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Impact of Subliminal Messages on Consumer Behavior: A Fresh look into the Future**Ratul Sur**

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Abstract

Since time immemorial, subliminal advertisement has continued to haunt the society and especially after James Vicary's experiment at New Jersey, it reached a new height. Since then, there has been much argument whether this can be an efficient technique of marketing communications. Decades of research has gone into establishing or abolishing this technique. But no satisfactory evidence, so far, has been provided by any researcher on either pole. While researches on subliminal advertisement are fewer in number, this study does a critical review of such available works and argues without any bias that subliminal advertising cannot be an effective tool to persuade the consumers to pursue any desired goal. While the current study examines the proposed topic in the light of researches, it also deals with psychological aspects that prompt certain behavior. Such aspects deal with the role of mere exposure, threshold concepts and their subsequent effect on behavior. All these aspects have been given their theoretical treatments and their implications in research have been discussed. While asserting the central proposition, this study indicates both the theoretical and practical problems that do not make subliminal advertisements an effective tool of marketing. In the concluding part, this study points out the future research directions that can have desired results and can qualify itself as a alternative to traditional marketing practices.

Introduction

Consumerism in today's world is something that has stretched its arms across the globe and is tightening its grip every time it gets a scope to do so. The most effective tool which assists consumerism to perform the mentioned tightening task is advertisement. So, before we proceed to the epicenter of this study, we will do a short review of the existing research on advertisement, its impact on consumer behavior, and will show that subliminal messages are not an effective tool of marketing communications. While many researches have been conducted to explain the functioning of subliminal messages, including the seminal work by James Vicary (1957), such studies have failed to come up with satisfactory results and have been commented upon harshly. For example, William Foster of the *London Sunday Times* commented that, if Vicary wanted to address the desires of his audience at his press conference, he should have projected "gin and tonic" rather than a soda advertisement (15th September, 1957) and even author Dominic Stratfield commented that it has not been 'researched', but 'believed' (BBC, 19th January, 2015). Even in an interview with 'Advertising Age' (1962), Vicary himself admitted that the experiment was a 'gimmick' and that the data was 'too short to be meaningful'. Though, Later researches (Cupperfain & Clarke, 1985), and studies done on public perceptions (Zanot, Pincus and Lamp, 1983, Rogers and Smith 1993, Synodinos, 1988) have provided enough evidence pertaining to the functioning and effectiveness of subliminal messages, no direction has been forwarded so far, which can lead us to a whole new era of advertising using psychological tools. Though, questions pertaining to ethics continue to haunt advertisers, public perception on subliminal advertisement are pretty clear. As such, in the sections to follow, we will see how research on subliminal messages has progressed- both in psychological literatures and in consumer researches, and what is the main extract of such research. While doing that, we will also analyze what are the shortfalls of such research and explore the main constraints in extending such research to the existing marketing practices. Having cleared the basic ideas for this study, we will take a brief look at how these concepts came to existence and that will shed further light on few facts why this tool has tough way to come up with.

For the first time, subliminal advertisement was used in Britain in 1956. But that was a small time test compared to James Vicary's experiment in 1957. But before we proceed towards any arrogant step of marketing communication, we will have a concise tour of the then American society which prompted advertisers to take up this step. During World War II, the life of the Americans has started to improve and as the war drew to an end, it started improving further and it became impossible to preach thrift among the consumers. For example, in 1940, unemployment was 14.6 percent, but by 1944 it had dropped to 1.2 percent. During the same period the gross national product rose from \$91.9 billion in 1939 to \$213.6 billion in 1945 (Washington, D.C.: Government Printing Office, 1961). With real income increasing by 68% percent, fears prevailed in the market that public saving will go down and this fear really occurred. For example, in one study it was found that the purchase of the mechanical refrigerators rose from 44% to 80% in the period of 1940 to 1950 (Daniel Harowitz, 1994). Advertisers decided to take advantage of the situation and began to address consumers on personal levels and there was going to be turmoil. Under such conditions, advertisers were confirmed that there must be some unexplored avenues in the mind of the consumers that prompts the consumers to take decisions. Apart from using the scientific motivations, advertisers started to explore the unconscious mind of the consumers and this paved for the way for Motivational Research which culminated in the form of Subliminal Advertising. Although psychological researches regarding the mind of the consumers were started as early as by 1938, the subject drew attention after James Vicary's famous experiment in 1957. In this experiment in New Jersey, Vicary flashed the words 'drink coca-cola', 'eat pop-corn' for 1/3000th of every five second to some 45,699 people over a period of six weeks. As a result of this, Vicary claimed, the sale of *Coca Cola* rose by 18.1% and the sale of pop-corn rose by 57.7% (Advertising Age, 1957), though he declined to answer to the most basic questions in the press conference that followed and from this point the critics started attacking this concept. Not only, such literature has been divergent in nature- both in terms of existing literature and scientific experiments, but also the scientific mechanism needs to be reviewed to reach the focal point of this study.

Keywords: *Subliminal advertising, mere exposure, sub-conscious processing, threshold.*

Purpose of the study

The prime object of this study is to reveal the impact that subliminal advertising can have on consumer behavior, especially on the purchase decision of consumers. Advertisers have long been keen to find some way in which they can persuade the consumers to purchase their products, while facing the minimum constraints in the part of the consumers. One such important constraint needs to be mentioned here regarding consumer's purchase decision. While making a purchase decision, consumers judge their purchase decision depending upon the product attributes as displayed in the advertisement. For the first time, the consumers may purchase a product relying on the marketing promotions, but when their pre-dispositions are shattered by the performance of the product, it becomes tough for a brand to ensure repeat purchase of that product. This is a major hindrance and has been referred to as *expectancy disconfirmation* (Oliver 1980, Oliver 1993). As such to overcome such hindrances and to capture the consumer from the claws of the competitors, advertisers started to look at subliminal advertisement as a way-out. But that did not yield the expected results. Despite major setbacks in conducting such experiments, advertisers have been alleged to have employed subliminal advertising. Such advertisers cut a long list. Among the international players KFC, Coca Cola, Disney, Harry Potter film (*Order of Phoenix*) are the eminent names, among the Indian advertisers, MTS Telecommunications, Zodiac Clothing Ltd., ONN innerwear, Kurkure has been alleged to have used subliminal advertising. But, what has been the output of using such a technique is not clear.

As a result, this study intends to throw light on such factors pertaining to the outcome of subliminal advertisements. A notable experiment has been conducted by *Kunst-Wilson, Zajonc (1980)* that claim the effectiveness of such techniques. Even after that it has been commented that such experiment might not have 'interesting implication for marketers' (*Moore, 1982*). But what are the major obstacles in the way of subliminal advertisements to be an effective tool of marketing communication has rarely been discussed in a comprehensive manner. Apart from *Moore (1982)*, very few literatures have given a comprehensive idea about the implementation of such advertisement technique. As such, this paper intends to re-interpret the existing results to erect a comprehensive body of work to show the functional hindrances in the way of subliminal advertisement and will also pave the way for alternate research that might be pursued as a correct alternative for traditional practices of marketing communications.

Theoretical background

In the opening paragraphs of this study we have given a brief description of the social background of the subliminal advertisement and have shown how it came to prominence. In such a social setting it was not unnatural to note that women could be linked to cars to evoke a feeling of passion. *Ernst Dichter*, another researcher on consumer behavior, completed his research with Chrysler and linked convertibles with mistresses and sedans with wives (*The Economist, 2011*). In this section, we will discuss the theoretical background of this issue and re-interpret the available information related to such advertisement in the light of social psychology.

Subliminal advertisement is a way of communicating subliminal stimuli. The term *subliminal* consists of two roots: *sub* meaning 'under' and *limen* meaning 'threshold', i.e. the information which enters the consumers' mind without their conscious consideration. In this way, it enters the mind of the consumers and this information elicits reactions of which the consumers have a little rationale to explain. So, on the basis of what has been said so far in this section about subliminal advertisement, we can conclude that it is a way of sub-conscious processing of mind. So, while psychological literature pertaining to subconscious processing of information is abundant and a review of such literature will involve a mammoth task, we will confine our discussion to those researches which bear resemblance to consumer behavior.

So far, while describing subliminal messages, we have used a few words like *threshold, stimuli* which needs further explanation. So, before we proceed into details of modern research we will study these terms in depth and in this regard, *Clarke Hull's (1943)* account needs to be studied as a foundation stone of research in social psychology.

In his book, *Principles of Behavior: AN INTRODUCTION TO BEHAVIOR THEORY*, Clarke Hull has given the basic definition of *threshold*. In his opinion, "the term *threshold* implies in general a quantum of resistance or inertia which must be overcome by an opposing force before the latter can pass over into action." So, it follows that a threshold is actually a level of resistance posing an obstacle in the free passage of information. Following this Hull elaborates that a certain amount of light must enter the eye to make any meaningful output and similarly in case of any neurological gate, i.e. threshold, sufficient information must enter the system to make any impact. Now talking strictly in terms of information passage Hull comments that, any stimuli, irrespective of what type it is, is expected to make a reaction only if it exceeds the *reaction threshold*, i.e. "minimal effective reaction potential which will evoke observable reaction" (*Clark, 1943*). Thus, for any information to have any reaction, the following situation must be satisfied:

$$\text{effective reaction-threshold reaction} = \text{evoked reaction}$$

We will, in paragraphs to come, will use this equation to determine the intensity of threshold reaction. Hull called this difference *super threshold effective reaction potential*. Another important concept which we will use is the definition of *minimal threshold*. Regarding this, Hull opines that all the minimal thresholds in psychology are the sum of the entire inertial threshold plus an '...*artifact of undetermined magnitude which arises from the oscillation function*'. But, since we do not know what the inertial thresholds of different persons are, it is not possible for us to determine what can be the level of stimuli for the people in general to determine a 'subliminal message'. It may be noted in this regard that the probability of the action evocation fails to be an indicator of the reaction potentiality when the zone of oscillation is completely above the reaction threshold or completely below it. However, under certain conditions information that passes completely above the effective reaction potential gives a 'uniform' 100% evoked potential. This means that stimuli that enter the neurological network above the threshold is always expected to have their clearly defined results. There are, however concepts of *reaction latency* and *experimental extinction* involved in such discussion. Such discussions are beyond the scope of this study.

Having discussed the roots of the concept and reviewed the theoretical mechanism, we will proceed to further discussion and while doing that we will review experiments conducted at different times and will review them in this section. In the next section, we will come up with the results of such experiment and re-interpret them to conclude the discussion. Regarding the experimental findings pertaining to the issue, we will consider the experiments conducted by *Kunst-Wilson, Zajonc (1980)*, *Seamon, Brody and Kauff (1983)*, and *Bonano and Stillings (1986)*. Though these experiments were not directly related to consumer research aspects, they had far reaching results which many researchers thought to have major marketing implications. Following that, experiments by *Hawkins (1970)*, *Cupperfain and Clarke (1985)* will be discussed which were presumed to have some direct and measurable effect on marketing communications. As discussed, in this section, we will use both Freudian theories and corollaries of Hull to explain the happenings and re-interpret these results in the next section. In light of theoretical approaches, we will show that all those results which were labeled 'subliminal' are not strictly magical events & have their roots in the different psychological processes which can have yet other applications than being only 'subliminal'.

But before, we proceed to experiments as described above; we need to explain the concept of *mere exposure*, because such experiments have been interpreted on the basis of mere exposure. To begin with mere exposure, theoretical approaches of *Zajonc (1968, 1980, 2001)*, needs mentioning. Mere exposure, as *Zajonc (2001)* puts it, is a way of presenting stimuli to people who will encounter it for a specific period of time and the response of such people will be recorded and analyzed to denote any significant change in the behavior. According to the recorded results, it has been seen that participants develop a preference for the stimuli that has been presented to them earlier, and occurs at primitive stages of life. Such exposure and preference are not only limited to human beings but also to other non-human animals. *Rajecki (1974)* exposed fertile chicken eggs to two types of music. When hatched, he repeated the music to the new born chicks and it was found that they had developed a preference for the music that was played to them in pre-natal condition and did not prefer the music that was not played. In human beings, similar experiments have been conducted. In one experiment (*Monahan, Murphy, Zajonc, 2000*), subjects were exposed to Chinese ideographs in two groups- one group saw the 5 ideographs, five time each and the other group saw 25 ideographs with no repetition. In both the cases, the duration of the exposure was 4 ms. When the subjects were asked how they feel when the same ideographs are shown (the first group), to them, they said they feel to be in a better mood, than those subjects who were shown 25 ideographs with no repetition. This lead *Zajonc* to conclude that repeated exposure of the familiar stimuli leads to a preference and goes on to say that such stimuli are sometimes so 'degraded' (*Zajonc, 2001*) that the individuals are not aware that they have received such stimuli. Such a description seems to be appropriate for the projection of 'subliminal' messages. By this time, we have made clear that subliminal messages are in their functional part dependent on the 'mere exposure'. Rather, *Zajonc (2001)* argues that preference effects are 'more pronounced' when they occur subliminally.

Having discussed 'mere exposure' in the basic form of experiments, we will consider other experiment in which preference, familiarity will be manifested via mere exposure (*Bonano and Stillings, 1986*). In this experiment, the experimenters tried to establish two things- the availability of familiarity in absence of recognition memory and both preference and familiarity would be unaffected by the manipulation of the context. We will be considering only the first part of the experiment, i.e. familiarity of the stimuli. In this experiment the subjects were exposed to a stimulus for a period of 1 ms and were asked whether they have seen anything on the screen. In the next part of the same study, subjects were told to select one stimulus from a pair of the stimuli displayed on the screen. They were told that one stimuli was a new one and the other was displayed to them in the first part of the experiment. They were told to select that stimulus they remember seeing in the first part of the experiment, if not, then any stimuli that they feel good to select. It was quite obvious that since the previous exposure was too little, it was impossible for the participants to see anything. It was found that familiarity in this case

was 63%, i.e., in 63% of the cases, subjects chose that stimulus that has been previously exposed to them, and that even irrespective of the background color. This proves that familiarity can occur without even cognition occurring beforehand. Based on such findings, Zajonc (1980) hypothesized that such action may occur without cognition, and may even precede it. This was later scientifically proved in later experiments (Zola-Morgan, et al., 1991). The above mentioned experiment has been replicated in another experiment by Seamon, Brody and Kauff (1983), but it was varied in the time the participants got to report their feelings. They also exposed their subjects to 10 random geometric shapes for five times each and for 5 ms.. The reporting time was varied in three ways- immediately after the test, 1 day after the test, and 1 week after the test. In the reporting part, they showed participants a pair of stimuli- one they had already seen and a distractor stimulus of same complexity. The participants were asked which of the two stimuli they recognize and they like, i.e., affective response. Table 1 reports the results.

It is seen that the as the time gap increases, the recognition memory decreases and the affective response picks up. This in the later part of the discussion will take up an important place in the discussion. For now, we will shift to those experiments that bear direct resemblance to consumer aspects. In this aspect, the experiment of Hawkins (1970) bears special importance. In this experiment, Hawkins used subliminal commands of 'COKE' or 'DRINK COKE' to manipulate the thirst level of the participants and reported that there has been a rise in the thirst level of the participants because of it. In another experiment, Cupperfain and Clarke (1985) tried to determine the level of subliminal perception by manipulating the consumer's preference in the same way as Hawkins. They divided the participants into treatment group and control groups. Those in the treatment group received subliminal messages concerning a brand of soap and those in the control group received no treatment. When asked to indicate their preference for a particular brand of soap, participants indicated that brand for which they received subliminal messages. This led both the research groups (Cupperfain and Clarke, 1985, Hawkins, 1970) to conclude that subliminal messages will have long lasting effects on marketing communications.

However, such results cannot be taken as they exhibit their results and needs further introspection. We will point out a few theoretical hindrances and later on will come up with practical hindrances and will show how alternate research can be conducted. One obstacle rises from the threshold concept of Hull. Hull says that since a threshold is a level of resistance, then this resistance must be overcome an opposing force to evoke some reaction in the human beings. In other words, *super threshold effective reaction potential* must be above the reaction threshold to evoke desirable results. Otherwise results may occur, but that may not serve the end of the advertiser. In terms of the experiments of *mere exposure*, it might seem that the occurrence of the results of subliminal experiments are very promising, especially in Monahan, Murphy, Zajonc (2000), the results occurred because of repeated exposures, in this case 25 exposures of Chinese ideographs. Not only in this specific case, all the experiments defined above had their desired results because there was repeated exposure that caused in this result. Similarly, in other replications of this experiment (Monahan et al., 2000), similar results were obtained. This is where Cupperfain and Clarke, 1985 and Del Hawkins, 1985 needs introspection and needs replication. Another obstacle arises from Hull. This concerns the variability of the threshold. Hull opines that all minimal thresholds are the '*sum of true inertial threshold*', but what are the ways to determine the '*minimal threshold*'. Threshold values differ from person to person and from time to time. As such, the studies of subliminal advertisement are incomplete because the advertisers and the researchers assumed a certain stimuli to be subliminal, without ever defining the minimal threshold.

Another important explanation comes from Moore (1982). Let's see what he actually meant by 'subliminal perception':

"Conscious recognition need not be and often is not the end point for many sorts of input. Some stimuli may initiate mental activity of one sort or another without being available to conscious reflection or report. This is what is typically meant by the term subliminal perception".

The mechanism of what Moore said has its root in the Freudian concepts. According to Freud, this perception can be reinscribed in other systems, thereby leading to later transcriptions in the unconscious mind. If these reinscriptions occur through synaptic plasticity and organized in accordance with other associations, they will constitute secondary traces that, in turn will associate each other to form new traces. In this way, the perceptions, memory will be refueled several times, either directly from perceptions or from its re-manifestations. The experiences, thus are then transformed and deformed by whole interplay of connections and associations, which leads an individual to 'endopsychic perceptions' (Stein, 1991), a complete different realm.

Re-interpretations and future advancements

In the previous section, we have described the theoretical obstacles in the way of subliminal advertisement becoming an effective tool of marketing communication. In this section we will reinterpret the results and point out the technical shortcomings in such applications.

On basis of what Hawkins said, it can be commented that what are the scientific bases of such mechanism. Can we really say that the participants reported an increase in their thirst level simply because they were subliminally exposed to commands directing them to take some drink? No logical arguments are available.

Secondly, very few attempts have been made to replicate findings by Hawkins or if replicated, have failed to evoke satisfactory results. In this regard, BBC's recent experiment (2015), even failed to demonstrate promising results. Also, it can be commented upon that the control group in Hawkins' experiment reported a lower thirst was practically a matter of chance. Same applies in case of Cupperfain's experiment.

Now, let us extend subliminal messages to advertising context directly. We have already pointed out that any stimuli to qualify as 'subliminal' stimuli, it is of utmost importance for advertiser to define a specific threshold level, in respect of which, the stimuli will be judged. Taking this approach directly out of the laboratory, we face yet a few difficulties. As we have seen that all the data on subliminal has been based on lab experiments, it is of utmost importance that we apply it in a real life situation. It can be emphatically said here that with any supraliminal message operating, chances are high that any attempt to transmit subliminal messages will go in vain. Because all the situations in which such 'subliminal' messages were transmitted were laboratory conditions, with all the participants paying close attention to the experimental procedures. Also, in Zajonc's study (2001), he referred to *degraded* stimuli and in earlier experiments he used either ideographs, or other geometric shapes, which are far away from being effectively and carefully chosen words for marketing communications. Also, certain technological problems are involved. It has been noted by Moore (1982) that introducing subliminal stimuli in the middle of supraliminal message requires a clean background of 100 ms to operate, otherwise the supraliminal message with cover up the effect of the subliminal. If clean background is introduced, then the viewers will be aware that they are being primed. In other cases where subliminal messages have been implemented, they yielded wrong outcomes. In his book '*Freud on Madison Avenue: Motivation. Research and Subliminal Advertising in America*', Lawrence Samuel points out that subliminal advertising has not been successful. He has shown that there was an experiment conducted in which 'telephone now' message was flashed 325 times in a television program. Only one person reported to make an urgent call, while others '*reported a range of urges, including the urges to eat, take off their shoes, drive safely, and even to buy an electric frying pan.*'

Having cleared the current state of subliminal message, we will like to shift our attention to one of the experiment stated above. In the experiment conducted by Seamon, Brody and Kauff (1983), the researchers obtained that the participants gave an affective response to those stimuli which has been communicated to them and the intensity of the affective reaction increased as the time gap increases. This is one aspect of research which needs to be explored. The reason why people liked the stimuli which they were not able to see properly is attributed to affective response. Unknowingly, and from unknown sources, people develop affect for things whose mood sources cannot be described. For example, when we are faced with questions like, 'why did that customer choose the blue jeans and refuse the black one?', we need to think in a different way, and even when a marketer asks himself, 'why did that passer-by, (who had no prior intention to purchase that white shirt, as evident from his behavior), stepped into the store and got the shirt in his possession?', we are faced with a condition that really advocates for a comprehensive frame work that is not typically cognitive in nature, but also deals such pre-cognition. Though research on affect has progressed, the subject is still in its 'adolescence' (Cohen, Pham and Andrade, 2006) and a better and richer understanding of the subject is required to make marketing communication more result-oriented. Kover et al. (1995) mentioned, "Positive affect is

elicited by the advertising (and) is then transferred to the brand or product advertised..." But, there has been little endeavor to explore this area because this is not a routine practice and are not only dependent upon two or three factors namely, information processing, information design and information transmission. Instead, they depend on so many factors which have not been studied extensively to form a coherent structure of marketing practice. Ray & Batra (1983) stated that emotional advertising is more effective because "...it is attended to more, processed more, evaluated more favorably, and remembered more". As such, the future direction of research in this aspect can be attributed to those fields which need to move from 'just another' field of research to a crucial research field, while being extremely potential in marketing context.

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Table 1: Results of experiment by Seamon, Brody, Kauff

Judgment type	TEST DELAY		
	Immediate	After 1 day	After 1 week
Affect	60.5%	60%	65%
Recognition	55.5%	52.5%	50.8%