THE EFFECT OF NEUROMARKETING ON STUDENT CONSUMERS

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ABSTRACT

Everyone in this world is a consumer. As this is a fast moving world consumers make their purchasing decisions instantly. Producers make consumers buy what they want to sell rather than what the consumer actually wants. This study
focuses on the effect of neuromarketing on student consumers. The student consumers now will have to start a family tomorrow where they eventually have to buy more goods and services. So if they are now aware of how producers try to manipulate them then they can be less influenced by the so called neuromarketing techniques. Large Producers or sellers nowadays invest so much for the department of neuromarketing. All the aim is to study consumer minds. So developing stundent consumer awarness is the need of the hour.

CHAPTER 1 INTRODUCTION

1.1 INTRODUCTION

A new age of radical marketing is creating an information age. Gone are the days when the main goal of every business organization was mass production and mass consumption, when stores were full of goods and offered to the public at great discounts. It has been observed that purchasing power has
increased considerably. The development of information technology has made everything possible , consumers can compare their choice with just a click away from a competitor. Understanding consumer needs is not easy. Certain needs are something they are not really aware of. Marketers must be keen to
interpret the needs they communicate. It is believed that marketing will always play a bigger role. Every time it doesn't sell product or reach customers. It's about building a trusting and loyal relationship and creating customer satisfaction by creating a great product. This strategy will definitely help
improve and optimize marketing at an exponential speed. Creativity or
innovation is another different stage that turns the marketing concept into a much more complex version. Innovation means something new or revolutionary that can change the perspective of entire phenomena. Thus, they contain all three main barriers of uncertainty, risk and complexity. The concepts of disruption or innovation have their own characteristics, namely idea, concept, solution and market. Ideas are cognitive processes within an
individual that help guide and evaluate future thought processes. Concept deals with the analysis of these ideas and the interpretation of the best possible options, or solutions based on the situation. The solution is the next step where the correct interpretations are tested and a new product is developed. The market is the last place where we find the result of novelty
born in the process of thought. Thus, each stage has unique characteristics. The early stages are more creative but less structured, and the lattr stages are
more focused and process oriented.

EXPLORING THE UNIQUE MARKETING APPROACH – NEUROMARKETING

Innovative technological development is a necessary step. Technology creates a system structure that enhances innovation performance. It continuously
provides guidance for a certain marketing phase. Neuromarketing is one such stage. Ale Smidts first coined the term neuromarketing in 2002.It is a scientific discipline that is a combination of consumer behaviour and neuroscience. It examines how consumers make unconscious decisions when choosing a

particular brand. Neuromarketing technology has opened the way to a new era of marketing where more studies and research are done to know consumers in detail. Marketers are more interested in how people choose to invest available resources (such as time, money and effort). The concept focuses more on the brain activity of consumers. Make decisions about what to buy, why to buy it, where to buy it, how often to buy it, and ultimately how often to use it. Studies of the cognitive thought process show that there is a big difference between
what consumers think and what they say they think. Consumer psychology thus acts as a background that guides the manufacturer in the right direction from the product development phase to its marketing phase. Neuromarketing is an
incredible scientific marketing technique that has attracted brands and researchers and anyone who wants to learn more about consumer behaviour. Technology helps gather high-quality information about consumer behaviour and their cognitive thinking. This particular advantage has attracted the attention of countless market researchers. That's why this new technique to decipher complex human thought processes is crucial when evaluating a new product or service.

SOCIO-ECONOMIC FACTORS AND COGNITIVE TAUGHT PROCESS :

Human cognition is one of the most interesting fields of knowledge among several other disciplines. Cognition basically refers to the mental process that people use to acquire knowledge. All aspects of human life and behaviour are valid for cognition. The cognitive abilities of individuals begin from the moment they are born. Environment, culture and society are the most important resources that create the basis of life. The social group to which an individual belongs plays a very important role. They adhere to certain values and ethics to learn and acquire certain skills that give them the inner strength and motivation to eventually exist. Therefore, whether it is information or
marketing, the basic principles are based on the development of intelligence society and culture. A person's sociocultural background directly affects his cognitive thinking process. Each person perceives and interprets things in his own way. As far as advertising goes, this has been thoroughly experienced.
Advertising is one of the most important variables in neuromarketing. The advertising industry focuses on consumer culture because technology, product
development and the services offered undergo constant and repeated changes. For example, the Internet and social media are pumped with new forms of advertising and techniques that are also important sources of income. Thus, the sociocultural environment of the individual provides the basis for mining consumption knowledge.

NEUROMARKETING AND PERSONALITY TRAITS

Personal trait refers to the separation and grouping of individuals based on certain characteristics that influence their response to stimuli or decision making. Grouping can be based on emotional, cognitive or motivational
reasons. An earlier 2010 study by Mueller, Claes, Mitchell, Wonderlich, Crosby and DeZwann found that 90% of people make choices when shopping. This buying behaviour occurs through a conscious or unconscious thought process that may or may not lead to serious buying problems. Personality traits such as assertiveness, conscientiousness, extraversion, agreeableness, and neuroticism are believed to have a significant relationship with consumer purchase intentions or purchase behaviour. The main purpose of focusing on personality traits and neuromarketing is to provide effective, reliable and practical marketing strategies to induce buying behaviour or a real reason to choose a certain brand in the consumer. Consumer buying behaviour is thus driven by individual personality characteristics, which are also strongly supported by emotional desires and behavioural syndrome.

A GLANCE OF EXPERT OPINION

Fulfilling the needs of the consumer is perhaps the main goal of any business. Their determined and controlled reaction is ambiguous. (Mark Andrejevic,
2012). Their tastes and preferences depend on certain contextual disturbances, namely environmental, psychological and physiological disturbances. The true attitude of the consumer towards the product lies in the post-purchase impressions. Biases in purchasing decisions are always unavoidable (Petra Platz, Zoltan Veres, 2014). It was also found that the unique needs and expectations of the consumer play a key role in brand loyalty. This particular context was
thoroughly developed at the beginning of the 1990s. Thus, social science studies began to associate emotions and empathy with so-called marketing practices (Lawrence, Crossby and Paul Zak).Research into new techniques to find out and understand basic human behaviour started a long time ago, but innovations in human behaviour gained importance only recently (Breiter,
Clader, Chamberlain-Frontiers 2017) Neuromarketing is one such scientific
technique that is considered high-tech and first was introduced in 2002. in the year. The method is modern because it directly targets the cognitive thinking process of consumers (Christophe Morin, 2011). With this emerging
technology, marketers can understand and explore the cognitive stimuli that motivate them to choose a certain brand or product. Marketers are fascinated
because this information usefully influences product forecasting and design (HR Burris and Shahid A Sheikh, 2011). The new era of marketing emphasizes the work and research of neuroscientists in the field of Neuroimaging. Instruments began to examine the prevalence, location, and timing of cognitive activity at an unprecedented level. The scope of neuromarketing is diverse and includes not only consumer decision making or branding, but also a much broader concept of marketing science (Nick Lee, Amanda J Broderrck, Loura
Chamberlain). This innovative change is closely related to neuroeconomics,
which essentially focuses on the thought process of consumers behind product choice. So it hit the target right. Cognitive functions such as attention and
memory also affect their performance (HC Breiter, Martin Block, 2015). Eye tracking is one of the most important tools in neuromarketing technology. The eyes indicate the level of attention and cognitive engagement. Eye movement tracking provides significant cognitive correlates during coercion. Even the effect of pictorial elements is followed by eye movements (Werner Kroeber,
1984). Electroencephalogram (EEG) is another scientific technique used by neuroscientists and marketers to study and record the temporal characteristics of a consumer's thought process while watching television commercials.
Several studies show that technology is not a sufficient tool to demonstrate customer satisfaction (A F Rocha, F T Rocha, Lucia Helena Favaro, Arruda, 2013). Store features play an equal role in the consumer's thought process.
Focusing on the store environment to capture your audience's attention
actively influences their engagement. The purpose of the emotion and arousal factor is to measure the psychological response of female customers using the electrical activity of the skin. This technique also opens the door to several
other field experiments related to retail stores (Andrea Groeppel, Dorothea Baun, 2001). Therefore, it is always important to understand all factors of consumer engagement, especially television commercials that are not the most important marketing elements of a particular product or brand (TreleavenHassard, S Gold, 2010).

1.2 STATEMENT OF THE PROBLEM

The main goal of this research is to introduce an advancing scientific technique called neuromarketing. This has proven to be a pinnacle solution to reduce market complexity and consumer bias when choosing a brand. It has also been shown that consumers' judgments about specific products or brands are not justified

by the prejudice caused by erratic information. Strategizing the whole marketing process is thereby very important to contribute higher quality
information with better understanding of consumers. Therefore neuromarketing techniques can help to bring authentic results to businesses.

1.3 BRIEF REVIEW OF LITERATURE

Consumer purchasing behaviour and cognitive taught phenomenon

The success of any business organization depends on the holistic marketing practice and also on the relationship of the company with the customers.
Market researchers must have a deep understanding of customers to ensure that they meet the expectations of end users. Studying the dynamics of consumer buying is an interesting task. Marketers are expected to fully understand both the theoretical and practical ways in which the consumer's
thought process operates in reality to have the broadest and deepest impact. Many factors influence consumer/withdrawal behaviour. The culture,
subculture, religion, ethnicity, geographic region, social class, etc. of the consumer and many other personal factors influence the cognitive thinking processes of consumers. Understanding the main psychological factors in
consumer cognition gives a much deeper picture of decision-making processes. The consumer's thought process is equally influenced by both marketing and environmental stimuli. The final purchase decision is influenced by four main psychological processes. They are motivation, memory, perception and learning
. In addition to psychological stimuli, other factors include economic,
technological, political and cultural differences. Consumer thought process is one of the most important areas in purchasing decision. Although cognitive measurement was widely used, it was not so. . achieved sufficient effect. attention, as scientists expected. Recently, it has shown huge leaps in
correcting this particular approach to overcome imbalance (Batra and Stayman, 1990). The main purpose of focusing on consumer buying behaviour is to
understand the reason for choosing a particular brand. It focuses on the
cognitive ability of the consumer that makes them choose a particular product when their state of mind is static. The reactions that occur during the relevant situation are measured and recorded. Therefore, they do not take into account mood swings or disturbed states of mind when measuring responses(Gardner, 1985).

Cognitive influence plays an important role in consumer purchasing behavior (Berkowitz,1993). Consumer buying behaviour reflects the characteristics,
attitude, beliefs and many other factors of an individual. Theories of consumer behaviour state that decisions made by consumers are considered informed decisions. It ultimately reflects the product and service they preferred (Neale and Kyle, 2011). Each person has their own perception and choice. Each consumer is supposed to perceive and decide according to his rational,
cognitive and learning abilities. Therefore, they make a decision within limited limits and also based on the limited information available to them(Howard and Sheth, 1969). This position is the basis for many other researchers. Now they find and hypothesize that the consumer behaviour approach can pave the way for many studies that can fundamentally change the cognitive perceptions of consumers (Bargh, 2002). However, all recent studies show that the cognitive thought process alone did not influence the purchase decision or purchase behaviour, but also the awareness of consumers, which they are rarely able to express (Bargh and Chartrand, 1999, Dijksterhuis et al, 2005, Dijksterhuis). and Nordgren 2006, Bargh and Morsella 2009,Wood and Neal, 2009). Consumers are always committed to change based on various internal and external factors. Few studies have shown how receptive consumers are to cognitive and sensory innovation. Psychometric measurement results can vary depending on
personality traits or preferences (Meera and Linda,1990). A number of factors influence the buying behaviour or buying decision of an individual. The term cognitive dissonance occurs when perceptions and

beliefs are inconsistent.
Thus, it is the responsibility of the business organization to predict the response of the consumers, which ultimately affects the success of the business (Manoj Kumar Sharma, 2014).

In addition to the problems discussed above, it has also been observed that there are significant differences in the cognitive and affective processes of men and women. Positive mood control, desire to buy, emotional side in relation to the product, etc. are completely different for men and women. (Amanda Coley, 2003).Consumer behaviour is generally considered to be largely cultural. There is a strong relationship between their attitude and personality (Marieke and
Geert,2009). The role of cross-cultural growth also provides comprehensive guidance the self-concept, perception, information processing and value systems of an individual(Daniel and Naresh, 2008). Automation is another
important term that is widely used in relation to the consumer. behaviour. The term refers to automatic processes in the consumer's subconscious that lead to an outcome (Neale and Kyle, 2011). Today there are many such studies on unconscious consumer behaviour. Brand washing is one important article in the New York Times (Singer, 2010). Conscious and unconscious behaviour are like two sides of a coin. Both are related to human cognitive performance. They help the marketing researcher gain clarity about the motivations and responses to a particular stimulus (Woodruff and Stemmetz, 2000). Human consciousness was also invented to process consumer information. Unconscious brain activity quietly controls consumption desires. (Steen, 2010). Philosophers and neuroscientists initiated frequent trials and errors to understand the properties, limits and control of human consciousness and the resulting
actions. Making a final conclusion has always proved a difficult task (Dennett, 1991, Crick and Koch, 1998).

Consumers' subconscious helps them make rational decisions. Neuromarketing is considered a pioneering research method that provides better insight into understanding consumer behaviour. Consumer psychological relationships are mapped creatively, which would help marketers who are very fond of their products (Keshav Bhatia, 2014). Consumers choose their brands based on their core human characteristics or characteristics. The hidden fact is that unconscious influence makes the choice (Fitzsimons et al, 2008). Therefore, it is considered a brand personality that can influence consumer buying behaviour (Aaker, 1997).

Scientific methods applied in neuromarketing

Neuromarketing is an advanced technological innovation that gained notoriety in 2002. As the name suggests, "neuro" is an activity related to the human brain, and marketing is a complete business term that covers all aspects of the development of product ideas. to after-sales and consumer feedback.
Neuromarketing therefore includes both scientific and non-scientific
techniques, to understand the real needs of consumers to overcome cognitive biases. The nervous system of consumers is processed by measuring brain activity when they are exposed. to a certain stimulus. Some of the more
common methods that neuroscientists use to analyze brain activity in consumers include: fMRI that is functional magnetic resonance imaging, EEG- electroencephalography, MEG- magnetoencephalography, eye tracking, etc.
fMRI - functional magnetic resonance imaging is a powerful technique used in neuromarketing to measure the brain activity of consumers. This has recently become important. Neuroscientists monitor blood flow to certain areas of the brain, and a positive response increases blood flow to that area and also causes small changes in the magnetic field (Carey, 2005; Dubuc, 2007). The target response varies according to the size, shape, colour and location of the stimulus. Subjects use their memory to recall specific advertisements
presented as test stimuli. They store them in their emotional memories (Dalgleish, 2004; Davidson, 2003). Functional MRI technology does responsible work. More than one part of the brain works together at the same time and they provide space to compare images when performing a certain function (Carey, 2005).

In addition to the methods mentioned above, the researcher and neuroscientists also scan the innocents when they are not receiving stimuli. It measures the normal brain activity of the subject, which can be compared with the test. The normal measured activity is called resting brain (Raichle and Mintum, 2006). Then the team performs a test to monitor and measure brain oscillations. The results of resting brain process and active brain process, their reactions are compared and analyzed (Heuttel,Song and Mc Carthy, 2004).

Electroencephalography or EEG is another important scientific technique used in neuromarketing. This technology recognizes the brain activity of consumers. Electroencephalography is closely related to several important brain functions such as attention, emotion and memory (Gordon and Van Laer, 2018). The main purpose of applying this technique to the consumer is to understand the narrative transportation effect caused by a given stimulus. EEG uses subanalytic techniques, namely global field power (GFP) analysis, and another is LORETA analysis (Lehman and Skrandies, 1980 and Vecchiato et al, 2010).

Neuroscientists use these techniques to study input variation. cognitive

thinking process in real time (Aftanas and Golocheikine, 2001). They measure people's forebrain activity. It is known that this part of aivists are primarily

decision makers. Thus, it helps to mark the decision-making behaviour of consumers (Gordon and Van Laer, 2018). The electroencephalograph uses a narrative transport method or narrative method. The mechanism has two main parts - the object of the narrative and the receiver of the narrative. It tests the subject's prior knowledge of the story object. When presented with a story object, researchers examine all GFP and LORETA factors, including imagination, attention, emotion, and memory (Green, 2004). They record the brain reactions of consumers. During the process, consumers are given instructions to follow. The electrical activity of the brain is recorded by an electrode shield(Waitt et al, 2016).

The cognitive thinking process of consumers can be accelerated by adopting eye tracking technology. Researchers use this method in the visual system and an eye tracker to do the experiment (Sutherland, 2007). The location of the subject's eyes is mapped when they are presented with a video image. The researcher records the eye movements and determines the level of attention with some details on the video image. It is mainly used to analyze the

effectiveness of advertisements. Recorded gaze movement shows the scan path or gaze of the consumer. The whole process allows the researcher to understand consumer engagement with advertising elements (Scuili et al 2012).

1.4 RESEARCH GAP

Neuromarketing is a vast field of knowledge which studies how people’s brain respond to advertising and other brand related messages. Over the past years producers have been working really hard to understand consumers purchasing decision and how they think. Some studies show that producers can predict consumer behaviour better than the consumer themselves. All the producers aim for is to make purchasing decision of consumers in their favour. Hence

there is a need to stand from the consumers view point and evaluate how to diminish the effect of neuromarketing. In particular this paper will look into how the student consumers are affected by the neuromarketing techniques.

Many research papers have already looked into the concept of neuromarketing

, but none of them have focused particularly on its effect on the student consumers. Understanding the different aspects of neuromarketing is yet another element that is looked into.

1.5 RESEARCH OBJECTIVES

The objectives of this study include :

(i) Understanding different aspects of neuromarketing

(ii) Analyse student consumer behaviour driven by neuromarketing

1.6 IMPORTANCE OF THE STUDY

Neuromarketing is a combination of human psychology (neural thought processes) and marketing. Various companies and firms invest millions to understand how the consumers think and behave. The ultimate aim of
producers or sellers is to make consumers buy products what the producers want rather than what the consumers actually want. To become aware of various neuromarketing techniques and practices is the need of the hour. The student consumers now will have to start a family tomorrow where they eventually have to buy more goods and services. So if they are now aware of how producers try to manipulate them then they can be less influenced by the so called neuromarketing techniques.

1.7 RESEARCH QUESTION

The question which are being asked on the topic :

1) To what extent student consumers are affected by neuromarketing techniques ?

1.8 SCOPE OF THE STUDY:

This research paper aims to understand the extent to which student consumers are affected by neuromarketing techniques and practises. This objective is important because the student consumers now would have to lead a family tomorrow and eventually buy more goods and services from the market. So it is important for them to make the right choice of goods and services which he/she actually needs rather than what the producers want them to purchase. Hence we first need to understand the different aspects of neuromarketing along with its limitations.

1.9 RESEARCH METHODOLOGY

About :
The study is aimed at understanding the following aspects:

1. Understanding different aspects of neuromarketing

2. Analyse student consumer behaviour driven by neuromarketing

In order to look closely into these objectives, the research was taken place.
There already exist studies quantifying neuromarketing aspects but there lies a gap in understanding its different aspects in relation to student consumer behaviour.

Data collection:

To achieve the research objectives of the study, data for the study included was collected in the following manner :
Primary data

- Questionnaire Secondary data
- Existing text on the topic
- Existing research papers
- Various websites related to neuromarketing

Data sources :

Various websites were taken into consideration for gathering data for this particular study. These websites include :

(a) Neuromarketing Science & Business Association (NMSBA)

(b) Neuroscience marketing
(c) SalesBrain
(d) Neurostrata
(e) Marketing Brainology
(f) NeuroFocus etc

1.10 LIMITATIONS OF THE STUDY

The human brain is a machine with unexpected outcomes. It is full of
conflicting desires and a steaming chaos of emotions, incompatible with the expected virtue of turn. It's an unpredictable black box.

While neuromarketing reveals discovery, it does not break free from its limitations.

- The student consumers taken into consideration belongs to the age group between 18-24. All the age group are ignored.

- Consumption behaviour of all consumers are not taken into consideration. This study solely focuses on student consumption behaviour.

- The minimum responses needed for the study was 200. Getting these responses was a time consuming process.

- As neuromarketing deals with people's brain only the ordinal utility analysis could be done.

- The responses were collected through the questionnaire method. Respondents might give socially undesirable answers or inaccurately
represent their true feelings. Sometimes questions may be interpreted differently by respondents and may lead to misleading data.
- Neuro-ethics. The field of neuromarketing is gaining a lot of recognition.
Some buyers fear that there is a "buy button" in their brain and that organizations will abuse it if it is found.

- Absense of Transparency: Some neuromarketing companies may not fully disclose their methods or exaggerate the effectiveness of their techniques, leading to skepticism and mistrust among the research community and consumers.

CHAPTER 2
REVIEW OF LITERATURE

2.1. Postmodern era marketing :

The literature review is a crucial part of the dissertation writing process. It is an integral part of the professional work of the researcher. A literature review basically demonstrates the originality and significance of the research issue. It discusses the previous research on the relevant topic critically. Reviews also substantiate the methodology used by the researcher for the purpose of the study. Therefore, a literature review is a fundamental academic requirement in research. A particular review of a literature chapter is done using vivid and large-scale sources such as journal, book, white paper and many more. It provides a comprehensive discussion of the variables used for the study.

Marketing practices are undergoing a major paradigm shift from the so-called industrial economy to a much more personalized social and emotional model. This transformation persists in an unchangeable way because of the changes that have taken place in society. This is a very competitive phase for any
business organization. Market researchers adopt very complex techniques and practices to meet the basic needs and wants of the consumers.
Modern marketing has become more sophisticated. The amalgamation of thoughts and feelings that work in the minds of consumers is deeply
embedded. Brain activity research allows marketers to identify the brain responses of consumers which would reveal many important marketing and advertising techniques. This research technique helps to fine-tune the products (Williams,2010).Consumer experience plays an important role in contemporary marketing practices. Emotional factors are one of the most influential factors that influence the new approaches that the business concern adopts.
Consumers' consumption patterns vary depending on their changing attitude
,culture and lifestyle. The significance of emotional needs define the costbenefit incentive of the organization (Tomas, 2009).
Post modern marketing educates the consumer's needs and preferences. It delves deep into the cognitive and brings out the deepest subconscious desires that shape the consumer's tastes on social-emotional grounds (Brown,2008). In the last few decades, business organizations have been under great pressure to demonstrate a greater responsibility towards the end user or society as a
whole, and to do something more responsible than their individual commercial interests (Macleod, 2001). As a result, the waves of ubiquitous technology
provide high quality products and best services to the consumers. The aim of every business organisation is to own the market and dominate it so that it can last for a long time. The latest technologies rely on the marketer's knowledge, ability and experience to build a beautiful consumer channel for an attractive and efficient workstation (McKenna,1991). However, successful marketing strategies always improve the functioning of the business and change the prevailing marketing practices. They creatively adapt themselves to the frequent shifts of changes required by the firm's environment (Markides, 1996).
Opportunities open up new possibilities and provide deep insights into the values, beliefs and attitudes and many other unique standards of consumer behaviour. These insights help the business organization to reach its goals and also face huge obstacles in the competitive space (Varadarajan and Clark, 1994). In such cases, every small and large firm relies on disruptive
technologies. They understand the added value of adopting these technologies that will transform the commercialization process and always prove to be technology efficient and flexible (Walsh, Kirchoff and Newbert, 2002)
The primary objective of this modern market research methodology is to accurately predict and manage consumers' instinctive drives while making their choice regarding purchase decision. It focuses on how consumers respond to advertising stimuli (Nemorin, 2017). These advanced professional techniques impact the emotional and sub conscious side of consumers. The unique way to reveal human behaviour toward marketing methods that link different needs that are stimulated under certain circumstances (Regina, Thayana and Jorge 2015).

2.2 Neuromarketing - The brain inspired technology

Neuromarketing is an emerging scientific discipline that is a combination of neuroscience and marketing. It is still in its infancy. Neuromarketing technology measures the neural activity of consumers at a certain moment. This has a big impact when the subject is put in a certain situation, like watching an ad and asked to rate the likes and dislikes on the screen. It measures and analyzes the effectiveness of strategies used to create brand awareness. It is further
monitored and evaluated using various neuroimaging techniques scientific and clinical methods such as functional magnetic resonance imaging(fMRI), eye tracking, electroencephalography (EEG), magnetoencephalography(MEG). They measure them by considering the blood flow of the brain and the consumption of oxygen during a given period of time. Thus, neuromarketing strategies
provide the researcher with a relevant and accurate result on brand awareness and product preference, unlike traditional marketing strategies.

Neuromarketing is an emerging biological model that has already erased all possible ethical considerations. The terminology focuses on the consumption habits of consumers applying certain scientific methods. Thus, it provides a better understanding of the purchase decision and the effectiveness of the marketing strategies adopted at different stages (Andrija, Monika, Nick, Laura and Gehard, 2013). The prolific popularity of this recent innovative marketing strategy is mainly due to the introduction of cheaper and faster technologies such as neuroimaging, and another fact is the lack of knowledge of other traditional marketing methods. Market researchers and manufacturers are thus guided of precise information even before product development (Dan and
Gregory, 2010 .The main purpose of this so-called scientific technique is to obtain as much information as possible about the thinking of consumers). They obtain information about intelligence, character and mainly attitude of consumers through neuroimaging or brain activity (Pop, Nicolae, Dabija, Lorga, & Ana, 2014). In addition to this, current human society also offers a better
understanding and perspective of the technological and potential application of neuromarketing strategy, which helps market research to gain a more accurate view of how consumers actually react to marketing stimuli (Nick, Amanda and Laura, 2007).

At the same time, neuroscientific research shows why consumers like certain products over others. They also provide potential guidelines for innovative business practices to reveal the hidden truth of the consumer cognitive thought process (Tanja and Steve, 2012). In addition, cognitive psychology has recently gained great importance in the field of consumer research. Unraveling consumer buying behaviour through bioimaging techniques has proven to be a hybrid approach to understanding consumer response to advertising stimuli (Selena, 2016). Neuromarketing technology is a promising psychological
measurement tool that improves marketing. researchers and practitioners focusing on and applying consumer cognition and integrating all three key
functions such as brain, mind and behaviour (Stefan and Schwarzkopf, 2015). Therefore the nascent stage of neuromarketing is carefully focused on direct practical recommendations to optimize the long-term goals of product development and other activities for the company. (Peter Kenning, 2015).Marketers find it really difficult to assess and select the target audience, trying countless innovative techniques and strategies that manage the
possibility of defection without their express permission. Inserting a product advertisement in the middle of a movie or video game is a good example same (LeGresley, Muggli, & Hurt, 2006). Although we discuss the involvement of marketers, these activities are highly controversial. There has been limited research on this topic, providing only anecdotal evidence that technology is
more diverse than might be expected (Jeurissen and Van de Ven, 2006).

Researchers and researchers have suggested many suggestions to measure the cognitive thinking process of consumers. They could study the effect of sales promotion techniques on consumer buying behaviour. These techniques
definitely affect the thinking process because they are not fully aware of the processes that lead them to buy (Young, 2002). Initially, the prospect of this completely new technology generated a lot of controversy, mainly for clinical procedures such as functional magnetic resonance imaging and
electroencephalography. Consumers preconceived that radiation would harm or damage their brain function. In addition, researchers had difficulties with the correct interpretation of the obtained data (Stewart 1984, 1985, however,
strategies and practices related to the mapping of consumers cognitive thought processes were developed). to a higher level where they proved to be a completely new marketing change to understand the will of consumers and develop a sustainable business (Gordon, 2002). Therefore, neuromarketing research allows market researchers to delve into the thought process and discover their needs and desires in the subconscious mind, which they cannot actually express in an aotic way (Shiv et al, 2005).

2.3 Consumer purchasing behaviour and cognitive taught phenomenon

The success of any business organization depends on the holistic marketing practice and also on the relationship of the company with the customers.

Market researchers must have a deep understanding of customers to ensure that they meet the expectations

of end users. Studying the dynamics of consumer buying is an interesting task. Marketers are expected to fully understand both the theoretical and practical ways in which the consumer's
thought process operates in reality to have the broadest and deepest impact. Many factors influence consumer/withdrawal behaviour. The culture,
subculture, religion, ethnicity, geographic region, social class, etc. of the consumer and many other personal factors influence the cognitive thinking processes of consumers. Understanding the main psychological factors in
consumer cognition gives a much deeper picture of decision-making processes. The consumer's thought process is equally influenced by both marketing and environmental stimuli. The final purchase decision is influenced by four main psychological processes. They are motivation, memory, perception and learning
. In addition to psychological stimuli, other factors include economic,
technological, political and cultural differences. Consumer thought process is one of the most important areas in purchasing decision. Although cognitive measurement was widely used, it was not so. . achieved sufficient effect. attention, as scientists expected. Recently, it has shown huge leaps in
correcting this particular approach to overcome imbalance (Batra and Stayman, 1990). The main purpose of focusing on consumer buying behaviour is to
understand the reason for choosing a particular brand. It focuses on the
cognitive ability of the consumer that makes them choose a particular product when their state of mind is static. The reactions that occur during the relevant situation are measured and recorded. Therefore, they do not take into account mood swings or disturbed states of mind when measuring responses(Gardner, 1985).

Cognitive influence plays an important role in consumer purchasing behavior (Berkowitz,1993). Consumer buying behaviour reflects the characteristics,
attitude, beliefs and many other factors of an individual. Theories of consumer behaviour state that decisions made by consumers are considered informed decisions. It ultimately reflects the product and service they preferred (Neale and Kyle, 2011). Each person has their own perception and choice. Each consumer is supposed to perceive and decide according to his rational,
cognitive and learning abilities. Therefore, they make a decision within limited limits and also based on the limited information available to them(Howard and Sheth, 1969). This position is the basis for many other researchers. Now they find and hypothesize that the consumer behaviour approach can pave the way for many studies that can fundamentally change the cognitive perceptions of consumers (Bargh, 2002). However, all recent studies show that the cognitive thought process alone did not influence the purchase decision or purchase behaviour, but also the awareness of consumers, which they are rarely able to express (Bargh and Chartrand, 1999, Dijksterhuis et al, 2005, Dijksterhuis). and Nordgren 2006, Bargh and Morsella 2009,Wood and Neal, 2009). Consumers
are always committed to change based on various internal and external factors. Few studies have shown how receptive consumers are to cognitive and sensory innovation. Psychometric measurement results can vary depending on
personality traits or preferences (Meera and Linda,1990). A number of factors influence the buying behaviour or buying decision of an individual. The term cognitive dissonance occurs when perceptions and beliefs are inconsistent.
Thus, it is the responsibility of the business organization to predict the response of the consumers, which ultimately affects the success of the business (Manoj Kumar Sharma, 2014).

In addition to the problems discussed above, it has also been observed that there are significant differences in the cognitive and affective processes of men and women. Positive mood control, desire to buy, emotional side in relation to the product, etc. are completely different for men and women. (Amanda Coley, 2003).Consumer behaviour is generally considered to be largely cultural. There is a strong relationship between their attitude and personality (Marieke and Geert,2009). The role of cross-cultural growth also provides comprehensive guidance the self-concept, perception, information processing and value systems of an individual(Daniel and Naresh, 2008). Automation is another
important term that is widely used in relation to the consumer. behaviour. The term refers to automatic processes in the consumer's subconscious that lead to an outcome (Neale and Kyle, 2011). Today there are many such studies on unconscious consumer behaviour. Brand washing is one important article in the New

York Times (Singer, 2010). Conscious and unconscious behaviour are like two sides of a coin. Both are related to human cognitive performance. They help the marketing researcher gain clarity about the motivations and responses to a particular stimulus (Woodruff and Stemmetz, 2000). Human consciousness was also invented to process consumer information. Unconscious brain activity quietly controls consumption desires. (Steen, 2010). Philosophers and neuroscientists initiated frequent trials and errors to understand the

properties, limits and control of human consciousness and the resulting actions. Making a final conclusion has always proved a difficult task (Dennett, 1991, Crick and Koch, 1998).

Consumers' subconscious helps them make rational decisions. Neuromarketing is considered a pioneering research method that provides better insight into understanding consumer behaviour. Consumer psychological relationships are mapped creatively, which would help marketers who are very fond of their products (Keshav Bhatia, 2014). Consumers choose their brands based on their core human characteristics or characteristics. The hidden fact is that unconscious influence makes the choice (Fitzsimons et al, 2008). Therefore, it is considered a brand personality that can influence consumer buying behaviour (Aaker, 1997).

2.4 Scientific methods applied in neuromarketing

Nero marketing is an advanced technological innovation that gained notoriety in 2002. As the name suggests, "neuro" is an activity related to the human brain, and marketing is a complete business term that covers all aspects of the development of product ideas. to after-sales and consumer feedback.

Neuromarketing therefore includes both scientific and non-scientific
techniques, to understand the real needs of consumers to overcome cognitive biases. The nervous system of consumers is processed by measuring brain activity when they are exposed. to a certain stimulus. Some of the more
common methods that neuroscientists use to analyze brain activity in consumers include: fMRI that is functional magnetic resonance imaging, EEG- electroencephalography, MEG- magnetoencephalography, eye tracking, etc.
fMRI - functional magnetic resonance imaging is a powerful technique used in neuromarketing to measure the brain activity of consumers. This has recently become important. Neuroscientists monitor blood flow to certain areas of the brain, and a positive response increases blood flow to that area and also causes small changes in the magnetic field (Carey, 2005; Dubuc, 2007). The target response varies according to the size, shape, colour and location of the stimulus. Subjects use their memory to recall specific advertisements presented as test stimuli. They store them in their emotional memories (Dalgleish, 2004; Davidson, 2003). Functional MRI technology does responsible work. More than one part of the brain works together at the same time and they provide space to compare images when performing a certain function (Carey, 2005).

In addition to the methods mentioned above, the researcher and neuroscientists also scan the innocents when they are not receiving stimuli. It measures the normal brain activity of the subject, which can be compared with the test. The normal measured activity is called resting brain (Raichle and Mintum, 2006). Then the team performs a test to monitor and measure brain oscillations. The results of resting brain process and active brain process, their reactions are compared and analyzed (Heuttel,Song and Mc Carthy, 2004).
Electroencephalography or EEG is another important scientific technique used in neuromarketing. This technology recognizes the brain activity of consumers.
Electroencephalography is closely related to several important brain functions such as attention, emotion and memory (Gordon and Van Laer, 2018). The main purpose of applying this technique to the consumer is to understand the narrative transportation effect caused by a given stimulus. EEG uses subanalytic techniques, namely global field power (GFP) analysis, and another is LORETA analysis (Lehman and Skrandies, 1980 and Vecchiato et al, 2010).
Neuroscientists use these techniques to study input variation. cognitive

thinking process in real time (Aftanas and Golocheikine, 2001). They measure people's forebrain activity. It is known that this part of aivists are primarily
decision makers. Thus, it helps to mark the decision-making behaviour of consumers (Gordon and Van Laer, 2018). The electroencephalograph uses a narrative transport method or narrative method. The mechanism has two main parts - the object of the narrative and the receiver of the narrative. It tests the subject's prior knowledge of the story object. When presented with a story object, researchers examine all GFP and LORETA factors, including imagination, attention, emotion, and memory (Green, 2004). They record the brain reactions of consumers. During the process, consumers are given instructions to follow. The electrical activity of the brain is recorded by an electrode
shield(Waitt et al, 2016).

The cognitive thinking process of consumers can be accelerated by adopting eye tracking technology. Researchers use this method in the visual system and an eye tracker to do the experiment (Sutherland, 2007). The location of the subject's eyes is mapped when they are presented with a video image. The researcher records the eye movements and determines the level of attention with some details on the video image. It is mainly used to analyze the
effectiveness of advertisements. Recorded gaze movement shows the scan path or gaze of the consumer. The whole process allows the researcher to understand consumer engagement with advertising elements (Scuili et al 2012).

2.5 Fundamentals variables of neuromarketing

Neuromarketing techniques use many scientific tools and knowledge related to consumer neuroscience. Basically, they study consumer behaviour. Market
research is a never-ending and continuous process that will definitely take a long time to stay on track. Marketing researchers use two different versions of neuromarketing techniques to do their job successfully , both theoretical neuromarketing and applied neuromarketing. Theoretical neuromarketing is nothing but information, references and theories related to consumer neuroscience or consumer purchasing decision. They focus primarily on the unconscious reactions of consumers when presented with a specific stimulus.
When processing information, one pays attention to the unconscious behaviour of consumers. That response occurs when consumers are presented with stimuli that may or may not attract their attention. Scientists map or record the knowledge of scientists. This knowledge is also a consequence of the emotional value attached to the stimuli. After all the above processes, they finally analyze and reflect. At this stage, all cognitive functions and reactions are considered because they are responsible for decision making. Applied neuromarketing is
always one step ahead of theoretical neuromarketing because it provides researchers with an additional and hybrid layer. Information that is practically impossible with traditional market research methods.

Neuromarketing is a brain-related technique that is also multidisciplinary in nature. The main variables involved in this neuroscience are attention,
memory, emotion and motivation. The scientific technique measures the attention commitment of consumers to a stimulus (Gordon, Crorciari and Van, 2018).Consumer brain activity itself tells about neural activity of consumers, for example memory capacity, emotional value to stimuli - positive or negative, intentional engagement. , imagination and motivation (Amber et al., 2000, Mc Clure et al., 2001, Kenning et al., 2007, Treleaven Hassard et al., 2010,
Pozharliev et al., 2015).This is particularly important for cognitive
understanding consumer's thought process that ultimately leads to a purchase decision. (Green and Brook, 2002,Green et al, 2008, Van Laer et al, 2014).
Consumer attentional engagement can be mapped using
electroencephalography technology. They can measure both behavioural and attitudinal responses of subjects when exposed to specific marketing stimuli

(Pietersja Warlop, 1999). Previous research has identified many factors that can influence consumers' attention to marketing incentives (Treleaven Hassard et
al, 2010). Some of these are consumers' perception of the visual presentation (Facebook 2015), place or location of stimuli (Chandon et al, 2009), Social or societal context (Pozharliev et al, 2015) and brand influence that has been jam.
established in the market (Young, 2002, Mc Clure et al, 2004). Attention also plays an important role in narrative transport. Consumers will only pay attention to a story if they are motivated. Thus, motivation can turn the whole process into a positive and enjoyable experience (Polichak and Gerrig, 2002).Attention to a visual stimulus can be different than a verbal stimulus.
When there are many opportunities in retail, marketers must make more efforts to attract the attention of the consumer (Bolen, 1984). Previous
research on attentional engagement also shows that people who want to know about something pay more attention to the presented stimuli (Bar Haim et al, 2007). Consumer cognitive biases are measured using emotional strobing tasks. The task requires many attempts by consumers (Mc Leod, 1991)..

Marketing research has always focused on creating an aura before consumers make their purchase decisions. However, very little attention has been paid to consumer choices (Mittal, 1989). Attentional activity is also divided into voluntary and involuntary attention. With voluntary attention, consumers pay attention to stimuli because they are relevant to the tasks they are performing. Therefore, no external force is used to perform these operations. In the event of involuntary attention, consumers are provoked to make a little more effort to complete the task (Geraldine Fennell, 1979). Emotional involvement is an
important unavoidable factor in evaluating the thought process of the consumer. Emotional involvement is primarily related to advertisements or other stimuli. Marketing and neuroscientists use highly sophisticated tools,
techniques and instruments to measure the emotional responses of end users. (Sebastián Vlasceanu, 2014). Emotional response involves action researchers with deep knowledge of brand building. If the manufacturers do not create a good boom for their brand, they will not reach the consumers as expected. So, they need to spice up their tactics and strategies to have a positive impact on consumer purchase decision(Tripathi, 2009).Emotions refer to positive and
negative feelings that affect consumer behaviour and mood. to their social and physical environment. This has a significant impact on their perceptions and reactions (Achar et al, 2016). It provides insight into the conscious\cognitive thought process that is closely related to human happiness and unhappiness (Cabanac, 2002). The emotional attachment of a person isa combination of several important functions, such as his specific behavior, the whole experience, cognitive thinking, psychological changes to the stimulus (Sauseng et al, 2005, 2008).

Consumers' buying behaviour and their cognitive thinking are interdependent (Sheth et al, 1991). They have a very big influence on the choice of brand. Even their recent experiences play an important role here. Based on this, brand
loyalty can also be verified (Brosch, Patel and Sander, 2014). Consumer
spending patterns and purchase decisions are the main focus of neuroscientific techniques (Damasio, 1994).Neuromarketing techniques and tools help neuroscientists measure both positive and negative emotions of consumers
when presented with specific stimuli (Schmidt and Trainor, 2001; Harmon and Jones et al, 2010).When consumers have to choose a brand, they mostly rely on their feelings, emotions and past experiences with the brand in question. They also consider the features, characteristics and facts of the product and brand.
Finally, they have a positive or negative effect on the brand (McClure et al, 2004; Esch et al, 2012). Beauty or attractiveness, technically called aesthetics, is another important factor that can increase positive feelings among consumers (Bakalash and Riemer, 2013).

Another important part of emotional engagement is empathy. Empathy is
nothing more than understanding and perceiving the intended content of the marketer. It also plays an

important role in conveying stories. Thus, emotional empathy can entrain the mind to make decisions and make the right choices (Slater and Rouner, 2002). Activating the brain during shopping helps the researcher understand the factors that influence a consumer's brand choice.

Non-invasive brain imaging techniques are used to map shopping patterns in real time. Cognitive responses to brand choices are closely related (Tim Ambler, Sven, & Stephen, 2004). There must be sufficient clarity about the motivations, influences and feelings that come to the minds of consumers during a purchase decision (Morris and John, 1984).

Memory retrieval is a phenomenal aspect of the consumer purchase decision process. This particular aspect needs more research to measure the full

paradigm of consumer cognition (Tulving, 1985). Another important connection with memory is that consumers adhere to beliefs and practices. Consumers remember and seek brand information from brand groups that typically belong to the same category (Lindsey and Krishnan, 2007). Thus, using the clustering method, market researchers can understand how advertising can entice a consumer to buy a product of a certain brand. It shows the process where search and information-seeking process is necessary to decide and improve the choice. It reflects consumer behaviour (Burke and Srull, 1988).Each concept has positive and negative effects on the outcome. For the consumer, accurate or

incomplete information leads to false memories (Barun, 1999).Certain previous studies have shed light on aspects such as the effect of misinformation on consumers. There is also specific research showing that misinformation has strong negative effects on older adults (Skurnik, Yoon, Park, & Schwarz, 2005).

A detailed discussion of consumer memory capacity is one of the most important consumer areas. It guides the public and market researchers to highlight the effective practical effects of advertising techniques such as advertisements that increase brand preference (Johnson, Hashtroudi and Lindsay, 1993; Pham and Johar, 1997).

Arousal is one of the key variables in neuromarketing technology. It has a close relationship with the cognitive, affective and behavioural aspects of the

individual. These aspects are the basis of how an individual reacts to external stimuli (Gould, Krane, 1992; Benedek, Kaernbach, 2010). The effect of stimulation is mainly reflected in two main functions. These are brand

desirability and advertising effectiveness (Aaker, Stayman, & Hagerty, 1986).

Excitation occurs within an individual only when he or she gives attention and emotion to a specific stimulus. So, arousal mapping is understood as a complex task. Customers. Arousal also helps to remember the necessary information

(Holbrook, Hirschman, 1982). As noted earlier, analyzing and measuring arousal is not straightforward. Researchers use self-report techniques as well as

physiological responses of individuals to report accurate measurements (Ohman and Birhaumer, 1993).

Recent technological innovations in the field of neuroscience have encouraged researchers. They use very advanced techniques that could more accurately

measure advertising effectiveness. These technologies measure brain activity, emotional response, facial expressions and many other physical responses of consumers. To do this, they use scientific and clinical methods such as functional magnetic resonance imaging (fMRI), electroencephalography (EEG), eye tracking, skin conductance, etc. They are very reliable and relevant

techniques to measurecognitive thinking and consumer behavior (Plassmann, Kenning, Deppe, Kugel,Schwindt, 2008; Bertin, Tokumi, Yasumatsu, Kobayashi, & Inoue, 2014; Hazlett &Hazlett, 1999; Sundar & Kalyanaraman, 2004).

CHAPTER 3
RESEARCH METHODOLOGY AND DESCRIPTIVE STATISTICS

3.1 RESEARCH METHODOLOGY

About :

The study is aimed at understanding the following aspects:

1. Understanding different aspects of neuromarketing
2. Analyse student consumer behaviour driven by neuromarketing

In order to look closely into these objectives, the research was taken place.
There already exist studies quantifying neuromarketing aspects but there lies a gap in understanding its different aspects in relation to student consumer behaviour.

Data collection:

To achieve the research objectives of the study, data for the study included was collected in the following manner :

Primary data

- Questionnaire Secondary data
- Existing text on the topic
- Existing research papers
- Various websites related to neuromarketing

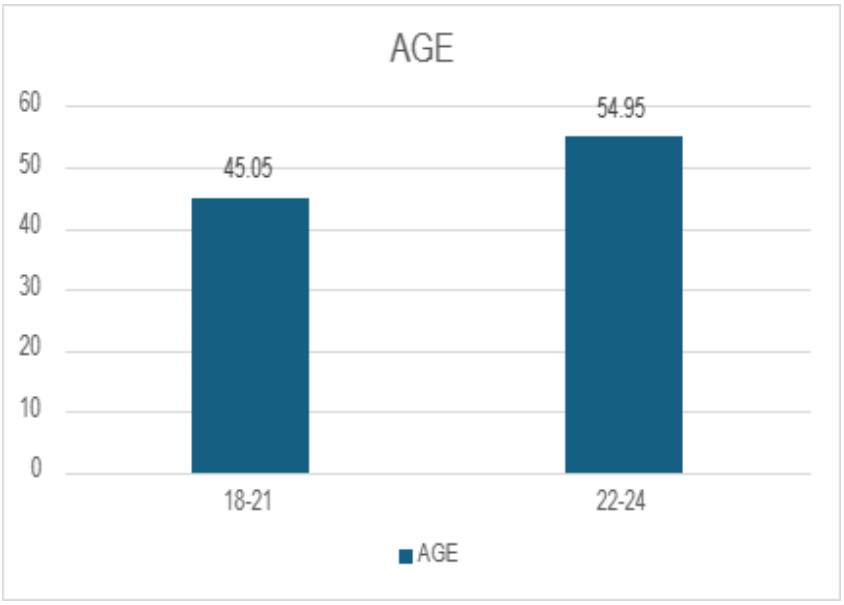
Data sources :

Various websites were taken into consideration for gathering data for this particular study. These websites include :

a. Neuromarketing Science & Business Association (NMSBA)
b. Neuroscience marketing
c. SalesBrain
d. Neurostrata
e. Marketing Brainology
f. NeuroFocus etc

3.2 DESCRIPTIVE STATISTICS

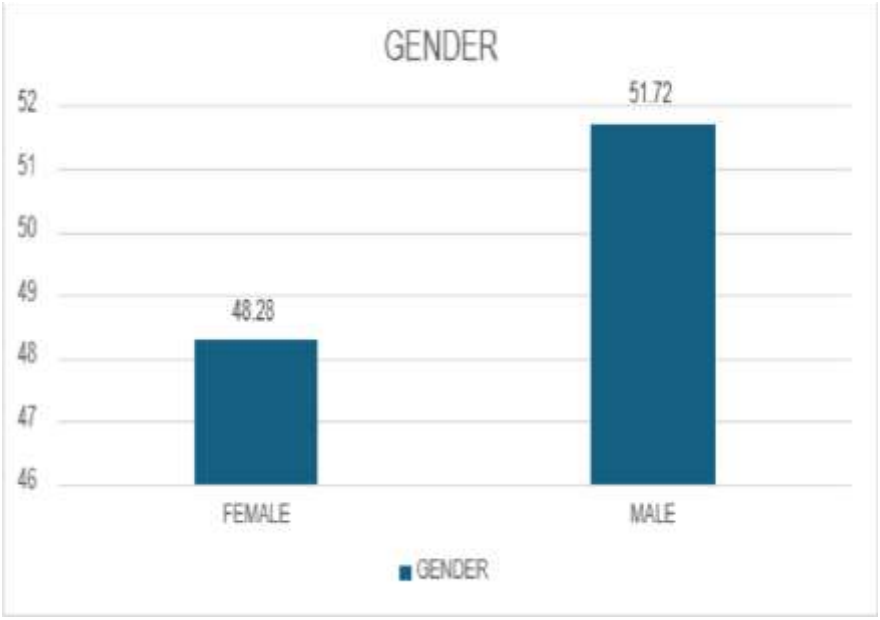
FIG 3.2.1 - AGE OF RESPONDENTS



Source : Primary data

- Out of 204 respondents, below half that is 45.05% (91 respondents) of them fell within the age group of 18-21 and the rest 54.95 (113 respondents) of them were within the age group of 22-24.

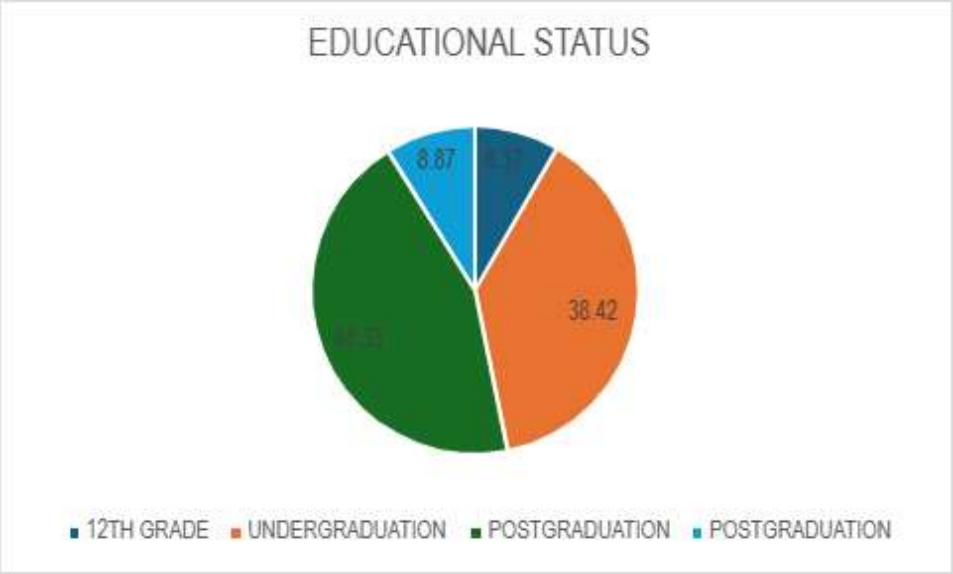
FIG 3.2.2 - GENDER OF RESPONDENTS



Source : Primary data

- Among the respondents studied 48.28% (98 respondents) of them are females and the remaining 51.72% (106 respondents) are males.

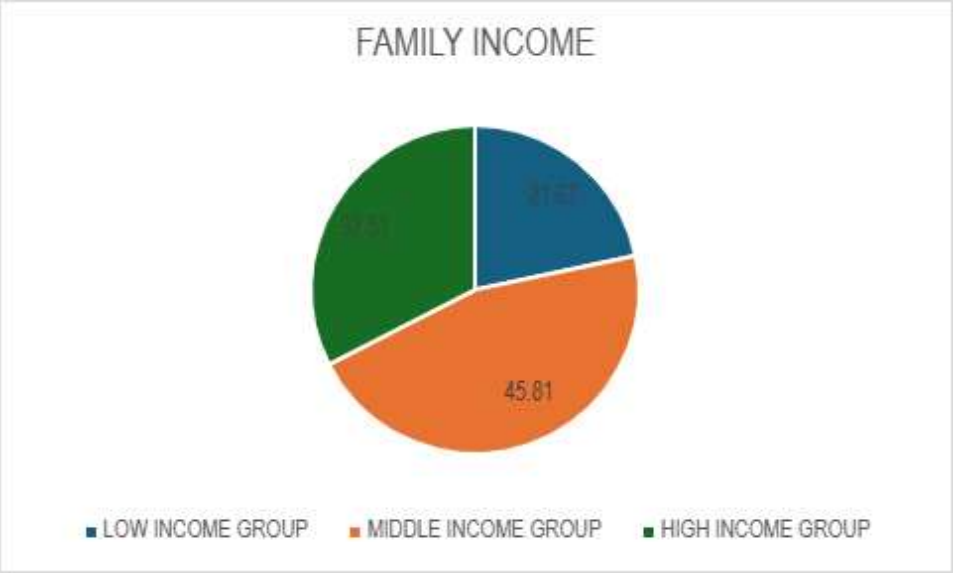
FIG 3.2.3 - EDUCATIONAL STATUS OF RESPONDENTS



Source : Primary data

- Among the respondents studied 8.37% (17 respondents) of them belong to 12th grade , 38.42% (78 respondents) of the belong to undergraduation ,44.33% (90 respondents) of them belong to postgraduation and the remaining 8.87% (19 respondents) of them are under the category others.

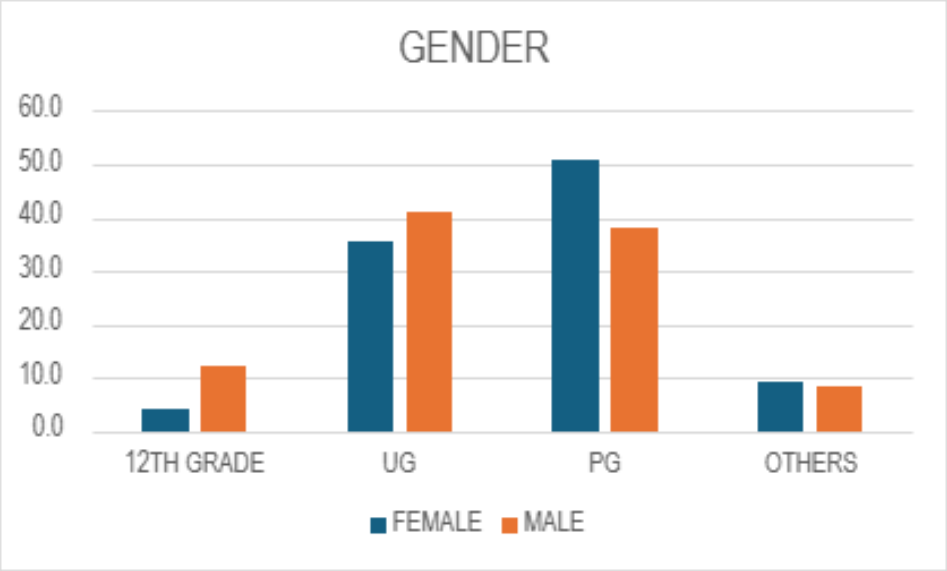
FIG 3.2.4 - FAMILY INCOME OF RESPONDENTS



Source : Primary data

- Among the respondents studied , 44 (21.67%) of them belong to low income group, 93 (45.81%) of them belong to middle income group and the remaining 67 (32.51%) belong to high income group

FIG 3.2.5 - RELATION BETWEEN GENDER AND EDUCATIONAL QUALIFICATION



Source : Primary data

Out of the female respondents 4.1% (4 respondents) have completed 12th grade, 35.7% (35 respondents) have completed undergraduation , 51% (50 respondents have completed postgraduation and the remaining 9.2 (9 respondents) belong to the other group.

Key observations : Among females:

(i) The highest percentage has completed postgraduate education (51.0%).

(ii) The lowest percentage has completed education up to the 12th grade (4.1%).

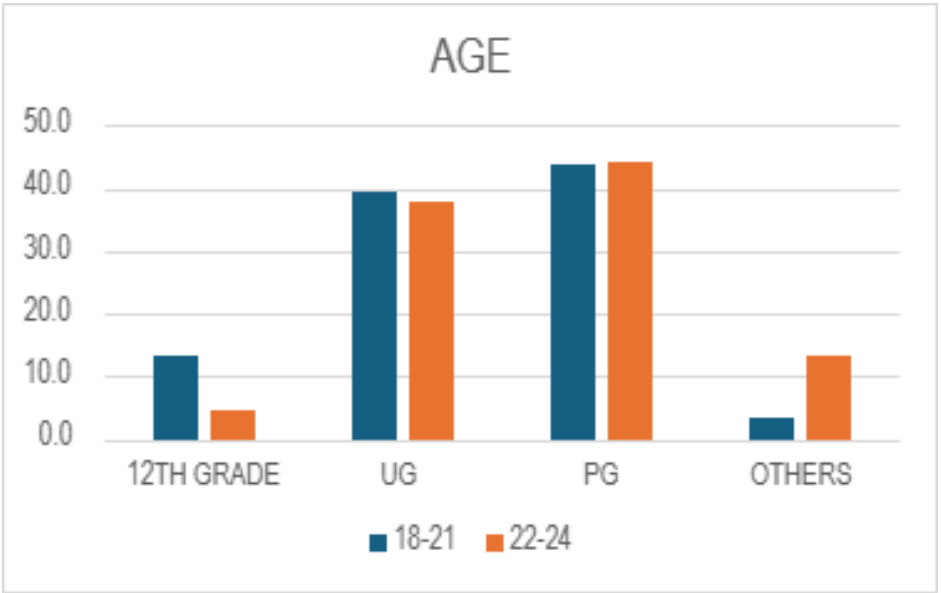
Out of the male respondents , 12.4% (13 respondents) have completed 12th grade , 41.0% (43 respondents) have completed undergraduation , 38.1% (40 respondents have completed postgraduation and the remaining 8.6% (9 respondents) belong the other category

Key observation: Among males:

(i) The highest percentage has completed undergraduate education (41.0%).

(ii) The lowest percentage has completed education up to the 12th grade (12.4%).

FIG 3.2.6 - RELATION BETWEEN AGE AND EDUCATIONAL QUALIFICATION



Source : Primary data

Out of the respondents belonging to 18-21 age group, 13.2% (12 respondents) have completed 12th grade , 39.6% (36 respondents) have completed
undergraduation , 44.0% (40 respondents) have completed postgraduation and the remaining 3.3% (3 respondents) belong to the other category.

Key observation:

Among individuals aged 18-21:

(i) The highest percentage has completed postgraduate education (44.0%).

(ii) The lowest percentage has completed education up to the 12th grade (13.2%).

Out of the respondents belonging to 22-24 age group , 4.5 (5 respondents) have completed 12th grade , 37.8% (42 respondents) have completed
undergraduation , 44.1% (49 respondent) have completed postgraduation and the remaining 13.5% (15 respondents) belong to the other category.

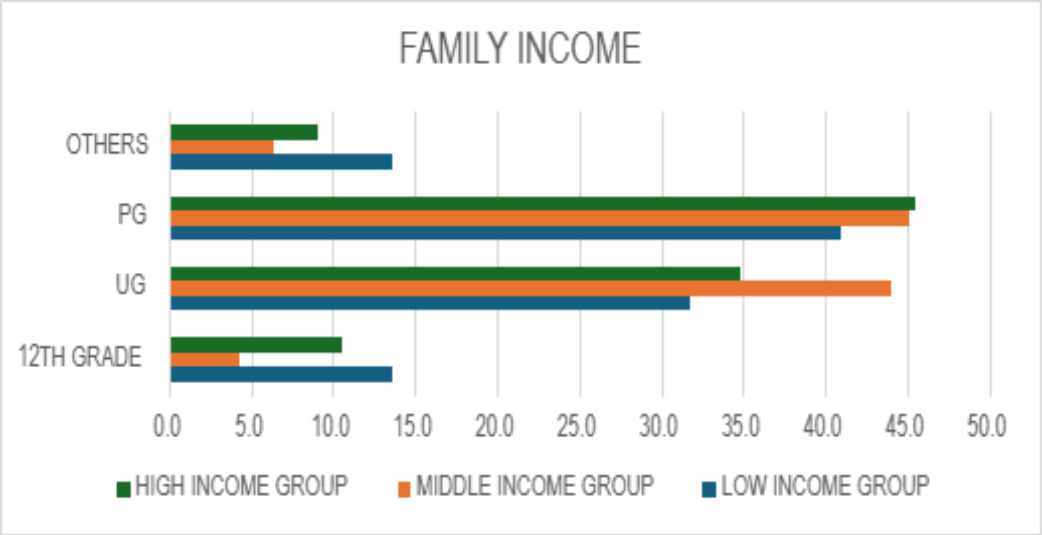
Key observation:

Among individuals aged 22-24:

(i) The highest percentage has also completed postgraduate education (44.1%).

(ii) The lowest percentage has completed education up to the 12th grade (4.5%).

FIG 3.2.7 - RELATION BETWEEN FAMILY INCOME AND EDUCATIONAL QUALIFICATION



Source : Primary data

Out of the respondents belonging to low income group , 13.6% (6 respondents) have completed 12th grade , 31.8% (14 respondents) have completed undergraduation , 40.9% (18 respondents) have completed postgraduation and the remaining 13.6% (6 respondents) belong to the other category.

Out of the respondents belonging to the middle income group , 4.3%(4 respondents) have completed 12th grade , 44.1% (41 respondents) have completed undergraduation , 45.2% (42 respondents) have completed postgraduation and the remaining 6.5% (6 respondents) belong to the other category

Out of the respondents belonging to the high income group , 10.6% (7 respondents) have completed 12th grade , 34.8 (23 respondents) have completed undergraduation , 45.5% (30 respondents) have completed postgraduation and the remaining 9.1% (6 respondents) belong to the other category.

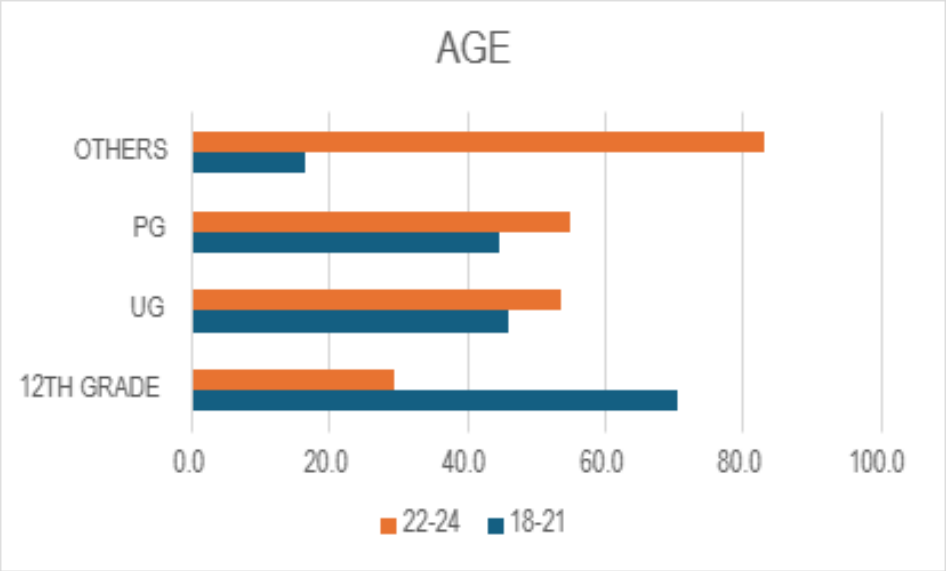
Key observation:

(i) Among all income groups, the highest percentage of individuals have completed either undergraduate or postgraduate education.

(ii) Individuals in the middle and high-income groups tend to have higher percentages of completing undergraduate and postgraduate education compared to those in the low-income group.

(iii) The distribution of education levels varies across income groups, reflecting differences in educational attainment based on socioeconomic status.

FIG 3.2.8 - RELATION BETWEEN EDUCATIONAL QUALIFICATION AND AGE



Source : Primary data

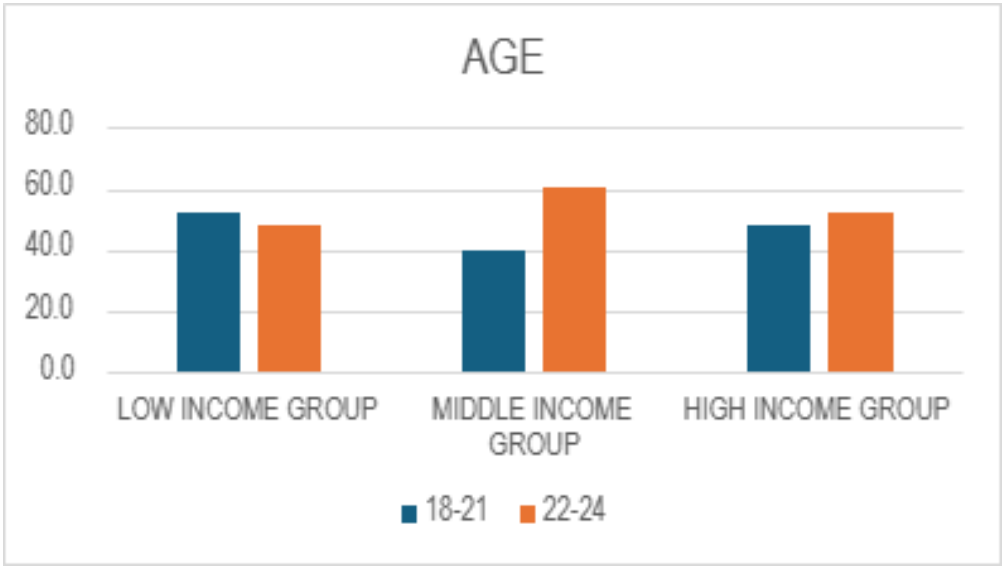
Out of the respondents studying in the 12th grade , 70.6% (12 respondents) belong to the age group 18-21 and 29.4% (5 respondents) belong to the age group 22-24.

Out of the respondents studying in the undergraduation , 46.2% (36 respondents) belong to the age group 18-21 and 53.8% (42 respondents) belong to the age group 22-24

Out the respondents studying in the postgraduation , 44.9% (40 respondents) belong to the age group 18-21 and 55.1% (49 respondents) belong to the age group 22-24

Out of the respondents studying in the other category , 16.7% (3 respondents) belong to the age group 18-21 and 83.3% (15 respondents) belong to the age group 22-24.

FIG 3.2.9 - RELATION BETWEEN AGE AND INCOME LEVEL



Source : Primary data

Out of the respondents in the low income group , 52.3% (23 respondents) belong to the age group 18-21 and 47.7% (21 respondents) belong to the age group 22-24.
Out of the respondents in the middle income group , 39.8% (37 respondents) belong to the age group 18-21 and 60.2% (56 respondents) belong to the age group 22-24.

Out of the respondents in the high income age group , 47.7% (31 respondents) belong to the age group 18-21 and 52.3% (34 respondents) belong to the age group 22-24

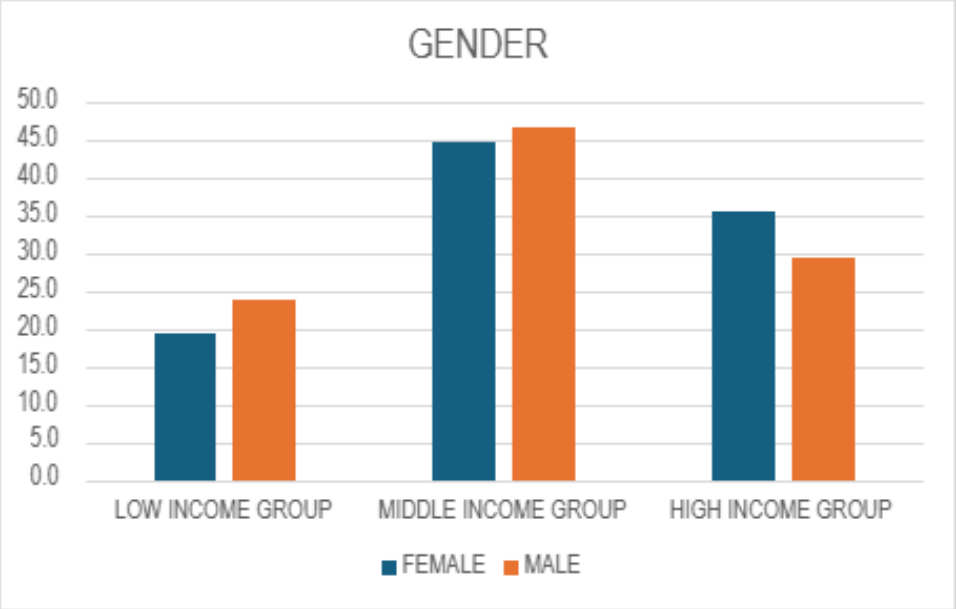
Key observation:

(i) Among individuals aged 18-21, the highest percentage belongs to the low-income group.

(ii) Among individuals aged 22-24, the highest percentage belongs to the middle-income group.

(iii) The distribution of individuals across income groups shifts as individuals transition from the 18-21 age group to the 22-24 age group, with a
notable increase in the percentage belonging to the middle-income group.

FIG 3.2.10 - RELATION BETWEEN GENDER AND INCOME LEVEL



Source : Primary data

Out of the female respondents , 19.4% (19 respondents) belong to the low income group, 44.9 (44 respondents) belong to the middle income group and 35.7% (35 respondents) belong to the high income group

Out of the male respondents , 23.8% (25 respondents) belong to the low income group , 46.7 (49 respondents) belong to the middle income group and 29.5% (31 respondents) belong to the high income group

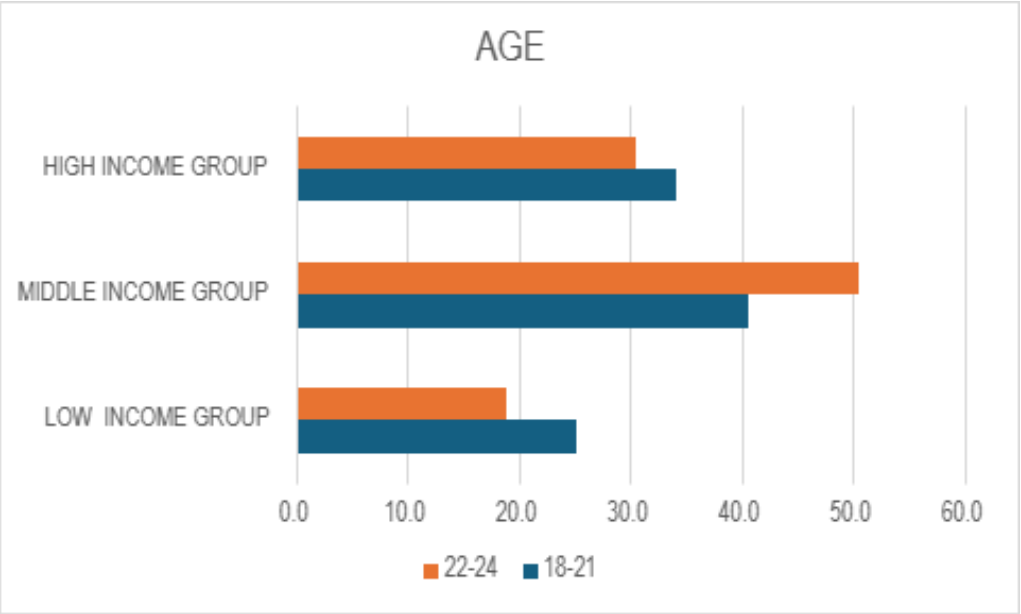
Key observations:

(i) Among females, the highest percentage belongs to the middle-income group, followed by the high-income group.

(ii) Among males, the distribution is similar, with the highest percentage also belonging to the middle-income group, but there's a slightly higher percentage in the low-income group compared to females.

(iii) Overall, there are differences in the distribution of individuals across income groups based on gender, with males having a slightly higher representation in the low-income group compared to females.

FIG 3.2.11 - RELATION BETWEEN AGE AND INCOME LEVEL



Source : Primary data

Out of the respondents in the age category 18-21 , 25.3% (23 respondents) belong to the low income group, 40.7% (37 respondents) belong to the middle income group and 34.1% (31 respondents) belong to the high income group.

Out of the respondents in the age category 22-24 , 18.9% (21 respondents) belong to the low income group , 50.5% (56 respondents) belong to the middle income group and 30.6% (34 respondents) belong to the high income group.

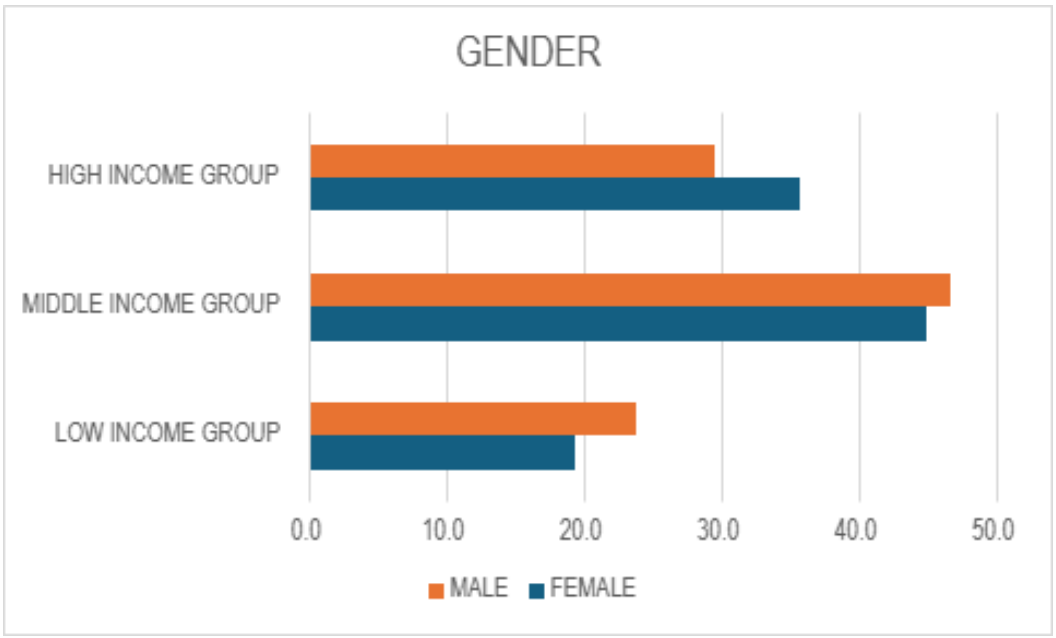
Key observations:

(i) Among individuals aged 18-21, the highest percentage belongs to the middle-income group, followed by the high-income group.

(ii) Among individuals aged 22-24, the distribution is different, with the highest percentage belonging to the middle-income group, followed by the low-income group.

(iii) Overall, there are shifts in the distribution of individuals across income groups as individuals transition from the 18-21 age group to the 22-24 age group, with changes in the percentages across income brackets.

FIG 3.2.12 - RELATION BETWEEN GENDER AND INCOME LEVEL



Source : Primary data

Out of the female respondents , 19.4% (19 respondents) belong to the low income group , 44.9% (44 respondents) belong to the middle income group and 35.7% (35 respondents) belong to the high income group.
Out the male respondents , 23.8% (25 respondents) belong to the low income group , 46.7% (49 respondents) belong to the middle income group, 29.5% (31 respondents) belong to the high income group.

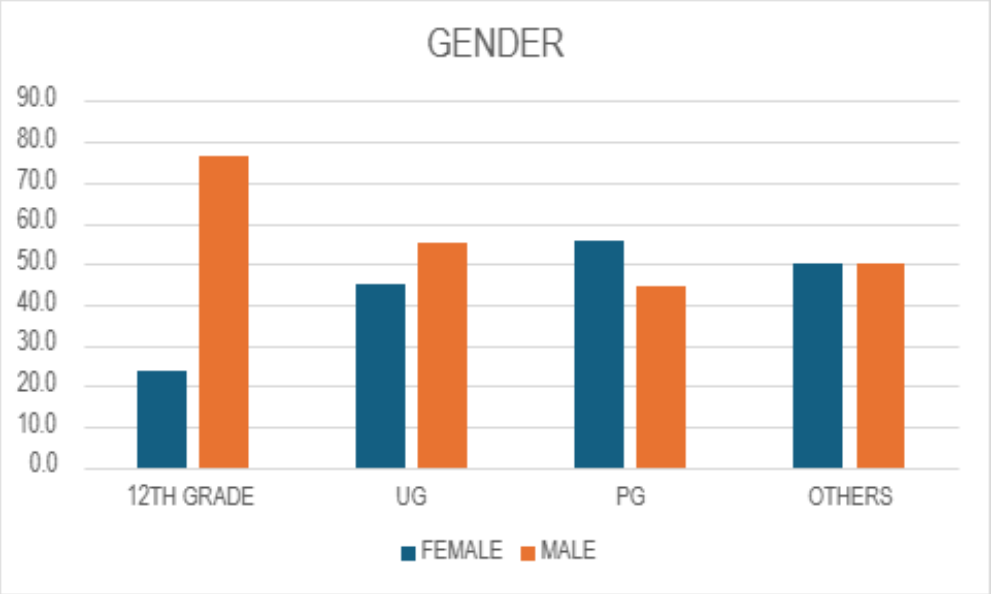
Key observations:

(i) Among females, the highest percentage belongs to the middle-income group, followed by the high-income group.

(ii) Among males, the distribution is similar, with the highest percentage also belonging to the middle-income group, but there's a slightly higher percentage in the low-income group compared to females.

(iii) Overall, there are differences in the distribution of individuals across income groups based on gender, with males having a slightly higher representation in the low-income group compared to females.

FIG 3.2.13 - RELATION BETWEEN GENDER AND EDUCATIONAL QUALIFICATION



Source : Primary data

Out of the 12th grade respondents , 23.5% (4 respondents) are females and 76.5% (13 respondents) are males

Out of the undergraduate respondents 44.9% (35 respondents) are females and 55.1% (43 respondents) are males

Out of the postgraduate respondents 55.6% (50 respondents) are females and 44.4% (40 respondents) are males

Out of the other category respondents , 50.0% (9 respondents) are females and 50.0% (9 respondents) are males.

Key observations :

(i) Among females, the highest percentage have completed postgraduate education (55.6%), followed by undergraduate education (44.9%).

(ii) Among males, the highest percentage have completed education up to the 12th grade (76.5%), followed by undergraduate education (55.1%).

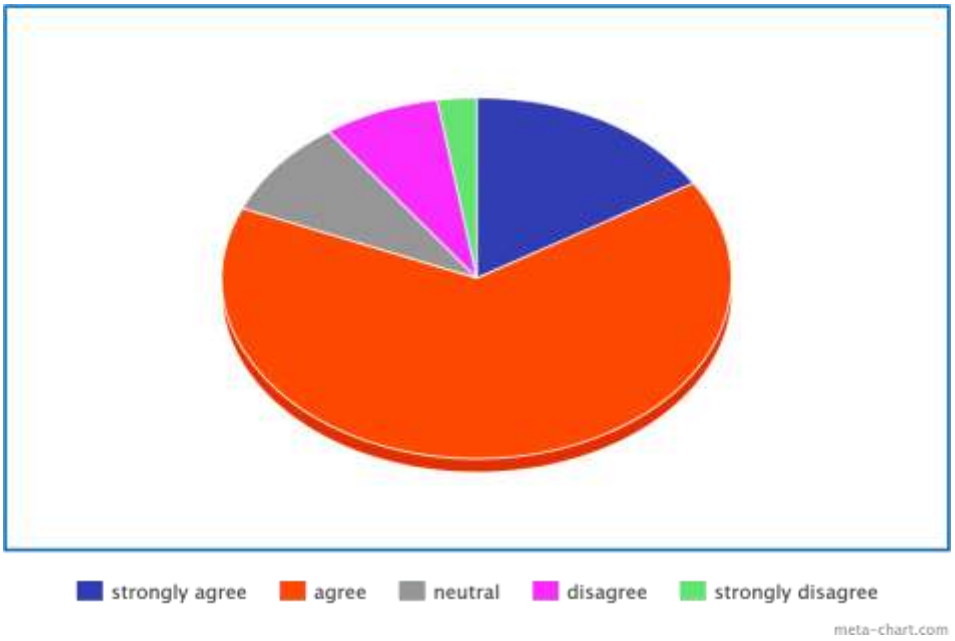
(iii) Both genders have an equal percentage in the "Others" category (50.0%).

(iv) There's a notable difference in the distribution of educational attainment between genders, with a higher percentage of males having completed education up to the 12th grade compared to females, while a higher
percentage of females have completed postgraduate education compared to males.

3.3 QUESTIONNAIRE

Q1) Does advertisement and goodwill of a product influence your purchasing decision?

(Source : Primary data) *FIG 3.3.1*



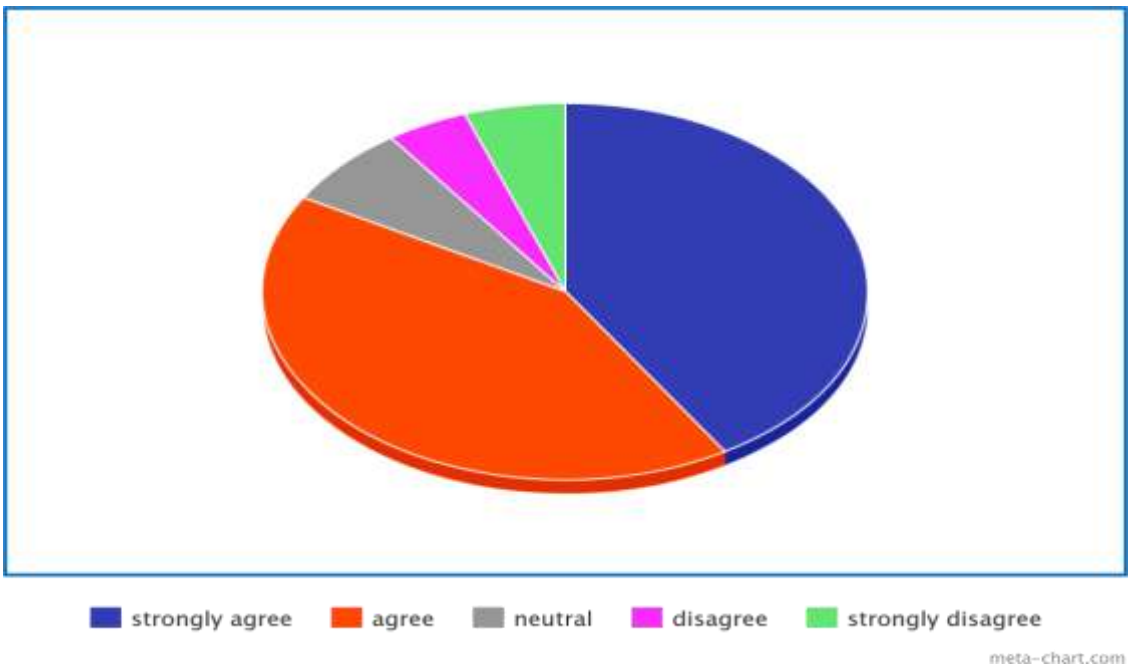
•

From the above chart we can conclude that 16.2% people strongly agree, 65.2% people agree , 8.8% people are neutral , 7.4% people disagree and the remaining 2.5% strongly disagree.

• From the above data we can conclude that advertisement and goodwill of a product significantly affects the purchasing decision of most student consumers.

Q2) Does certain brands and logos of the product influence your purchasing decision?

(Source : Primary data) *FIG 3.3.2*

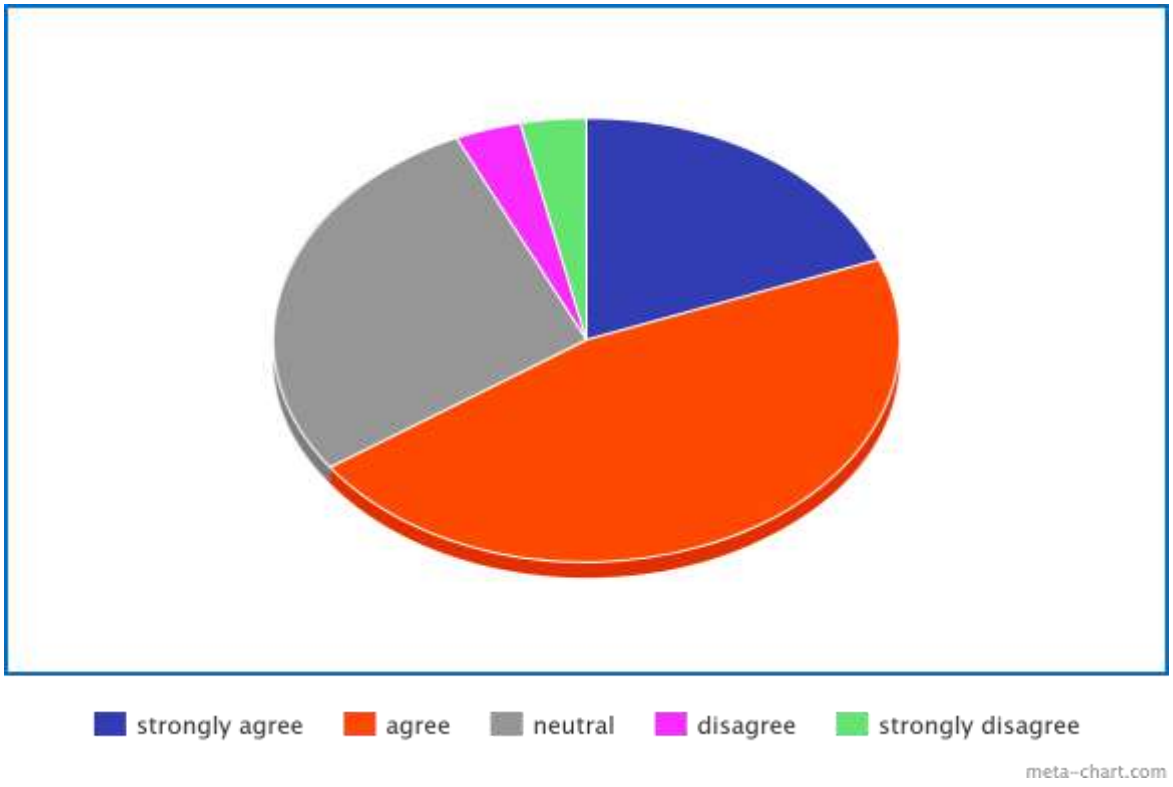


- From the above chart we can conclude 41.2% people strongly agree, 42.2% people agree, 6.9% people are neutral, 4.4% people disagree and the remaining 5.4% strongly disagree
-

From the above data we can conclude that brand familiarity of a product significantly affects the purchasing decision of most student consumers.

Q3) Does background music played a shop influence your purchasing decision?

(Source : Primary data) *FIG 3.3.3*

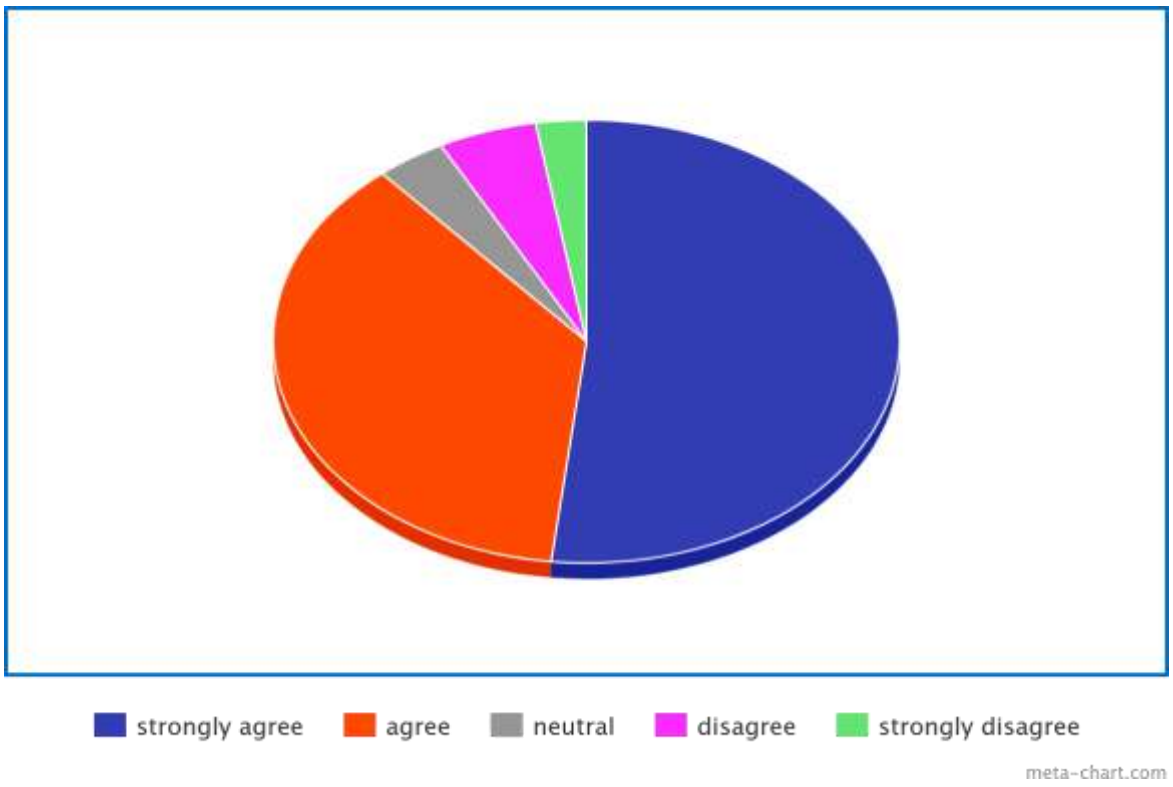


- From the above chart we can conclude that 19.1% people strongly agree, 46.1% people agree, 27.9% people are neutral, 3.4% people disagree and the remaining 3.4% people strongly disagree.
-

From the data we can conclude that background music significantly affects the purchasing decision of most student consumers

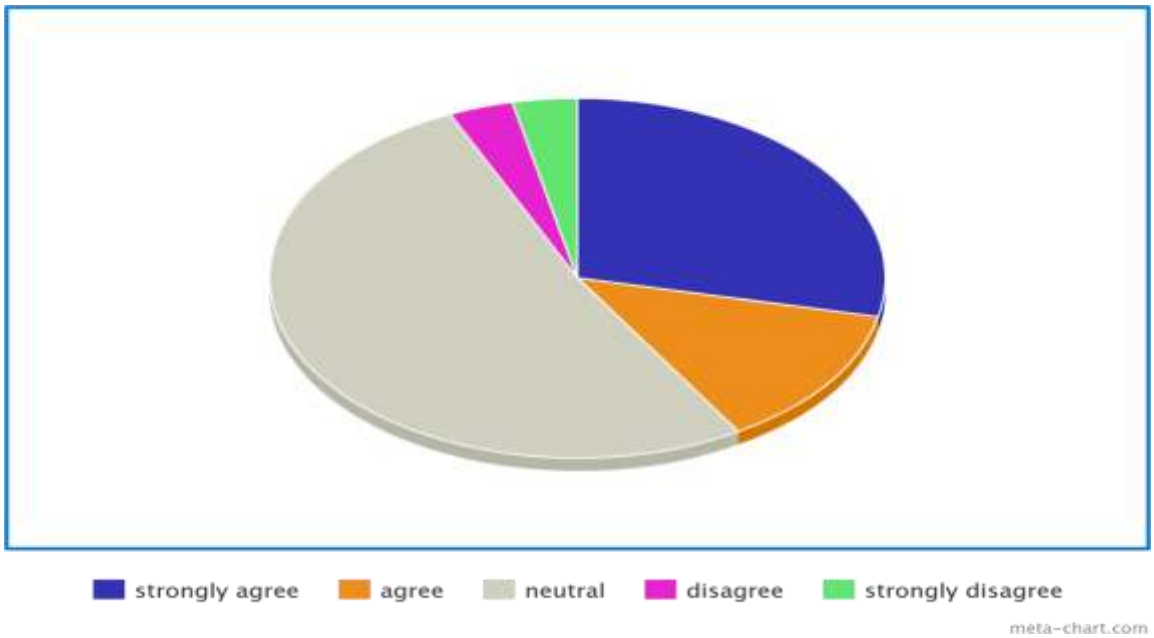
Q4) Does the concept of reward influence your loyalty to a particular brand ?

(Source : Primary data) *FIG 3.3.4*



- From the above chart we can conclude that 51.8% people strongly agree, 36.9% people agree, 3.6% people are neutral, 5.1% people disagree and the remaining 2.6% people strongly disagree.
-
- From the above data we can conclude that providing reward significantly increases the royalty to a brand for most student consumers.

Q5) Does the scarcity principle(availability of the product) influence your purchasing decision?



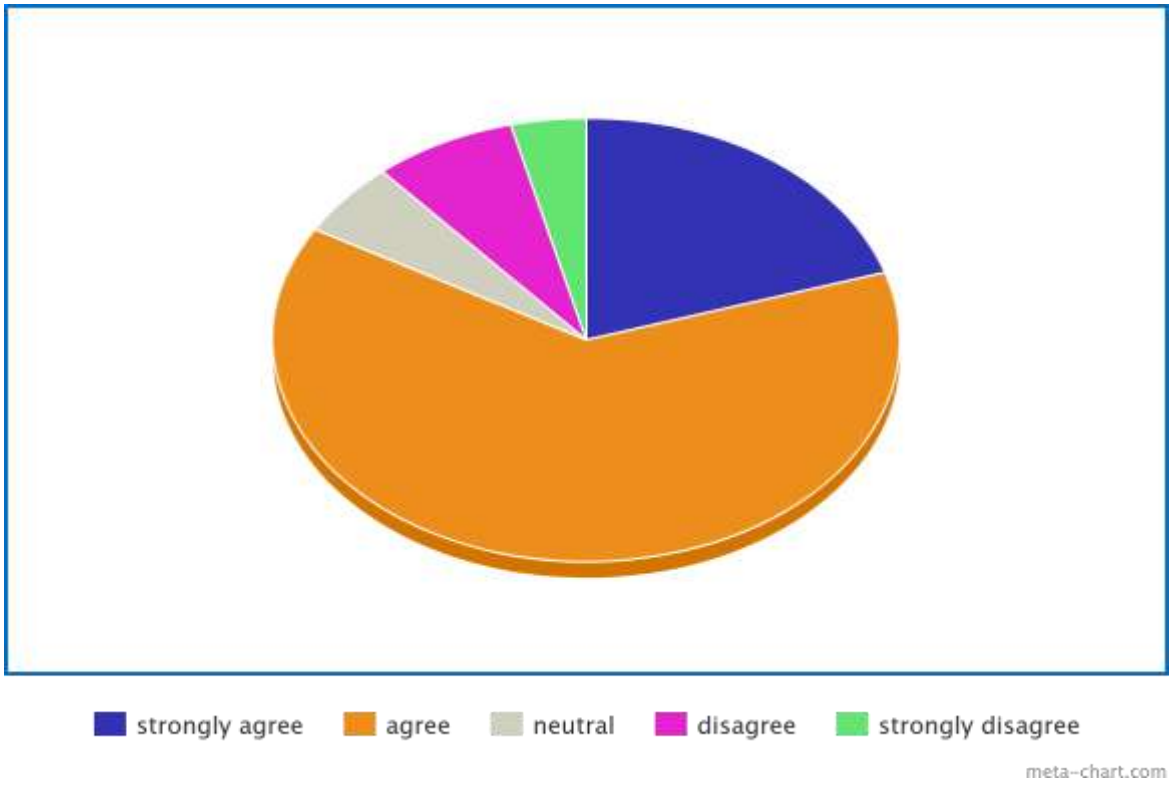
(Source : Primary data) *FIG 3.3.5*

- From the above chart we can conclude that 28.5% people strongly disagree, 12.8% people agree, 52% people are neutral, 3.4% people disagree and the remaining 3.4% people strongly disagree.

- From the above data we can conclude that student consumers are more or less affected by the scarcity principal.

Q6) Does walking more in a shop encourage you to buy water or other refreshments?

(Source : Primary data) *FIG 3.3.6*

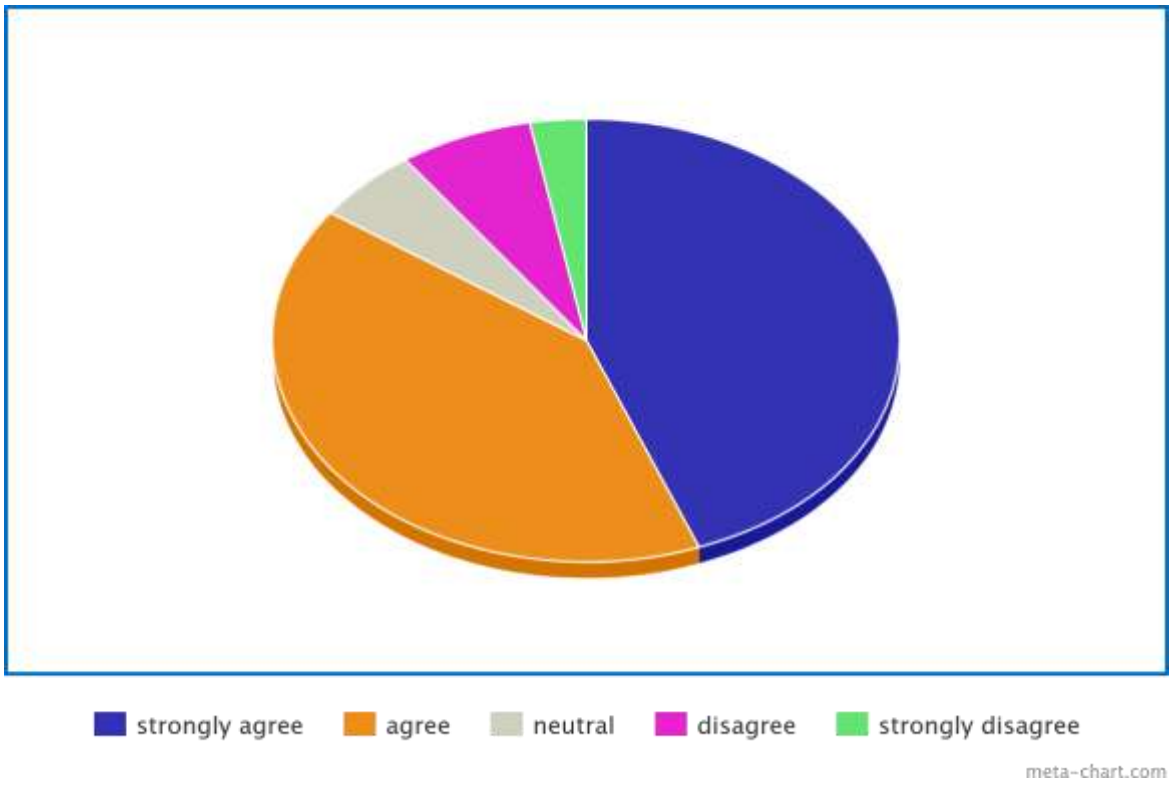


- from the above chart we can conclude that 20.1% people strongly agree, 63.3% people agree, 5.4% people are neutral, 7.4% people disagree and the remaining 3.9% people strongly disagree.

- From the above data we can conclude that walking more distance in a shop significantly encourages most student consumers to purchase water or other refreshments.

Q7) Does packaging of a product affect your purchasing decision?

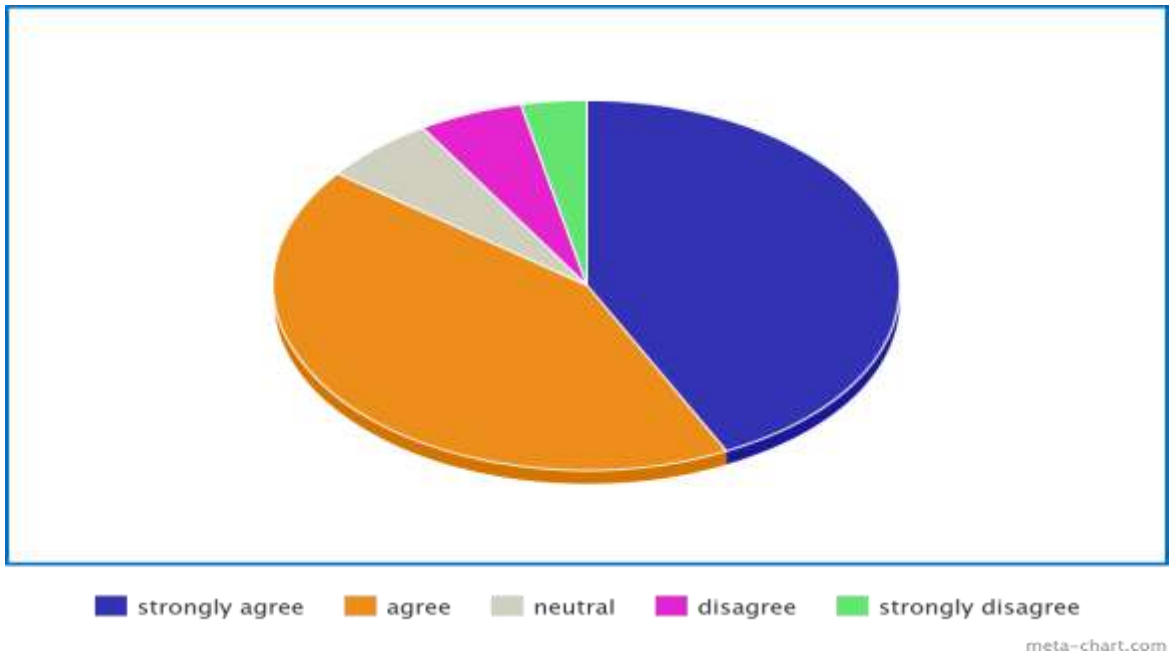
(Source : Primary data) *FIG 3.3.7*



- From the above chart we can conclude 44.1% people strongly agree, 40.6% people agree, 5.4% people are neutral, 6.9% people disagree and the remaining 2.9% people strongly disagree

- From the above data we can conclude that packaging of products significantly affects most student consumers to make a purchasing decision.

Q8) Does price of a product affect your purchasing decision?



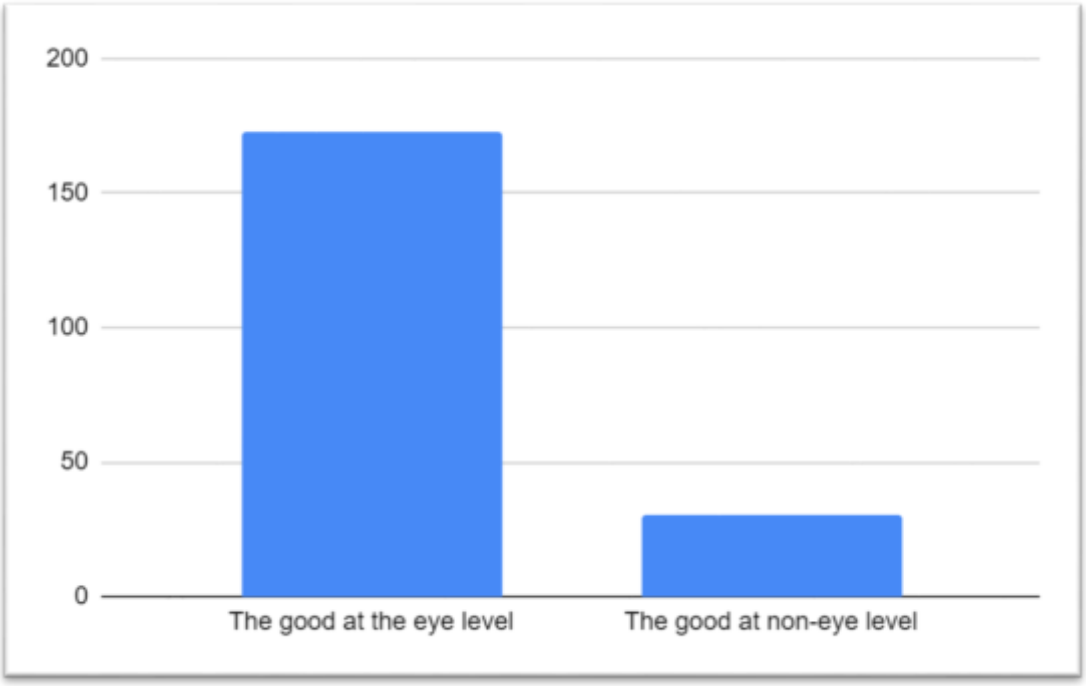
(Source : Primary data) *FIG 3.3.8*

- From the above chart we can conclude that 42.7% people strongly agree, 42.8% people agree, 5.8% people are neutral, 5.4% people disagree and the remaining 3.4% people disagree.

- From the above data we can conclude that price of products significantly affects most student consumers to make a purchasing decision.

Q9) Suppose there are two substitute goods in a supermarket. One is placed at the eye level and the other good is somewhere else (say at an non-eye level area) Which good would you pick?

(Source : Primary data) *FIG 3.3.9*



- From the above chart we can conclude that 85.2% people choose goods that are placed at eye level and the remaining 14.8% people choose goods that are placed at non eye level.

- From the above data we can conclude that most student consumers pick products that are kept at eye level

For the purpose of regression analysis the responses were converted into various digits as follows:

COMPONENTS	**NUMBERS ASSIGNED**
Age : 18-21 age group 22-24 age group	 0 1
Gender : Female	0

male	1
Family income : Low income group Middle income group High income group	0 1 2
Educational qualification: 12th grade Under graduation Postgraduation others	0 1 2 3
Strongly agree Agree Neutral Disagree Strongly disagree	1 1 0 0 0

SUMMARY STATISTICS

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	202	.549505	.4987794	0	1
Gender	203	.5172414	.500938	0	1
Educations~s	203	1.536946	.7722697	0	3
Familyincome	203	1.108374	.7298981	0	2
advertisem~l	203	.7192118	.4504952	0	1
colour	203	.8029557	.3987494	0	1
brandsandl~s	203	.7339901	.4429618	0	1
background~c	203	.6847291	.4657723	0	1
scarcitypr~e	203	.8128079	.39103	0	1
walkingmore	203	.7684729	.4228512	0	1
packaging	203	.7881773	.40961	0	1
price	203	.6206897	.486415	0	1
eyelevelno~l	203	.6995074	.4596057	0	1
reward	203	.7684729	.4228512	0	1
effectofne~g	203	.7684729	.4228512	0	1

- The independent variable age has a mean value of 0.549505 and the standard deviation is calculated to be 0.4987794

- The independent variable gender has a mean value of 0.5172414 and the standard deviation is calculated to be 0.500938

- The independent variable educational status has a mean value of 1.536946 and the standard deviation is calculated to be 0.7722697

- The independent variable family income has a mean value of 1.108374 and the standard deviation is calculated to be 0.7298981

CHAPTER 4
ANALYSIS AND INTERPRETATION OF RESULTS

Chapter 4 deals with analysis and interpretation of results. First we will look into the econometric model and the the interpretation of variables.

4.1 Econometric Model

An econometric model is a statistical framework used to explain and analyze the relationship between several economic variables. It combines economic theory, mathematical equations and statistical techniques to understand, explain and predict economic phenomena. Econometric models are used to test hypotheses, estimate parameters, predict future trends, and evaluate the impact of policy initiatives. The econometric model can be written as follows :

$$Y = \beta 0 + \beta 1 \text{ Age} + \beta 2 \text{ Gender} + \beta 3 \text{ Educational Qualification} + \beta 4 \text{ Family Income} + \mu$$

Where , Y – Effect of neuromarketing on student consumers β1 - coefficient of the independent variable age β2 - coefficient of the independent variable gender β3 - coefficient of the independent variable educational qualification β4 - coefficient of the independent variable family income μ - error term

4.2 Logit model

The logit model (logistic regression model) is a type of model for binary outcomes where the outcome variable takes on only two possible values that is typically coded as 0 and 1. The number 1 indicates the occurrence of an event and 2 indicates the non-occurrence of an event.

Logistic regression — Number of obs = 202; LR chi2(4) = 8.51; Prob > chi2 = 0.0746; Log likelihood = -105.32714; Pseudo R2 = 0.0388

effectofneuromarketing	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Age	.3875514	.1444828	-2.54	0.011	.1866351	.804758
Gender	1.567611	.5508358	1.28	0.201	.7872964	3.121319
Educationstatus	1.072558	.2457051	0.31	0.760	.684581	1.680416
Familyincome	1.282277	.3042294	1.05	0.295	.8054311	2.041435
_cons	3.207583	1.715692	2.18	0.029	1.124299	9.151112

Note: _cons estimates baseline odds.

- Age: The Odds Ratio for Age is 0.388. This means that for each one-unit increase in Age, the odds of the outcome decrease by approximately 61.2%. In other words, older individuals are less likely to experience the outcome compared to younger individuals. The analysis show an odds ratio of 0.388 for age. This translates to a roughly 61.2% decrease in the odds of being influenced by neuromarketing techniques with each
additional year of age. In simpler terms, older individuals are significantly less susceptible to the persuasive effects of neuromarketing compared to their younger individuals. This suggests that age may be an important factor to consider when designing neuromarketing campaigns, as older counterparts may be less responsive to these techniques.

- Gender: The Odds Ratio for Gender is 1.568. This indicates that being in a certain gender category (males compared to females) is associated with a 56.8% increase in the odds of the outcome. However, the p-value
(0.201) suggests that this effect is not statistically significant at conventional levels. The odds ratio of 1.568 for gender in our neuromarketing study suggests an interesting trend. Individuals in one gender category (male) are 56.8% more likely to experience the effect of neuromarketing techniques compared to the other category (females).
However, it's critical to consider the p-value of 0.201. In research, a pvalue below 0.05 is typically considered statistically significant, means
the observed effect is unlikely due to chance. In this case, the p-value of
0.201 falls outside that range. While there's a trend towards one gender group being more susceptible to neuromarketing, we can't definitively say it's a statistically robust observation.

- Education Status: The Odds Ratio for Education Status is 1.073. This suggests that, on average, there's a 7.3% increase in the odds of the outcome for each unit increase in Education Status. However, it's important to consider the p-value of 0.760. In statistics, a high p-value like this means the observed association between education and
susceptibility to neuromarketing is unlikely due to random chance. But, it also suggests the connection might not be truly significant.

- Family Income: The Odds Ratio for Family Income is 1.282. This indicates that, on average, there's a 28.2% increase in the odds of the outcome for each unit increase in Family Income. This suggests that for every unit
increase in family income, there's a roughly 28.2% increase in the odds of being influenced by neuromarketing tactics. However, it's important to
consider the p-value of 0.295, which indicates that this relationship might be due to chance and may not be statistically significant.

To interpret the significance level of each variable, we look at the p-values associated with their coefficients:

- Age: The p-value for Age is 0.011, which is less than the conventional
significance level of 0.05. This indicates that Age is statistically significant in predicting the outcome.

- Gender: The p-value for Gender is 0.201, which is greater than 0.05.
Therefore, Gender is not statistically significant in predicting the outcome at the conventional significance level.

- Education Status: The p-value for Education Status is 0.760, which is much greater than 0.05. Thus, Education Status is not statistically significant in predicting the outcome.

- Family Income: The p-value for Family Income is 0.295, which is also greater than 0.05. Hence, Family Income is not statistically significant in predicting the outcome.

CHAPTER 5
SUMMARY, FINDINGS AND CONCLUSION

5.1 SUMMARY

This dissertation titled " The effect of neuromarketing on student consumers", seeks to explore two main objectives: firstly Understanding the different aspects of neuromarketing; and secondly to analyse student consumer behaviour driven by neuromarketing. Looking into the first objective we had looked into its various aspects in chapter 1 and 2. Now let us look closely into the concept of neuromarketing.

Neuromarketing is a convergence of neuroscience, psychology and marketing that aims to understand consumer behaviour on a deeper level by studying the brain's responses to marketing stimuli. Its emergence is due to the fact that traditional market research methods, such as surveys and focus groups, have limitations in understanding the unconscious processes that guide consumer decisions.

Neuromarketing has its roots in the early 2000s, when researchers began using tools like that. such as functional magnetic resonance imaging (fMRI),
electroencephalography (EEG) and eye tracking to study brain activity in response to marketing stimuli. These techniques have allowed marketers to gain insight into consumers' emotional reactions, attention and memory retention, which are key factors in purchasing decisions. One of the key aspects of neuromarketing is its ability to overcome the limitations of self-reporting,
because consumers can. are not always aware of their true motives and preferences and do not express them carefully. By directly measuring brain activity, neuromarketers can uncover unconscious responses that influence consumer behaviour.

Over the years, neuromarketing has found applications in a variety of fields,
including advertising, product design, the retail environment, and even political campaigns. For example, researchers have used neuroimaging techniques to optimize advertising messages, design more effective packages, and create compelling sales experiences. Despite its promise, neuromarketing has faced ethical and privacy issues related to the use of Neurotechnologies to manipulate consumer behaviour. Critics argue that the potential for exploitation and invasion of privacy requires careful regulation and oversight of the field.
However, the emergence of neuromarketing represents a paradigm shift in understanding consumer behaviour, providing marketers with unprecedented insights into the subconscious factors behind decision making. As technology advances, the field of neuromarketing is poised to further revolutionize the marketing and consumption of products and services in the future.

The second objective (analyse student consumer behaviour driven by neuromarketing) is can be understood by looking into the findings of the study which is given below

5.2 FINDINGS

Major information for the study was collected through questionnaire method.
The total respondents got for the study was 204 respondents. The main
objective for preparation of the questionnaire was to understand the effect of neuromarketing on student consumers. The dependent variable that is the "effect of neuromarketing on student consumers" was measured by a scoring phenomenon whereby the some questions (likert scale questions) from the questionnaire was taken and scores were put accordingly. The maximum point was 50 and the minimum score a person could achieve was 10. The median of these figures was 30. Those coming below or equal to 30 are considered to be less influenced by neuromarketing techniques and more than the 30 score are
more influenced by neuromarketing techniques. Out of the respondents 76.47% (156 respondents) are

coming above the 30 score level. In other words they are more likely to be influenced by neuromarketing techniques. The remaining 23.53% (48 respondents) are below the 30 score level level that is they are less likely to be influenced by neuromarketing techniques. Hence we can understand that most of the respondents are affected by neuromarketing practices.

Other key observations include the following :

- advertisement and goodwill of a product significantly affects the purchasing decision of most student consumers.
- brand familiarity of a product significantly affects the purchasing decision of most student consumers.
- background music significantly affects the purchasing decision of most student consumers
- providing reward significantly increases the royalty to a brand for most student consumers.
- student consumers are more or less affected by the scarcity principal.
- walking more distance in a shop significantly encourages most student consumers to purchase water or other refreshments.
- packaging of products significantly affects most student consumers to make a purchasing decision.
- price of products significantly affects most student consumers to make a purchasing decision.
- most student consumers pick products that are kept at eye level when compared to non eye level products

All these statements show that student consumers would be affected by various neuromarketing ways. The student consumers now are the ones who should lead a family tomorrow. When they become married they will eventually buy more goods and services from the market. So if they become aware that they are being affected by neuromarketing techniques there is a possibility that they buy only the goods and services they actually need rather than what the producers want them to purchase.

Out of 204 respondents, below half that is 45.05% (91 respondents) of them fell within the age group of 18-21 and the rest 54.95 (113 respondents) of them
were within the age group of 22-24. Among the respondents studied 48.28% (98 respondents) of them are females and the remaining 51.72% (106 respondents) are males.

Among the respondents studied 8.37% (17 respondents) of them belong to 12th grade , 38.42% (78 respondents) of the belong to undergraduation ,44.33% (90 respondents) of them belong to postgraduation and the remaining 8.87% (19 respondents) of them are under the category others. Among the respondents studied , 44 (21.67%) of them belong to low income group, 93 (45.81%) of them belong to middle income group and the remaining 67 (32.51%) belong to high income group.

Out of the female respondents 4.1% (4 respondents) have completed 12th grade, 35.7% (35 respondents) have completed undergraduation , 51% (50 respondents have completed postgraduation and the remaining 9.2 (9 respondents) belong to the other group.

Key observations :

Among females:

1) The highest percentage has completed postgraduate education (51.0%).
2) The lowest percentage has completed education up to the 12th grade (4.1%).

Out of the male respondents , 12.4% (13 respondents) have completed 12th grade , 41.0% (43 respondents) have completed undergraduation , 38.1% (40 respondents have completed postgraduation and the remaining 8.6% (9 respondents) belong the other category

Key observation: Among males:

1) The highest percentage has completed undergraduate education (41.0%).
2) The lowest percentage has completed education up to the 12th grade (12.4%).

Out of the respondents belonging to 18-21 age group, 13.2% (12 respondents) have completed 12th grade , 39.6% (36 respondents) have completed undergraduation , 44.0% (40 respondents) have completed postgraduation and the remaining 3.3% (3 respondents) belong to the other category.

Key observation:

Among individuals aged 18-21:

1) The highest percentage has completed postgraduate education (44.0%).
2) The lowest percentage has completed education up to the 12th grade (13.2%).

Out of the respondents belonging to 22-24 age group , 4.5 (5 respondents) have completed 12th grade , 37.8% (42 respondents) have completed undergraduation , 44.1% (49 respondent) have completed postgraduation and the remaining 13.5% (15 respondents) belong to the other category.

Key observation:

Among individuals aged 22-24:

1) The highest percentage has also completed postgraduate education (44.1%).
2) The lowest percentage has completed education up to the 12th grade (4.5%).

Out of the respondents belonging to low income group , 13.6% (6 respondents) have completed 12th grade , 31.8% (14 respondents) have completed undergraduation , 40.9% (18 respondents) have completed postgraduation and the remaining 13.6% (6 respondents) belong to the other category.

Out of the respondents belonging to the middle income group , 4.3%(4 respondents) have completed 12th grade , 44.1% (41 respondents) have completed undergraduation , 45.2% (42 respondents) have completed postgraduation and the remaining 6.5% (6 respondents) belong to the other category

Out of the respondents belonging to the high income group , 10.6% (7 respondents) have completed 12th grade , 34.8 (23 respondents) have completed undergraduation , 45.5% (30 respondents) have completed postgraduation and the remaining 9.1% (6 respondents) belong to the other category.

Key observation:

1) Among all income groups, the highest percentage of individuals have completed either undergraduate or postgraduate education.

2) Individuals in the middle and high-income groups tend to have higher percentages of completing undergraduate and postgraduate education compared to those in the low-income group.

3) The distribution of education levels varies across income groups, reflecting differences in educational attainment based on socioeconomic status.

Out of the respondents studying in the 12th grade , 70.6% (12 respondents) belong to the age group 18-21 and 29.4% (5 respondents) belong to the age
group 22-24.Out of the respondents studying in the undergraduation , 46.2% (36 respondents) belong to the age group 18-21 and 53.8% (42 respondents) belong to the age group 22-24. Out the respondents studying in the postgraduation , 44.9% (40 respondents) belong to the age group 18-21 and 55.1% (49 respondents) belong to the age group 22-24.Out of the respondents studying in the other category , 16.7% (3 respondents) belong to the age group 18-21 and 83.3% (15 respondents) belong to the age group 22-24.

Out of the respondents in the low income group , 52.3% (23 respondents)belong to the age group 18-21 and 47.7% (21 respondents) belong to the age group 22-24.Out of the respondents in the middle income group , 39.8% (37 respondents) belong to the age group 18-21 and 60.2% (56 respondents) belong to the age group 22-24.Out of the respondents in the high income age group , 47.7% (31 respondents) belong to the age group 18-21 and 52.3% (34 respondents) belong to the age group 22-24

Key observation:

1) Among individuals aged 18-21, the highest percentage belongs to the lowincome group.

2) Among individuals aged 22-24, the highest percentage belongs to the middle-income group.

3) The distribution of individuals across income groups shifts as individuals transition from the 18-21 age group to the 22-24 age group, with a notable
increase in the percentage belonging to the middle-income group.

Out of the female respondents , 19.4% (19 respondents) belong to the low
income group, 44.9 (44 respondents) belong to the middle income group and 35.7% (35 respondents)

belong to the high income group.Out of the male respondents , 23.8% (25 respondents) belong to the low income group , 46.7 (49 respondents) belong to the middle income group and 29.5% (31 respondents) belong to the high income group

Key observations:

1) Among females, the highest percentage belongs to the middle-income group, followed by the high-income group.

2) Among males, the distribution is similar, with the highest percentage also belonging to the middle-income group, but there's a slightly higher percentage in the low-income group compared to females.

3) Overall, there are differences in the distribution of individuals across income groups based on gender, with males having a slightly higher representation in the low-income group compared to females.

Out of the respondents in the age category 18-21 , 25.3% (23 respondents) belong to the low income group, 40.7% (37 respondents) belong to the middle
income group and 34.1% (31 respondents) belong to the high income group.Out of the respondents in the age category 22-24 , 18.9% (21 respondents) belong to the low income group , 50.5% (56 respondents) belong to the middle income group and 30.6% (34 respondents) belong to the high income group.

Key observations:

1) Among individuals aged 18-21, the highest percentage belongs to the middle-income group, followed by the high-income group.

2) Among individuals aged 22-24, the distribution is different, with the
highest percentage belonging to the middle-income group, followed by the low- income group.

3) Overall, there are shifts in the distribution of individuals across income groups as individuals transition from the 18-21 age group to the 22-24 age
group, with changes in the percentages across income brackets.

Out of the female respondents , 19.4% (19 respondents) belong to the low income group , 44.9% (44 respondents) belong to the middle income group and 35.7% (35 respondents) belong to the high income group.Out the male
respondents , 23.8% (25 respondents) belong to the low income group , 46.7% (49 respondents) belong to the middle income group, 29.5% (31 respondents) belong to the high income group.

Key observations:

1) Among females, the highest percentage belongs to the middle-income group, followed by the high-income group.

2) Among males, the distribution is similar, with the highest percentage also belonging to the middle-income group, but there's a slightly higher percentage in the low-income group compared to females.

3) Overall, there are differences in the distribution of individuals across income groups based on gender, with males having a slightly higher representation in the low-income group compared to females.

Out of the 12^{th} grade respondents , 23.5% (4 respondents) are females and 76.5% (13 respondents) are

males.Out of the undergraduate respondents 44.9% (35 respondents) are females and 55.1% (43 respondents) are males. Out of the postgraduate respondents 55.6% (50 respondents) are females and 44.4% (40 respondents) are males.Out of the other category respondents , 50.0% (9 respondents) are females and 50.0% (9 respondents) are males.

Key observations :

1) Among females, the highest percentage have completed postgraduate education (55.6%), followed by undergraduate education (44.9%).

2) Among males, the highest percentage have completed education up to the 12th grade (76.5%), followed by undergraduate education (55.1%).

3) Both genders have an equal percentage in the "Others" category (50.0%).

4) Here's a notable difference in the distribution of educational attainment between genders, with a higher percentage of males having completed education up to the 12th grade compared to females, while a higher percentage of females have completed postgraduate education compared to males.

Another important finding is that the Odds Ratio for Age is 0.388. This means that for each one-unit increase in Age, the odds of the outcome decrease by approximately 61.2%. In simpler terms, older individuals are significantly less susceptible to the persuasive effects of neuromarketing compared to their younger individuals. However taking into consideration the other independent variables that is gender, educational and family income; their relationship with effect of neuromarketing is not statistically significant (means these variables increases the odds of the outcome occurring)

5.3 CONCLUSION

From the study conducted we can understand that neuromarketing is a large and significant theory of knowledge which is the future of marketing. Various companies and firms invest millions to understand how the consumers think and behave. The ultimate aim of producers or sellers is to make consumers buy products what the producers want rather than what the consumers actually want. To become aware of various neuromarketing techniques and practices is the need of the hour. From our study we can conclude the most student consumers are affected by neuromarketing techniques. The student consumers now will have to start a family tomorrow where they eventually have to buy more goods and services. So if they are now aware of how producers try to manipulate them then they can be less influenced by the so called neuromarketing techniques.

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APPENDIX

The questionnaire done for the study is given below :

Q1) Age

(a)18-21 (b)22-24

Q2) Gender (a)male (b)female
Q3) Educational status

(a)12th grade (b)undergraduate (c)postgraduate (d) others Q4) Family income
(a)low income group (b)middle income group (c)high income group

Q5) Does advertisement and goodwill of a product influence your purchasing decision?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q6) Does certain brands and logos of the product influence your purchasing decision?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q7) Does background music played a shop influence your purchasing decision?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q8) Does the concept of reward influence your loyalty to a particular brand?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q9) Does the scarcity principle(availability of the product) influence your purchasing decision?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q10) Does walking more in a shop encourage you to buy water or other refreshments?
(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree Q11) Does packaging of a product affect your purchasing decision?

(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree Q12) Does price of a product affect your purchasing decision?
(a) strongly agree (b) agree (c) neutral (d) disagree (e) strongly disagree

Q13) Suppose there are two substitute goods in a supermarket. One is placed at the eye level and the other good is somewhere else (say at an non-eye level area) Which good would you pick?

(a) The good at eye level (b) The good at non eye level