



Myth Or Fact: The Effects Of Subliminal Advertising On Consumer Behavior

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Abstract: This The aim of this research is to analyze and understand the gauging effect of subliminal marketing on the human psyche. Subliminal marketing uses subtle techniques or effects to convey a message subconsciously that is related to the product, this message might compel and influence the buying choices and behavior of the customer, the use of such techniques and methods involve images and sounds that prompt the consumer or targeted customer to receive information which they are not aware of that they might be receiving. This has caused people to question the ethics behind subliminal marketing. In 1958 subliminal marketing was banned in the US, UK and Australia. For this research, we will be conducting a small experiment in which we will show a video or a ppt to a group of people, the contents of the video or ppt will be related to the subliminal messaging technique. After this we will conduct a survey with questionnaires prepared with reference to how the people feel about the overall messages, furthermore, we will be taking the help of three practicing psychologists to conduct the data analysis of our survey. Lastly, another survey will be conducted with similar subjects where the idea of subliminal marketing will be explained to them and their opinions regarding this strategy will be assessed to know if they encourage such strategy or they feel hostile towards it as they might feel manipulated by this strategy.

Index Terms – Neuromarketing, Subliminal Marketing, Consumer Behavior

I. INTRODUCTION

In the past, traditional marketing elements which comprise newspapers, billboards, radio etc. were the only option available for the marketers for their product outreach and the consumers' buying behaviour was almost totally dependent on the information gathered through those means. Globalization has completely changed this scenario. One of the primary factors that affect customers' consumption is online and satellite broadcasting. Psychologists have admitted that flashing images repeatedly in front of a subject may have some effect on their psyche which was the method used by James Vicary in 1957 to prompt people to buy more popcorn and cold drinks as he flashed the following words "Drink Coca-Cola" and "Eat popcorn," on multiple occasions during the movie. He later claimed that the sales of popcorn increased by 18.1%- and Coke sales increased by 57.7%. However, later the manager of the cinema claimed that the experiment had no impact on sales and hence there exists a debate whether there is actually an effect of subliminal marketing on consumers that makes them buy a product. Ian Zimmerman, an assistant professor of psychology at the University of Minnesota Duluth states that subliminal advertising might be perceived as a potent form of advertising but there is no hard evidence on it is based on however, he claims that it is not totally impractical and it can actually be influential but for that, the consumers have to be in the mood for the product to be advertised. He also stated that the whole campaign of subliminal marketing is based on many 'ifs' and experiments which makes it harder to collect any substantial evidence. Subliminal marketing due to its nature is often considered unethical and by court 4 rulings, it is not protected by the first amendment however various companies have resort to use the technique of subliminal messaging to deliver an idea if done right subliminal marketing will make the consumers feel like they have discovered a hidden message and they should get a kick out of the cleverness of the ad instead of making them

feel like brainwashed by a corporate entity Not all get a similar message that the advertisement is trying to convey, and some see the equivalent, giving them more significance than others. Although this may create a barrier for the marketers as all people perceive a particular data in their own manner, this is a major point of significance for them as they can create subtle effects on the minds of the viewer without directly impacting their understanding. While items increase and many new ones show up, marketers look for methods to survive in the brutal market and subliminal marketing helps them significantly in many cases. Adding to this incredible social change, it is not straightforward for the public to understand this unpredictable undertaking of marketers in the advanced world. The eventual fate of advertising will not just be bound to its own imaginative limit, but also to the speed and conviction with which they adjust to the new methods, a considerable lot of which actually don't exist. Some of the already established giant companies have also adopted this strategy of subliminal advertising even though they are far ahead of their competitors just because of the rapidly progressive and changing scenario in the marketing world. Consumers are no more or merely affected by the traditional methods of advertising. Due to the rising competition, marketers use several different ways to attract consumers which further leads to an increase in the customers' expectation of seeing something unique yet again

II. OBJECTIVES

As a group, we established a set of objectives that we hoped to achieve by the end of our research project. These objectives served as our paradigm for the successful completion of our project. Our objectives were fourfold and consisted of the following:

- To analyse the effect of subliminal messages on the human psyche.
- To determine if subliminal advertising affects buying behavior or not
- to understand the nature of the effect subliminal advertising has on buying behavior: positive or negative.
- To discuss the ethics of subliminal advertising and its association with brainwashing

III. LITERATURE REVIEW

There are several studies that have been conducted on the effects of subliminal advertising on the papers. In the paper by Andrea Maldonado (2007) titled '*Recognizing the subconscious effect of micro messages*,' the impacts and job of 5 micro messages, in close to home and expert life, are examined. Micro messages are the progressing, subtle cues and motions that are appended to the words utilized for correspondence. Micro messages are generally non-verbal, for the most part, conveyed through gestures, eye-to-eye connection, head turns, and signals. The issues show up when the micro messages being sent are negative and cause the recipient to feel barred, which may prompt assurance and efficiency issues. Ahmadi and Akbari (2023) examine how subliminal messages influence human attitudes and the effectiveness of advertising in their paper, '*The Effects of Subliminal Messages on Human Attitude Change and Effective Advertising*'. They discuss the role of the unconscious mind in processing these messages and reference James Vicary's 1957 experiment, where phrases like "Eat Popcorn!" and "Drink Coca-Cola!" were flashed in a cinema to influence audience behavior. The study emphasizes that while subliminal messages can be powerful tools in advertising and ideology propagation, their impact varies based on factors like age, gender, culture, and individual beliefs. It also warns against the negative implications of forced subliminal messaging, especially on vulnerable groups like children, and calls for comprehensive control measures and penalties for unethical subliminal advertising practices. In the journal by Verwijmeren, Karremann & Stroebe (2011) titled '*Subliminal messages: Between the devil and the media*,' it is stated that in spite of long stretches of debate, late exploration exhibited that if objective oriented subliminal advertising can be possible or not. To additionally explain the functions and cut off points of subliminal advertising, they conducted an examination by inspecting the role of habits in it. They made members pick between two brands, one of which was subliminally prepared. Astoundingly, when the promoted brand was competing with a more widely-used brand, priming increased the chances of choosing the primed brand for the customers event when their usual choice was in question. Madan, Rosca, and Bucovicean (2021), in their chapter '*Theoretical Approach of Subliminal Advertising*,' explore the definitions and concepts associated with subliminal priming and techniques in marketing. They review how subliminal advertising influences consumer behavior, evaluating various techniques to establish the existence or nonexistence of subliminal priming and persuasion. The study suggests that the field of subliminal stimuli requires continued research to clarify existing confusion and to understand its impact on consumer behavior. Surabhi Kathait (2024), in her study '*Subliminal Advertisements and Their Relationship with Consumer Emotion & Buying Decision: A Study on Indian Customer*,' explore how emotional advertising influences consumer behavior in India. The research indicates that advertisements designed to evoke emotions can significantly impact consumers' purchasing decisions. The study emphasizes the importance of understanding consumer emotions in crafting effective advertising strategies. Tański (2021), in the paper '*Influences and Effects of Subliminal*

Advertising in Consumption Decision', examines how advertising impacts consumer behaviour, particularly through subliminal messages. The study focuses on various consumer segments in Posadas, Argentina, including managers, religious leaders, journalists, and politicians, to determine if their purchasing decisions are influenced by subliminal communication strategies. The findings suggest that while advertising has a significant economic impact and can produce rapid effects, the perception and effectiveness of subliminal messages vary among different consumer groups. According to Gregorio & Sung (2013), product placement perspectives have to a great extent been evaluated utilizing studies or moderately little examples. Moreover, no efficient system has been utilized to examine the inceptions or affecting social components of such mentalities and how these communicate with segment attributes. Utilizing an online review, they receive the purchaser socialization structure to analyze placement-related perspectives and practices among thousands of grown-ups. Discoveries likewise uncover contrasts in the two perspectives and practices across a scope of segment qualities, including pay, sex, and identity. Borovac and Zekan (2022), in their paper *'Subliminal Messages in Advertising: Do They Really Work?'*, investigate the prevalence and effectiveness of subliminal messages in media and advertising. They conducted an online survey to assess public awareness and perceptions of such messages. The findings suggest that while individuals are somewhat aware of subliminal stimuli, the extent to which these messages influence behavior remains inconclusive. The study also touches on ethical considerations, noting that subliminal advertising is often viewed as manipulative and is prohibited in certain jurisdictions. The paper titled *'The workings and limits of subliminal advertising: The role of habits'* by Verwijmeren, T., Karremans, J. C., Stroebe, W. and Wigboldus, D. H. (2011), states that ever since the marketer Vicary claimed to have influenced consumer choices by subliminally flashing brand names in a movie theatre in the 1950s, subliminal advertising has been a controversial topic. Vicary's claim was revealed as a hoax, and experimental research mostly failed to replicate Vicary's results. Sofi and Nika (2018), in their paper *'Impact of Subliminal Advertising on Consumer Buying Behaviour: An Empirical Study on Young Indian Consumers'*, examine how subliminal messages in TV advertisements affect consumer behavior. Through a study involving 390 young students from Jammu and Kashmir, they found that subliminal exposure significantly influences purchase intentions and compulsive buying tendencies. The research highlights the ethical concerns of such advertising practices, especially regarding their impact on youth. The book called *'The Secret Sales Pitch'* by August Bullock (2004), contends that, since the 1950s, optical hallucinations have been covertly inserted in broad communications to control the public. These subconscious pictures are very provocative. Also, pictures with subconscious implications saw uniquely on an oblivious level have subtly excited watchers' deepest apprehensions and dreams. This book presents numerous models and talks about 7 the mental rules that underlie their viability. The models that are given are connected to contemplates gathered from real documents. Vinita Dawra Nangia in the article *'The influence of subliminal marketing'* asks the question- Can a mere algorithm know your personality better than you? She cites an example of how people are more likely to believe an algorithm that evaluates their personality more than their own opinion this algorithm works on the concept of data which can be used to influence the opinions of people by understanding what one might require and providing it in a subtle form the same concept is used in subliminal advertising as well However she quotes it to be a double-edged sword as it can be used in a positive way companies by collecting all the right biometric data, companies can hit you with the right emotional message at the right time a health algorithm was also mentioned that could constantly monitor the body without our being aware of it? David K. Israel in his article states few facts about subliminal marketing in which he talks about Coca-Cola vs Pepsi marketing both of them used subtle messaging techniques to draw the attention of the customer. Both companies used suggestive imagery that caused controversy. He also mentions an article published by The New Psychology that talks about the use of subliminal messaging during World War 2 that was used to teach soldier to recognize enemy aircraft. During an America program called Iron Chef that was being aired on the food network on January 27, 2007, a logo of McDonald's appeared for a brief second-leading people to believe it as subliminal advertising. During the 2000 elections George W. Bush campaign for the presidency was scrutinized by FCC after complaints as "At one point, a single frame flashed the word "rats" (part of the word bureaucrats)". A fact about audio recordings was also mentioned where the company makes money by audio subliminal messages promising to help the customer with anything "from getting a child to stop sucking his thumb to learning a foreign language while you sleep". Aly Achweigert in her article talks about popular companies that have hidden subliminal messages which most people probably have missed. Made of an M and B to make a mitten worn by baseball players, the Milwaukee Brewers logo symbol from 1978 an example of subliminal messaging. Pirates of the Caribbean poster by Disney has an overlap of the skull-and crossbones making a version of Mickey Mouse's ears. Baskins Robbins is famous for serving its 31 different flavors of ice-creams which is subtly hinted at in its logo as with the number 31 with the color contrast and position of the logo which helps the brand stand out. Amazon's logo that has an arrow connecting from A to Z in the logo

stating that they sell everything from A to Z while the arrow is forming a grinning face is a classic example of subliminal advertising. The classic FedEx logo. In the logo, whitespace between E and X shows an arrow-- an indication of the company's speed and ability to get your delivery from Point A to Point B. These hidden messages in itself can help the brand as they work as viral advertising as people when they discover such hidden messages tends to share it with others indirectly advertising the product. Mark Wilson in his article talks about the brand personality of Starbucks coffee through its logo as how it affected how people perceived the brand based on the logo of Starbucks the Siren logo has been the face of Starbucks since 2011 however the global creative director Connie Birdsall realized that there was something not right with the logo. The logo looked too symmetrical for its own good. According to Lippincott, the branding agency lacked humanity and they overcame that by giving it little imperfections. They incorporated a slight asymmetry in the Siren's face, what this readjustment did was subconsciously made the siren logo a little natural and welcoming Birdsall said "We didn't want her to be perfect, like Barbie, or other brands with characters" which looked unnatural or alienated. She now existed at such a high resolution that you could really inspect her personality. In an article by BBC news the question of whether subliminal advertising actually work? With the inference of popular example of James Vicary who astonished all the reporters when he explained that he managed to hike the sales of Coca-Cola and popcorn in movie theatres by flashing subliminal messages on screen like eat popcorn and drink Coca-Cola he suggested that annoying cinema and TV ads could now be replaced such messages in increasing sales of products but in 1962 he confessed that experiment was unsuccessful as he had not done enough research to support his theory in BBC radio 4 documentaries, they decided to carry out a similar experiment with 98 the result of which gave an ambiguous conclusion as just simply flashing messages might not be enough or it can just be enough for with different cases what it did demonstrate is that, while the fear of subliminal advertising may be based on some scientific truth, in practice subliminal marketing could be a moral-ethical dilemma. Despite only anecdotal evidence shared by researchers on subliminal advertising, the practice was banned by three countries in 1958. This research aims to address the problem of insufficient evidence regarding the efficacy of subliminal messages in influencing consumer behavior

IV. RESEARCH GAP

None of the studies have established what exactly constitutes subliminal advertising. As a reason for this, many brands have been indulging in various forms of subliminal advertising. Logo tweaks, use of infrasonic music, figure and ground techniques etc. are still being used by brands to convey messages directly to the consumer's subconscious. Wendys has changed its logo to sneakily include the word 'mom' in it. Even when researchers have continually claimed that subliminal advertising like this does not have an effect on buying behaviour, post product placement campaigns tell a different story. For example: when E.T. features a scene with Reese's Pieces, the sales of the product increased by 65%. This study aims to create an exhaustive list of the various methods that can be used as a part of subliminal advertising. The consumers are never aware of the subliminal messages sent to them through advertisers and not many know that subliminal advertisement techniques are in practice. This study will inform the 9 consumers of said practices and analyze their opinions on them.

4.1 Type of Research

Exploratory research is being conducted to launch a preliminary investigation into the validity and efficacy of subliminal messaging, a subject not yet well-understood and satisfactorily researched. It strives to create a frame of reference and a hypothesis from which further studies can be developed to enable conclusive results on the subject.

4.2 Research Method

To determine the methods of data collection, it was crucial that we first identified the nature of our project. As the main objectives of our project were both exploratory and conclusive and dependent on both numerical and subjective data, we concluded that our project was a combination of qualitative and quantitative research. To study the effects of subliminal advertising on consumers, we curated an experiment that would quantitatively help us test a hypothesis. Dr. Rashmi Prakash, a practicing psychologist with over ten years of experience helped us create the experiment. We were able to understand that the most suitable approach for data collection would be to survey everyday consumers of all ages and backgrounds to get a general overview of their behavior and collect experimental data. We collected this data in three phases. In the first phase, we randomly selected and then divided our subjects into three groups- the control group, the experiment group A and the experiment group B. In the second phase, the control group filled in the questionnaire curated by us without having any variables altered. In the third phase, the experiment groups A and B were shown two

different videos containing subliminal messages and then the two groups filled the same questionnaire. The experiment group A survey video contained subliminal messages that coaxed subjects to feel thirsty with the aim of making them buy a cold drink. The experiment group B survey video contained subliminal messages that coaxed subjects to feel sleepy and tired with the aim of making them buy a silk pillow cover or pair of comfortable slippers. We then compared and noted down the major differences between the collective responses of the three groups. To understand the reasons and motivations behind the responses of the two groups and the factors that could have affected them, we interviewed three psychologists- (to be decided) and gathered qualitative data to understand the phenomena with the help of professionals

4.3 Method of Data Collection

The online survey was created through Google Forms. The survey consisted of 4 multiple choice questions. The survey was targeted at active buyers who regularly shopped for their homes and themselves. We sent the surveys along with the experiment videos to our personal contacts and to strangers through the platform of Instagram, Facebook, and LinkedIn. Our target was to attain a minimum of 300 responses, approximately 100 responses for each group. Out of 300 prospects, we were able to obtain 101 responses within a period of one week. *Refer to Appendix 1 for the questionnaire and videos*

4.4 Method of Data Analysis

For analyzing the data that we had obtained, we used both qualitative and quantitative methods, as done for the data collection. We made use of Google analytic tools such as pie charts and bar graphs for showcasing the required statistics. The open-ended answers of the individuals were discussed and analyzed with the help of our consulting psychologist, Dr. Rashmi Prakash, and interpreted according to the existing knowledge she had regarding the field. We were able to identify particular patterns and themes that all the subjects followed in the survey

4.5 Sample Size Calculation

Considering that we don't know the population proportion exactly, the formula that we use is: $n = \frac{1}{4} \left(\frac{z^2}{e^2} \right)$ Where n = sample size, z = confidence level value (1.96), e = margin of error. $n = 97$ (approximately)

4.6 Evaluation of Methodology

Considering the limitations that we had, an open-ended online survey and online interviews was the best way for us to collect data and gain a better understanding of the effects and efficacy of subliminal advertising. We did face the disadvantage of not being able to interact with subjects and the consulting psychologists physically. It would have been better for our project if we were able to gather their views and opinions about the products, the practice of subliminal advertising, and its ethics which unfortunately we were not able to do. However, the data that we collected through the survey was significant enough to draw general conclusions regarding the practice. Overall, we believe that our method of research was beneficial towards achieving our stated objectives of this project.

4.7 Hypothesis Testing

Ho: Subliminal Advertising has a direct positive effect on the buying behavior of consumers.

HA: Subliminal Advertising does not have a direct positive effect on the buying behavior of consumers.

4.8 Variables

Independent Variable: The subliminal messages shown to the consumer.

Dependent variable: Their buying behavior (higher or lower than the control group) with respect to the object being subliminally marketed (Ice cold drink for group A and silk pillow cover/slippers for group B)

4.9 Hypothesis Test

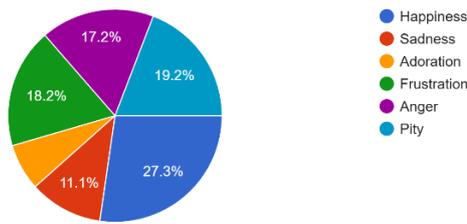
If a higher number of people lean toward buying the targeted products in the experiment groups (independent variable unaltered) than in the control group (independent variable altered), the null hypothesis will be accepted and the alternative hypothesis will be rejected.

V. DATA ANALYSIS AND INTERPRETATION

The two videos seen by the Experiment Groups clearly had an effect on the current mindset of the subjects. While the subjects of the control group admitted to having a variety of feelings while doing the survey, the respondents in the experimental groups showed an inclination towards the feeling of adoration and sadness.

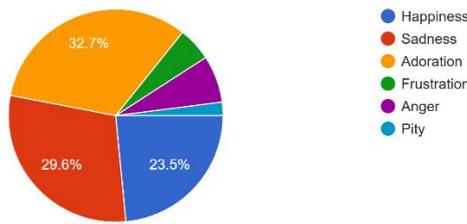
Control Group Response

Which feeling do you most identify with right now?
99 responses



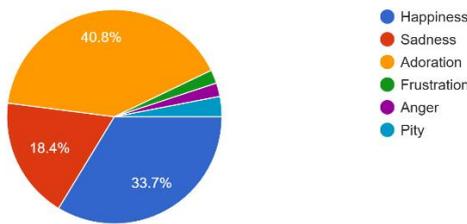
Experiment Group A Response

Which feeling do you most identify with right now?
98 responses



Experiment Group B Response

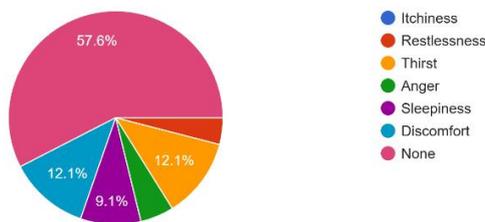
Which feeling do you most identify with right now?
98 responses



The second question showed us the further distinction in all the three groups. When asked exactly what sensation the subject was feeling, the majority of the people in the control group admitted that they did not feel anything distinguished at the moment while other responses were scattered across the whole spectrum

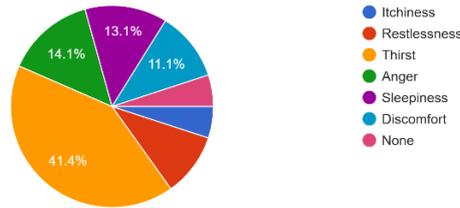
Control Group Response

Which sensation do you identify with right now?
99 responses



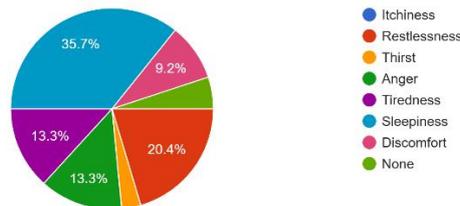
Experiment Group A Response

Which sensation do you identify with right now?
99 responses



Experiment Group B Response

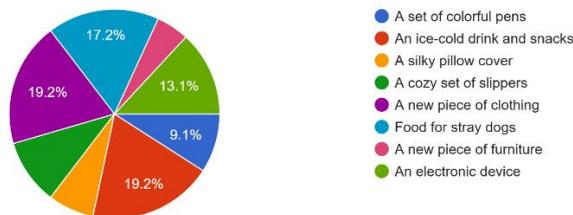
Which sensation do you identify with most right now?
98 responses



Finally, the main variable of the study is tested and it is found that in both Experiment Groups A and B, subjects 12 tended to buy the targeted product significantly more than in the Control Group. While in the control group 19% of the subjects opted to buy ice-cold drinks, 35% of the people opted for them in Experiment Group A. The subjects of Experiment Group A had previously received the stimulus through a specially designed video that contained subliminal messages that coaxed people to buy a cold drink. While in the control group around 15% of the subjects opted to buy silk pillow covers and comfortable slippers, 53.3% of the people opted for them in Experiment Group B. The subjects of Experiment Group B had previously received the stimulus through a specially designed video that contained subliminal messages that coaxed people to buy silk pillow covers and comfortable slippers

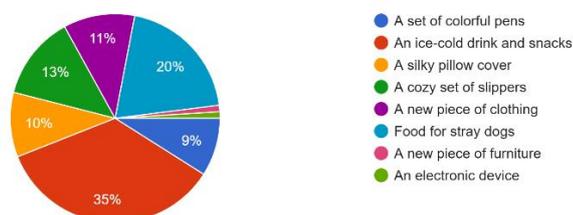
Control Group Response

Pick an object you are most inclined to buy next from the list below?
99 responses



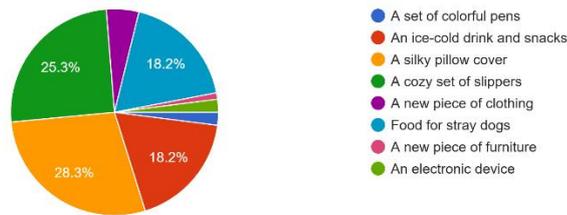
Experiment Group A Response

Pick an object you are most inclined to buy next from the list below?
100 responses



Experiment Group B Response

Pick an object you are most inclined to buy next from the list below?
99 responses



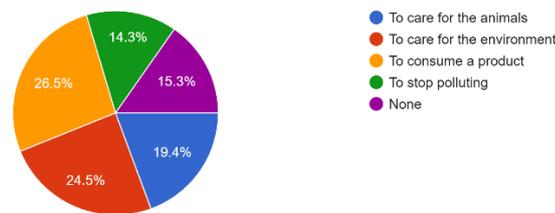
Hence, the null hypothesis was proved. Subliminal advertising has a direct positive effect on the buying behavior of consumers.

5.1 Ethical Aspects

When directly asked, more than 20% of our subjects could tell that they were being coaxed to buy a product through our videos. On being directly asked how they felt about it, the responses were mixed and inconclusive. 9 out of 15 respondents said they were okay with this sort of subliminal advertising as they still felt they had the control of their final decision and because it was not harmless.

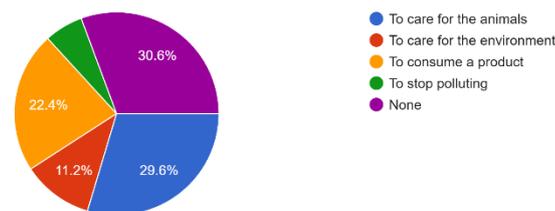
Experiment Group A Response

In what way do you think were you being persuaded by the video?
98 responses



Experiment Group B Response

In what way do you think were you being persuaded by the video?
98 responses



VI. FINDINGS

After performing the experiment, we found the following things:

1. Subliminal messages are registered by people in a very short amount of time.
2. Subliminal messages influence people’s buying behavior.
3. Most people don’t realize they are receiving subliminal advertising cues to buy a product but a few people are aware of it on some level.
4. The ethical aspect of subliminal advertising does not have clear cut answers, but this study proves that at least a section of the consumers do not mind subliminal cues because they think they are the in charge of the final decision.

VII. CONCLUSION AND DISCUSSION

The null hypothesis was proven in the experiment. Which means that subliminal advertising does have a positive effect on the buying behavior of the consumers, at least inside the scope of this project. However, the results were not as definitive as predicted. The research, however, definitively warrants further study into the topic that focus on primary experiments carried out with the help of research funds that can help the researchers

control more variables. Subliminal messages are not only used for advertising purposes. In fact, somewhere and sometimes we do attempt to change an individual's mindset or behaviour either unmistakably or secretly. However, as long as this is done in a fair way, no worry with morals is included in this. Tutors try to change the behaviour of their students mostly in a positive way, politicians always try to manipulate the minds of the public but are their speeches and campaigns considered as unethical? Most people think that the ads are unethical as they violate the free will to react to a particular stimulus, but advertisers do pitch their brand as the best out there by showing only the bright sides in front of the audience so as to influence us to choose their brand over others. As long as all these people are honest with us about certain things, they cannot be considered as unethical, and they certainly do not violate the laws. Apart from some countries, the law does not see subliminal advertising as an invasion of the privacy of the viewers. Even after being banned in the US, some brands do dig deep into the loopholes of the law and which prevent them from being banned even after using subliminal advertising.

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IX. APPENDICES

Videos used for Experiment Groups A and B:

https://drive.google.com/drive/folders/1qOE_0nAKhpJmRMXU1y8dlkf8FfW315od?usp=sharing

