers-changed>
- Newman, C. L., Howlett, E., & Burton, S. (2014). Shopper response to front-of-package nutrition labeling programs: potential consumer and retail store benefits. *Journal of Retailing*, 90(1), 13-26. <https://doi.org/10.1016/j.jretai.2013.11.001>
- Nichols, M. (2019). *How Consumer Perception of Sweeteners is Impacting Food Industry*. Retrieved February 9, 2019, from <https://www.foodqualityandsafety.com/article/how-consumer-perception-of-sweeteners-impacts-food-industry/>
- Nielsen, S. J., & Popkin, B. M. (2004). Changes in beverage intake between 1977 and 2001. *American journal of preventive medicine*, 27(3), 205-210. <https://doi-org./10.1016/j.amepre.2004.05.005>

- Nyika, R. (2018, January 16). Sugary drinks - NZ worse than Canada, UK and Australia, study finds. *Stuff*. Retrieved from <https://www.stuff.co.nz/national/health/100581810/sugary-drinks--nz-worse-than-usa-uk-and-australia-study-finds>
- Ockhuysen, S. (2019, May 5). Sugary drinks are worse for you than sugary food. *Stuff*. Retrieved from <https://www.stuff.co.nz/national/health/112466232/sugary-drinks-are-worse-for-you-than-sugary-food>
- O'Connor, Z. (2011). *Colour psychology and colour therapy: Caveat emptor*. *Color Research & Application*, 36(3), 229-234. <https://doi-org./10.1002/col.20597>
- Olson, K., & Parkhurst, B. (2013). Collecting Paradata for Measurement Error Evaluations. *Improving Surveys with Paradata: Analytic Uses of Process Information*, 580, 43. Retrieved from <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1222&context=sociologyfacpub>
- Olstad, D. L., Vermeer, J., McCargar, L. J., Prowse, R. J., & Raine, K. D. (2015). Using traffic light labels to improve food selection in recreation and sport facility eating environments. *Appetite*, 91, 329-335. <https://doi-org./10.1016/j.appet.2015.04.057>
- Oliveira, D., Ares, G., & Deliza, R. (2018). The effect of health/hedonic claims on consumer hedonic and sensory perception of sugar reduction: Case study with orange/passionfruit nectars. *Food Research International*, 108, 111-118. <https://doi-org./10.1016/j.foodres.2018.03.003>
- Patterson, N. J., Sadler, M. J., & Cooper, J. M. (2012). Consumer understanding of sugars claims on food and drink products. *Nutrition bulletin*, 37(2), 121-130. <https://doi-org./10.1111/j.1467-3010.2012.01958.x>
- Parguel, B., Benoît-Moreau, F., & Larceneux, F. (2011). How sustainability ratings might deter 'greenwashing': A closer look at ethical corporate communication. *Journal of business ethics*, 102(1), 15. <https://doi-org./10.1007/s10551-011-0901-2>
- Popkin, B. M., & Hawkes, C. (2016). Sweetening of the global diet, particularly beverages: patterns, trends, and policy responses. *The Lancet Diabetes & Endocrinology*, 4(2), 174-186. [https://doi.org/10.1016/S2213-8587\(15\)00419-2](https://doi.org/10.1016/S2213-8587(15)00419-2)
- Popova, L., Nonnemaker, J., Taylor, N., Bradfield, B., & Kim, A. (2019). Warning Labels on Sugar-sweetened Beverages: An Eye Tracking Approach. *American journal of health behavior*, 43(2), 406-419. doi:<https://doi.org/10.5993/AJHB.43.2.16>
- Pravossoudovitch, K., Cury, F., Young, S. G., & Elliot, A. J. (2014). Is red the colour of danger? Testing an implicit red–danger association. *Ergonomics*, 57(4), 503-510. <https://doi-org./10.1080/00140139.2014.889220>
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International journal of nursing studies*, 47(11), 1451-1458. <https://doi.org/10.1016/j.ijnurstu.2010.06.004>
- Purdy, C. (2017). *Coca-Cola is being sued for misleading people over the healthfulness of its sodas*. Retrieved January 5, 2017, from <https://qz.com/878091/coca-cola-is-subject-of-lawsuit-about-sugary-sodas-impact-on-health-and-obesity/>
- Reynolds, N., Diamantopoulos, A., & Schlegelmilch, B. (1993). Pre-testing in questionnaire design: A review of the literature and suggestions for further research. *Market Research Society. Journal.*, 35(2), 1-11. <https://doi.org/10.1177%2F147078539303500202>

- Richins, M. L., & Bloch, P. H. (1991). Post-purchase product satisfaction: Incorporating the effects of involvement and time. *Journal of Business Research*, 23(2), 145-158. [https://doi.org/10.1016/0148-2963\(91\)90025-S](https://doi.org/10.1016/0148-2963(91)90025-S)
- Rajeshwari, R., Yang, S. J., Nicklas, T. A., & Berenson, G. S. (2005). Secular trends in children's sweetened-beverage consumption (1973 to 1994): the Bogalusa Heart Study. *Journal of the American Dietetic Association*, 105(2), 208-214. <https://doi.org/10.1016/j.jada.2004.11.026>
- Reis, F., Alcaire, F., Deliza, R., & Ares, G. (2017). The role of information on consumer sensory, hedonic and wellbeing perception of sugar-reduced products: Case study with orange/pomegranate juice. *Food Quality and Preference*, 62, 227-236. <https://doi.org/10.1016/j.foodqual.2017.06.005>
- Rebouças, M. C., Rodrigues, M. D. C. P., & de Freitas, S. M. (2019). How label and nutritional claims affect consumers' acceptance, buying intention and quality perception toward a beverage made from cashew nut. *Nutrition & Food Science*. <https://doi.org/10.1108/NFS-11-2018-0309>
- Raghunathan, R., Naylor, R. W., & Hoyer, W. D. (2006). The unhealthy= tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing*, 70(4), 170-184. <https://doi.org/10.1509%2Fjmk.70.4.170>
- Rocchi, B., & Stefani, G. (2006). Consumers' perception of wine packaging: a case study. *International Journal of Wine Marketing*, 18(1), 33-44. <https://doi.org/10.1108/09547540610657669>
- Ross, D. (2017). *Coca-Cola, Pepsi and Dr. Pepper Sued Over Misleading Diet Soda Ads*. Retrieved December 7, 2017, from <https://www.alternet.org/2017/12/coca-cola-pepsi-and-dr-pepper-sued-over-misleading-diet-soda-ads/>
- Savelli, E., Murmura, F., Liberatore, L., Casolani, N., & Bravi, L. (2019). Consumer attitude and behaviour towards food quality among the young ones: Empirical evidences from a survey. *Total Quality Management & Business Excellence*, 30(1-2), 169-183. <https://doi.org/10.1080/14783363.2017.1300055>
- Schaefer, A., & Yasin, K. (2020). *Experts Agree: Sugar Might Be as Addictive as Cocaine*. Retrieved from <https://www.healthline.com/health/food-nutrition/experts-is-sugar-addictive-drug>
- Schmitt, B. H. (1995). Language and visual imagery: Issues of corporate identity in East Asia. *The Columbia Journal of World Business*, 30(4), 28-36. [https://doi.org/10.1016/0022-5428\(95\)90003-9](https://doi.org/10.1016/0022-5428(95)90003-9)
- Schuldt, J. P. (2013). Does green mean healthy? Nutrition label color affects perceptions of healthfulness. *Health communication*, 28(8), 814-821. <https://doi.org/10.1080/10410236.2012.725270>
- Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T., & McCormick, L. (1992). Toward integrating qualitative and quantitative methods: an introduction. Retrieved from https://journals.sagepub.com/doi/pdf/10.1177/109019819201900101?casa_token=ZOzo4trDysAAAAAA:9Zrb2kSr3xYjx-WaPQxscKQ0k0QeIdEJIzWIq-4ONA4NlmMpNoNDpUpTXt4-nGSjv1kOCiFsmL8dvww
- Scrinis, G., & Parker, C. (2016). Front-of-pack food labeling and the politics of nutritional nudges. *Law & Policy*, 38(3), 234-249. <https://doi.org/10.1111/lapo.12058>

'Soda tax' associated with 50 percent drop in sugary drink consumption in Berkeley, California. <https://abcnews.go.com/Health/soda-tax-50-drop-sugary-drink-consumption-berkeley/story?id=61210940>

Shuttleworth, M. (2009). *Predictive Validity*. Retrieved August 31, 2020, from <https://explorable.com/predictive-validity>

Spence, C. (2018). Background colour & its impact on food perception & behaviour. *Food quality and preference*, 68, 156-166. <https://doi-org./10.1016/j.foodqual.2018.02.012>

Sandoval, L. A., Carpio, C. E., & Sanchez-Plata, M. (2019). The effect of 'Traffic-Light' nutritional labelling in carbonated soft drink purchases in Ecuador. *PloS one*, 14(10), e0222866. <https://dx-doi-org./10.1371%2Fjournal.pone.0222866>

Spence, C., & Velasco, C. (2018). On the multiple effects of packaging colour on consumer behaviour and product experience in the 'food and beverage' and 'home and personal care' categories. *Food quality and preference*, 68, 226-237. <https://doi.org/10.1016/j.foodqual.2018.03.008>

Spector, D. (2014). *Why We Love Sugar?*. Retrieved April 26, 2014, from <https://www.businessinsider.com.au/evolutionary-reason-we-love-sugar-2014-4?r=US&IR=T>

Stamos, A., Lange, F., & Dewitte, S. (2019). Promoting healthy drink choices at school by means of assortment changes and traffic light coding: A field study. *Food Quality and Preference*, 71, 415-421. <https://doi.org/10.1016/j.foodqual.2018.08.016>

Stats NZ (n.d.). Age. Retrieved from <http://archive.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/age/questionnaire-module.aspx>

Stats NZ (n.d.). *Gender identity*. Retrieved from <http://archive.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/gender-identity/questionnaire.aspx>

Sean. (2015, February 16). How does Colour Affect Consumer Behaviour?. *Digital Marketing Magazine*. Retrieved from <http://digitalmarketingmagazine.co.uk/articles/how-does-colour-affect-consumer-behaviour>

Schlegel, A. (2018). *Tukey's Test for Post-Hoc Analysis*. Retrieved September 7, 2018, from <https://aaronshlegel.me/tukeys-test-post-hoc-analysis.html>

Taillie, L. S., Ng, S. W., Xue, Y., Busey, E., & Harding, M. (2017). No fat, no sugar, no salt... No problem? Prevalence of "low-content" nutrient claims and their associations with the nutritional profile of food and beverage purchases in the United States. *Journal of the Academy of Nutrition and Dietetics*, 117(9), 1366-1374. <https://doi-org./10.1016/j.jand.2017.01.011>

Taub-Dix, B. (2020). *Nutrition facts labels just got a big makeover – can you spot the difference?*. Retrieved January 4, 2020, from <https://www.today.com/food/here-s-what-new-nutrition-facts-food-labels-look-t171083>

The World Bank. (2020). *How Tackling the World's Deadliest Diseases Can Boost a Healthy Workforce and Economic Growth*. Retrieved from <https://www.worldbank.org/en/news/immersive-story/2020/02/06/tackling-worlds-deadliest-diseases-can-boost-healthy-workforce-and-economic-growth>

Thorndike, A. N., Sonnenberg, L., Riis, J., Barraclough, S., & Levy, D. E. (2012). A 2-phase labeling and choice architecture intervention to improve healthy food and beverage

choices. *American journal of public health*, 102(3), 527-533.

<https://doi.org/10.2105/AJPH.2011.300391>

Todd, C. (2019). *Can Our Bodies Even Tell the Difference Between Naturally Occurring and Added Sugars?*. Retrieved from <https://www.self.com/story/how-different-are-naturally-occurring-sugars-really-from-added-ones>

Tarkiainen, A., & Sundqvist, S. (2009). Product involvement in organic food consumption: does ideology meet practice?. *Psychology & Marketing*, 26(9), 844-863.

<https://doi.org/10.1002/mar.20302>

Tsiotsou, R. (2006). The role of perceived product quality and overall satisfaction on purchase intentions. *International journal of consumer studies*, 30(2), 207-217.

<https://doi.org/10.1111/j.1470-6431.2005.00477.x>

Volkova, E., Neal, B., Rayner, M., Swinburn, B., Eyles, H., Jiang, Y., ... & Mhurchu, C. N. (2014). Effects of interpretive front-of-pack nutrition labels on food purchases: protocol for the Starlight randomised controlled trial. *BMC Public Health*, 14(1), 968.

<https://doi.org/10.1186/1471-2458-14-968>

Van Selm, M., & Jankowski, N. W. (2006). Conducting online surveys. *Quality and Quantity*, 40(3), 435-456. <https://doi.org/10.1007/s11135-005-8081-8>

Van Vaerenbergh, Y., & Thomas, T. D. (2013). Response styles in survey research: A literature review of antecedents, consequences, and remedies. *International Journal of Public Opinion Research*, 25(2), 195-217. <https://doi.org/10.1093/ijpor/eds021>

Verbeke, W., & Viaene, J. (1999). Consumer attitude to beef quality labeling and associations with beef quality labels. *Journal of International Food & Agribusiness Marketing*, 10(3), 45-65. https://doi-org./10.1300/J047v10n03_03

Walsh, P., Kim, Y., & Ross, S. D. (2008). Brand recall and recognition: A comparison of television and sport video games as presentation modes. *Sport Marketing Quarterly*, 17(4). Retrieved from

https://www.researchgate.net/profile/Yongjae_Kim3/publication/265671838_Brand_Recall_and_Recognition_A_Comparison_of_Television_and_Sport_Video_Games_as_Presentation_Modes/links/5502fd140cf24cee39fd5439/Brand-Recall-and-Recognition-A-Comparison-of-Television-and-Sport-Video-Games-as-Presentation-Modes.pdf

Wang, E. S. T. (2010). Impact of multiple perceived value on consumers' brand preference and purchase intention: a case of snack foods. *Journal of food products marketing*, 16(4), 386-397. <https://doi-org./10.1080/10454446.2010.509242>

Wang, R. Y., & Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers. *Journal of Management Information Systems*, 12(4), 5-33.

<https://doi.org/10.1080/07421222.1996.11518099>

Waterlander, W. E., Mhurchu, C. N., & Steenhuis, I. H. (2014). Effects of a price increase on purchases of sugar sweetened beverages. Results from a randomized controlled trial. *Appetite*, 78, 32-39. <https://doi.org/10.1016/j.appet.2014.03.012>

White House Task Force on Childhood Obesity Report. (2010). Retrieved December 5, 2010, from <https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/White-House-Task-Force-on-Childhood-Obesity-Report.aspx>

Wiener-Bronner, D. (2018). *Why Coke is winning the cola wars*. Retrieved February 21, 2018, from <https://money.cnn.com/2018/02/20/news/companies/cola-wars-coke-pepsi/index.html>

Wilson, G. D. (1966). Arousal properties of red versus green. *Perceptual and motor skills*, 23(3), 947-949. <https://psycnet.apa.org/doi/10.2466/pms.1966.23.3.947>

Woods, C. M. (2006). Careless responding to reverse-worded items: Implications for confirmatory factor analysis. *Journal of Psychopathology and Behavioral Assessment*, 28(3), 186-191. <https://doi.org/10.1007/s10862-005-9004-7>

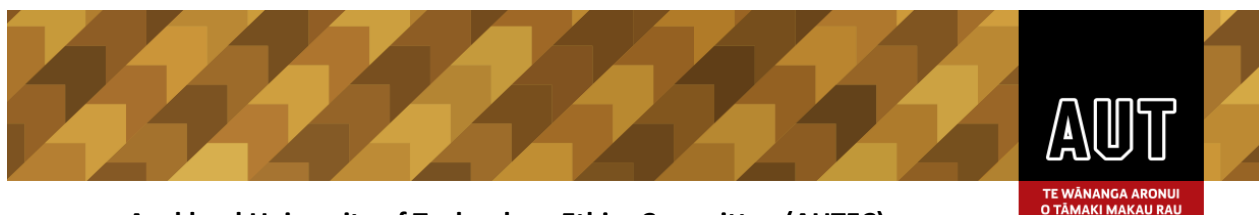
World Health Organisation (2020). *Obesity and overweight*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>

Wuenstel, J. W., Wądołowska, L., Słowińska, M. A., Niedźwiedzka, E., Kowalkowska, J., & Antoniak, L. (2015). Consumption frequency of fruit juices and sweetened beverages: differences related to age, gender and the prevalence of overweight among Polish adolescents. *Polish Journal of Food and Nutrition Sciences*, 65(3), 211-221. Retrieved from <https://www.degruyter.com/downloadpdf/j/pjfn.2015.65.issue-3/pjfn-2013-0013/pjfn-2013-0013.pdf>

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of consumer research*, 12(3), 341-352. <https://doi.org/10.1086/208520>

Zarkin, G. A., & Anderson, D. W. (1992). Consumer and producer responses to nutrition label changes. *American Journal of Agricultural Economics*, 74(5), 1202-1207. <https://doi-org./10.2307/1242786>

Appendix A: Ethics Approval Letter



Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

31 March 2020

Rouxelle de Villiers
Faculty of Business Economics and Law

Dear Rouxelle

Re Ethics Application: **20/70 The impact of sugar-labelling of canned beverages on consumer purchase intention**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 31 March 2023.

Non-Standard Conditions of Approval

1. Update the withdrawal statement on the Information Sheet to reflect that this is an anonymous survey (remove any reference to participants being able to have data identifiable to them removed - this is not possible for an anonymous survey).

Non-standard conditions must be completed before commencing your study. Non-standard conditions do not need to be submitted to or reviewed by AUTEC before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: cfj5928@autuni.nz

Appendix B: Participant Information Sheet



AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Participant Information Sheet

Date Information Sheet Produced:

15/01/2020

Project Title

The impact of sugar-labelling on consumer purchase intention of canned beverages.

An Invitation

My name is Gavin Pereira and I invite you to participate in my research, aimed at addressing how beverage labelling might influence consumers' intention to buy soft drinks. This research is conducted as part of my Masters of Business (Mbus) degree at the Auckland University of Technology (AUT).

What is the purpose of this research?

The aim of this research is to develop an understanding of whether the word sugar or no sugar, in combination with different background colours, and placed on the front of a beverage may or does not have an impact on consumers' purchase intentions. From an academic point of view, this research will also extend the existing literature on the use of colour on labels and helps marketers understand the implications of placing red and green colours behind labels on beverages.

How was I identified and why am I being invited to participate in this research?

This study is aimed at consumers in the age range of 18 to 55 years. You have been identified as you are a registered member of the CINT panel. As you are a frequent consumer of canned beverages, your participation would be beneficial to this research.

How do I agree to participate in this research?

Completion of the survey shall indicate your consent to take part in the research. Your participation is completely anonymous. You have two weeks to consider whether you want to participate or not.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time.

What will happen in this research?

You will be asked to view several canned beverages online. The visual beverages will be followed by an online survey of 39 questions. These questions will purely focus on eliciting your cognitive response to the labelling and how likely you are to purchase the product. The questions focus on health perceptions and purchase intent.

What are the discomforts and risks?

The questions in the online survey will not lead to personal discomforts and embarrassment. The purpose of the online survey is to collect your professional knowledge and it will not in any way pose a risk to you.

How will these discomforts and risks be alleviated?

You are not required to answer all questions and you can withdraw from the survey at any time. All information provided by you will be kept confidential.

What are the benefits?

By completing the online survey, the researcher will have gained valuable insights into how colour-enhanced sugar labelling on beverage products can make it easier to process information and how it can have an impact on consumer purchase intention. This research will help in acquiring a Master of Business (Mbus) degree from AUT. The findings of this research will help policy makers and beverage manufacturers, in attaining an improved understanding of the impact of sugar labelling on the purchase intentions of consumers towards beverages.

How will my privacy be protected?

You will have full confidentiality. The information provided by you will be shared only with the researcher and the supervisors involved in this research.

What are the costs of participating in this research?

There is no cost of participating in this research, just 15 minutes of your valuable time.

What opportunity do I have to consider this invitation?

You are requested to kindly decide within a period of one week.

Will I receive feedback on the results of this research?

Yes, you will be able to receive the final results of this research by emailing on cfj5928@autuni.ac.nz.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr. Rouxelle De Villiers, email: rdevilli@aut.ac.nz, 09 921 9999 ext 5198.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of ATEC, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Gavin Pereira, cfj5928@autuni.ac.nz, (021) 2574341

Project Supervisor Contact Details:

Dr. Rouxelle De Villiers, rdevilli@aut.ac.nz, 09 921 9999 ext 5198

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, ATEC
Reference number *type the reference number*.

Appendix C: Online Survey Questionnaire

Start of Block: Introduction

CONSENT FORM

You are invited to participate in a research study that investigates your thoughts about a product. Your participation in this research is entirely voluntary. You may withdraw from this research at any time, without any adverse consequences.

It will take about **10 minutes** to complete. Please be as honest and accurate as you can. There is no physical risk involved in this study to you. The records of this study will be kept completely private and confidential. Any report of this study will not include any information that will make it possible to identify you as a participant.

***It is very important that you complete all questions without any distractions (e.g., watching TV, listening to music, instant message, chatting). And please do not complete this survey while completing other surveys at the same time.**

Completion of the survey indicates consent to take part in the research. Your consent to participate is indicated by clicking the button below.

End of Block: Introduction

Start of Block: Screening Questions

Q1 How often do you consume sugary drinks:

- ☐ Never
- ☐ Rarely
- ☐ About once per month
- ☐ About once per fortnight
- ☐ Once to two times per week
- ☐ 3-4 times per week
- ☐ About once per day

End of Block: Screening Questions

Start of Block: Beverage evaluation question

Q2

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=extremely unlikely and 7=extremely likely):








	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=extremely unwilling and 7=extremely willing):






	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

1 2 3 4 5 6 7

Soothing (1=Not at all soothing, 7= Very soothing)	
Natural (1=Not at all natural, 7= Very natural)	
Level of calories (1= Very low calories, 7= Very high calories)	
Familiarity (1= Very familiar, 7= Very unfamiliar)	
Attractiveness (1= Very unattractive, 7= Very attractive)	

Q5 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Freshness (1= Not all fresh, 7= Very fresh)							
Comforting (1= Not at all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not at all favorable, 7= Very favorable)							
Positive (1= Not at all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Beverage evaluation question

Q6

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the

image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=**extremely unlikely** and 7=**extremely likely**):








	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Q7 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=**extremely unwilling** and 7=**extremely willing**):

	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

	1	2	3	4	5	6	7
Soothing (1= Not at all soothing, 7= Very soothing)							
Natural (1= Not at all natural, 7= Very natural)							
Level of calories (1= Very low calories, 7=Very high calories)							
Familiarity (1= Very familiar, 7= Very unfamiliar)							
Attractiveness (1= Very unattractive, 7= Very attractive)							

Q9 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Freshness (1= Not at all fresh, 7= Very fresh)							
Comforting (1= Not at all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not at all favorable, 7= Very favorable)							
Positive (1= Not at all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Beverage evaluation question

Q10

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the

image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=**extremely unlikely** and 7=**extremely likely**):







	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Q11 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=**extremely unwilling** and 7=**extremely willing**):

	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

	1	2	3	4	5	6	7
Soothing (1= Not at all soothing, 7= Very soothing)							
Natural (1= Not all natural, 7= Very natural)							
Level of calories (1= Very low calories, 7= Very high calories)							
Familiarity (1= Very familiar, 7= Very unfamiliar)							
Attractiveness (1= Very unattractive, 7= Very attractive)							

Q13 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Fresh (1= Not at all fresh, 7= Very fresh)							
Comforting (1= Not all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not at all favorable, 7= Very favorable)							
Positive (1= Not all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Beverage evaluation question

Q14

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the

image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=**extremely unlikely** and 7=**extremely likely**):








	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Q15 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=**extremely unwilling** and 7=**extremely willing**):

	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

	1	2	3	4	5	6	7
Soothing (1= Not at all soothing, 7= Very soothing)							
Natural (1= Not at all natural, 7= Very natural)							
Level of calories (1= Very low calories, 7= Very high calories)							
Familiarity (1= Very familiar, 7= Very unfamiliar)							
Attractiveness (1= Very unattractive, 7= Very attractive)							

Q17 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Freshness (1= Not at all fresh, 7= Very fresh)							
Comforting (1=Not at all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not at all favorable, 7= Very favorable)							
Positive (1= Not at all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Beverage evaluation question

Q18

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the

image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=**extremely unlikely** and 7=**extremely likely**):








	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Q19 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=**extremely unwilling** and 7=**extremely willing**):

	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

	1	2	3	4	5	6	7
Soothing (1= Not at all soothing, 7= Very soothing)							
Natural (1= Not at all natural, 7= Very natural)							
Level of calories (1= Very low calories, 7= Very high calories)							
Familiarity (1= Very familiar, 7= Very unfamiliar)							
Attractiveness (1= Very unattractive 7= Very attractive)							

Q21 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Freshness (1= Not at all fresh, 7= Very fresh)							
Comforting (1= Not at all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not all favorable, 7= Very favorable)							
Positive (1= Not at all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Beverage evaluation question

Q22

Beverage Evaluation

Imagine that you going to a supermarket to buy snacks and beverages. When you reach the soft drinks aisle, you notice a new brand and carefully consider it. Please take a look at the

image of the new soft drink below, please indicate your likelihood of purchasing the canned beverage (1=extremely unlikely and 7=extremely likely):








	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
How likely are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Q23 Please take a look at the above image, please indicate your willingness to purchase the canned beverage (1=extremely unwilling and 7=extremely willing):

	Extremely Unwilling 1	2	3	4	5	6	Extremely Willing 7
How willing are you to purchase this product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24 Please indicate on a sliding scale of 1 to 7 (descriptions, below), your attitude towards the canned beverage:

	1	2	3	4	5	6	7
Soothing (1= Not at all soothing, 7= Very soothing)							
Natural (1= Not at all natural, 7= Very natural)							
Level of calories (1= Very low calories, 7= Very high calories)							
Familiarity (1= Very familiar, 7= Very unfamiliar)							
Attractiveness (1= Very unattractive, 7= Very attractive)							

Q25 Please indicate your feeling towards the canned beverage, using the sliding scale below (descriptions, below):

	1	2	3	4	5	6	7
Freshness (1= Not at all fresh, 7= Very fresh)							
Comforting (1= Not all comforting, 7= Very comforting)							
Good (1= Not at all good, 7= Very good)							
Favorable (1= Not at all favorable, 7= Very favorable)							
Positive (1= Not at all positive, 7= Very positive)							

End of Block: Beverage evaluation question

Start of Block: Product Involvement

Q26 Please indicate the attribute that most represents how you feel about the canned beverage featured in the earlier question:

	1	2	3	4	5	6	7	
Not at all Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Interesting
Means very little to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Means very lot to me
Not at all Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Important
Not at all fascinating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Fascinating
Not at all needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Needed
Not at all appealing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Appealing
Not at all exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Exciting

End of Block: Product Involvement

Start of Block: Control variable questions

Q27 Have you consumed a canned beverage in the past week:

- ☐ Definitely not
- ☐ Probably not
- ☐ Might or might not
- ☐ Probably yes
- ☐ Definitely yes

Q28 Please look at the below statements and indicate, how likely are you to consume new sugary drinks (1 = **extremely unlikely**, 7 = **extremely likely**) :

	Extremely Unlikely 1	2	3	4	5	6	Extremely Likely 7
I am often among the first people to try a new sugary drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New sugary drinks are usually gimmicks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I see a sugary drink that is somewhat different from the usual, I check it out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29 Please indicate your feeling after consuming sugary drinks:

	1	2	3	4	5	6	7	
Extremely Unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Satisfied
Extremely Unhappy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Happy
Extremely Displeased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Pleased
Extremely Unaroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Aroused
Extremely Unnatural	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Natural
Extremely not sleepy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Sleepy

Q30 Do you have a pre-existing health condition that prevents you from drinking sugary drinks:

- ☐ Definitely not
 - ☐ Probably not
 - ☐ Might or might not
 - ☐ Probably yes
 - ☐ Definitely yes
-

Q31 Please indicate your level of resistance towards consuming sugary drinks **(1= not at all resistant and 7= extremely resistant)**:

	Not at all resistant 1	2	3	4	5	6	Extremely resistant 7
How resistant are you towards consuming sugary drinks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32 Take a look at the below mentioned statements, and please indicate what best describes your mood:

- ☐ Feeling like I have a lot to look forward to
- ☐ Feeling really proud of myself
- ☐ Feeling enthusiastic
- ☐ Feeling optimistic
- ☐ Feeling bored
- ☐ Feeling like nothing is very enjoyable
- ☐ Feeling withdrawn from other people

End of Block: Control variable questions

Start of Block: Manipulation check questions

Q33 Please recall the product you considered in the scenario and indicate on a scale of 1 to 7 (**1= extremely likely to 7=extremely unlikely**) whether you recalled any sugar labeling on the canned beverage?

- ☐ Definitely yes
 - ☐ Probably yes
 - ☐ Might or might not
 - ☐ Probably not
 - ☐ Definitely not
-

Q34 If you did recall the sugar label on the canned beverage, please indicate the color and what was stated on the label:

- ☐ Red (Sugar)
- ☐ Green (No sugar)
- ☐ Green (Sugar)
- ☐ Red (No sugar)

Q35 Please indicate whether the sugar label on a canned beverage helped in drawing your attention towards the canned beverage (1= strongly disagree and 7= strongly agree):

	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
Did the sugar label on the canned beverage capture your attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q36 Please indicate whether you perceive a canned beverage to be more healthy when it has the following (1=strongly agree and 7= strongly disagree):

	1	2	3	4	5	6	7	
Very low in calories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very high in calories
No sugar label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sugar label
Green background	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Red background

Q37 Please indicate on a scale of 1 to 7 (**1=strongly disagree and 7=strongly agree**), would you perceive a red colored canned beverage as a warning/stop sign:

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly Agree

End of Block: Manipulation check questions

Start of Block: Demographic questions

Q38 What gender do you identify as:

- ☐ Male
 - ☐ Female
 - ☐ Gender Diverse
-

Q39 Please indicate the year you were born:

End of Block: Demographic questions

Appendix D: Gender characteristics

What gender do you identify as:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	79	44.4	44.9	44.9
	Female	94	52.8	53.4	98.3
	Gender Diverse	3	1.7	1.7	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix E: Age characteristics

Statistics

Please indicate the year you were born:

N	Valid	176
	Missing	2
Mean		1977.82
Median		1978.50
Mode		1965 ^a
Std. Deviation		13.045
Variance		170.180
Range		54
Minimum		1947
Maximum		2001

a. Multiple modes exist. The smallest value is shown

Appendix F: Product Recall

Please recall the product you considered in the scenario and indicate on a scale of 1 to 7 (1= extremely likely to 7=extremely unlikely) whether you recalled any sugar labeling on the canned beverage?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely yes	54	30.3	30.7	30.7
	Probably yes	41	23.0	23.3	54.0
	Might or might not	43	24.2	24.4	78.4
	Probably not	14	7.9	8.0	86.4
	Definitely not	24	13.5	13.6	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix G: Product Recall (Label and colour)

If you did recall the sugar label on the canned beverage, please indicate the color and what was stated on the label:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Red (Sugar)	73	41.0	41.5	41.5
	Green (No sugar)	35	19.7	19.9	61.4
	Green (Sugar)	40	22.5	22.7	84.1
	Red (No sugar)	28	15.7	15.9	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix H: Perceived healthiness (Level of calories)

Please indicate whether you perceive a canned beverage to be more healthy when it has the following (1=strongly agree and 7= strongly disagree) (Level of calories)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very low calories	43	24.2	24.4	24.4
	Low calories	11	6.2	6.3	30.7
	Somewhat low calories	10	5.6	5.7	36.4
	Neither low nor high calories	43	24.2	24.4	60.8
	Somewhat high calories	24	13.5	13.6	74.4
	High calories	17	9.6	9.7	84.1
	Very high calories	28	15.7	15.9	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix I: Perceived healthiness (Sugar label)

Please indicate whether you perceive a canned beverage to be more healthy when it has the following (1=strongly agree and 7= strongly disagree) (Sugar label)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No sugar label	29	16.3	16.5	16.5
	2.00	15	8.4	8.5	25.0
	3.00	15	8.4	8.5	33.5
	4.00	47	26.4	26.7	60.2
	5.00	20	11.2	11.4	71.6
	6.00	21	11.8	11.9	83.5
	Sugar label	29	16.3	16.5	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix J: Perceived healthiness (Background colour)

Please indicate whether you perceive a canned beverage to be more healthy when it has the following (1=strongly agree and 7= strongly disagree) (Background colour)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Green background	24	13.5	13.6	13.6
	2.00	18	10.1	10.2	23.9
	3.00	8	4.5	4.5	28.4
	4.00	55	30.9	31.3	59.7
	5.00	24	13.5	13.6	73.3
	6.00	16	9.0	9.1	82.4
	Red background	31	17.4	17.6	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix K: Perceived healthiness (Red as a warning signal)

Please indicate on a scale of 1 to 7 (1=strongly disagree and 7=strongly agree), would you perceive a red colored canned beverage as a warning/stop sign:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	14.0	14.2	14.2
	Disagree	27	15.2	15.3	29.5
	Somewhat disagree	19	10.7	10.8	40.3
	Neither agree nor disagree	52	29.2	29.5	69.9
	Somewhat agree	21	11.8	11.9	81.8
	Agree	19	10.7	10.8	92.6
	Strongly agree	13	7.3	7.4	100.0
	Total	176	98.9	100.0	
Missing	System	2	1.1		
Total		178	100.0		

Appendix L: ANOVA test results (Hypothesis 1)

ANOVA

Purchase Intention Average

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.645	2	5.322	1.326	.268
Within Groups	694.577	173	4.015		
Total	705.222	175			

Appendix M: Descriptive Statistics (Hypothesis 1)

Descriptives

Purchase Intention Average

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Sugar	55	3.6909	2.01956	.27232	3.1449	4.2369	1.00	7.00
No sugar	58	3.5948	2.08473	.27374	3.0467	4.1430	1.00	7.00
No label	63	3.1349	1.91178	.24086	2.6534	3.6164	1.00	7.00
Total	176	3.4602	2.00745	.15132	3.1616	3.7589	1.00	7.00

Appendix N: Test of Homogeneity of Variances (Hypothesis 1)

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Purchase Intention Average	Based on Mean	.265	2	173	.768
	Based on Median	.269	2	173	.764
	Based on Median and with adjusted df	.269	2	170.937	.764
	Based on trimmed mean	.299	2	173	.742

Appendix O: ANOVA test results (Hypothesis 2)

ANOVA

Attitude_average

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.853	2	1.926	.890	.413
Within Groups	374.527	173	2.165		
Total	378.379	175			

Appendix P: Descriptive Statistics (Hypothesis 2)

Descriptives

Attitude_average

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Sugar	55	3.7818	1.53925	.20755	3.3657	4.1979	1.00	7.00
No sugar	58	3.6276	1.45503	.19106	3.2450	4.0102	1.00	7.00
No label	63	3.4222	1.42506	.17954	3.0633	3.7811	1.00	6.50
Total	176	3.6023	1.47043	.11084	3.3835	3.8210	1.00	7.00

Appendix Q: Test of Homogeneity of Variances (Hypothesis 2)

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Attitude_average	Based on Mean	.633	2	173	.532
	Based on Median	.663	2	173	.517
	Based on Median and with adjusted df	.663	2	171.966	.517
	Based on trimmed mean	.646	2	173	.525

Appendix R: Two-way ANOVA test results (Hypothesis 3)

Tests of Between-Subjects Effects

Dependent Variable: Intent

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	17.200 ^a	5	3.440	.850	.516	.024
Intercept	2104.681	1	2104.681	520.036	.000	.754
Label	10.221	2	5.111	1.263	.286	.015
Colour	1.761	1	1.761	.435	.510	.003
Label * Colour	4.915	2	2.457	.607	.546	.007
Error	688.021	170	4.047			
Total	2812.500	176				
Corrected Total	705.222	175				

a. R Squared = .024 (Adjusted R Squared = -.004)

Appendix S: Hayes Process Macro (Hypothesis 3)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Intent
X : Label
W : Colour
Sample
Size: 176

OUTCOME VARIABLE:
Intent

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.0170	4.0305	.9899	3.0000	172.0000	.3989	.1303

Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.8903	1.2741	3.8383	.0002	2.3754	7.4051
Label	-.5627	.5795	-.9710	.3329	-1.7065	.5812
Colour	-.5771	.8162	-.7070	.4805	-2.1882	1.0340
Int_1	.1904	.3705	.5140	.6079	-.5408	.9217

Product terms key:
Int_1 : Label x Colour

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	.0015	.2642	1.0000	172.0000	.6079

Focal predict: Label (X)
Mod var: Colour (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/
  Label      Colour      Intent      .
BEGIN DATA.
  1.0000      1.0000      3.9410
  2.0000      1.0000      3.5687
  3.0000      1.0000      3.1965
  1.0000      2.0000      3.5543
  2.0000      2.0000      3.3725
  3.0000      2.0000      3.1907
END DATA.
GRAPH/SCATTERPLOT=
  Label      WITH      Intent      BY      Colour      .
```

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000
----- END MATRIX -----

Appendix T: Hayes Process Macro (Hypothesis 4)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 7
Y : Intent
X : Label
M : Att
W : Colour

Sample
Size: 176

OUTCOME VARIABLE:
Att

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1599	.0256	.4629	1.5052	3.0000	172.0000	.2150

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.6109	.4318	6.0467	.0000	1.7586	3.4632
Label	-.0029	.1964	-.0147	.9883	-.3905	.3848
Colour	.2709	.2766	.9793	.3288	-.2751	.8169
Int_1	-.0366	.1256	-.2914	.7711	-.2844	.2112

Product terms key:

Int_1 : Label x Colour

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0005	.0849	1.0000	172.0000	.7711

Focal predict: Label (X)
Mod var: Colour (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Label Colour Att .
BEGIN DATA.

1.0000	1.0000	2.8423
2.0000	1.0000	2.8028
3.0000	1.0000	2.7633
1.0000	2.0000	3.0766
2.0000	2.0000	3.0005
3.0000	2.0000	2.9245

END DATA.

GRAPH/SCATTERPLOT=

Label WITH Att BY Colour .

OUTCOME VARIABLE:

Intent

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3610	.1303	3.5452	12.9616	2.0000	173.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.0042	.7357	1.3649	.1740	-.4479	2.4564
Label	-.2263	.1740	-1.3006	.1951	-.5697	.1171
Att	1.0073	.2088	4.8253	.0000	.5953	1.4193

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.2263	.1740	-1.3006	.1951	-.5697	.1171

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Label	->	Att	->	Intent
-------	----	-----	----	--------

	Colour	Effect	BootSE	BootLLCI	BootULCI
1.0000	-.0398	.0845	-.2035	.1297	
2.0000	-.0766	.0960	-.2844	.0976	

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
Colour	-.0369	.1254	-.3005	.1977

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-.0766	-.0398	-.0369	.1254	-.3005	.1977

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----

Appendix U: Hayes Process Macro (Hypothesis 5)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 7
Y : Intent
X : Label
M : PI
W : Colour

Sample

Size: 176

OUTCOME VARIABLE:

PI

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1032	.0107	4.0153	.6176	3.0000	172.0000	.6045

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.1623	1.2717	3.2731	.0013	1.6522	6.6723
Label	-.3147	.5784	-.5442	.5870	-1.4564	.8269
Colour	-.1598	.8147	-.1962	.8447	-1.7678	1.4482
Int_1	.0460	.3698	.1243	.9012	-.6839	.7759

Product terms key:

Int_1 : Label x Colour

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0001	.0155	1.0000	172.0000	.9012

Focal predict: Label (X)
Mod var: Colour (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Label Colour PI .
BEGIN DATA.

1.0000	1.0000	3.7337
2.0000	1.0000	3.4649
3.0000	1.0000	3.1962
1.0000	2.0000	3.6198
2.0000	2.0000	3.3970
3.0000	2.0000	3.1742

END DATA.

GRAPH/SCATTERPLOT=

Label WITH PI BY Colour .

OUTCOME VARIABLE:

Intent

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8848	.7828	.8855	311.7249	2.0000	173.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.5576	.2372	2.3505	.0199	.0894	1.0259
Label	-.0630	.0872	-.7224	.4710	-.2351	.1091
PI	.8863	.0358	24.7564	.0000	.8156	.9569

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.0630	.0872	-.7224	.4710	-.2351	.1091

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Label	->	PI	->	Intent
-------	----	----	----	--------

	Colour	Effect	BootSE	BootLLCI	BootULCI
1.0000		-.2382	.2251	-.6847	.1937
2.0000		-.1975	.2411	-.6737	.2704

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
Colour	.0407	.3340	-.6090	.7117

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-.1975	-.2382	.0407	.3340	-.6090	.7117

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----