Subliminal Stimulation in Advertising

An Honors Thesis (ID 499)

By

Debra J. Claxton

Thesis Director

Frank O. Wellmitz

Ball State University

Muncie, Indiana

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The issue of subliminal stimulation to persuade consumers to buy or use certain products or services has become very controversial since it was first employed in the late 1950s. Subliminal messages are of a great concern to me because I am majoring in journalism in the advertising sequence. In this paper, I will present the multifaceted debate, and after considering thoroughly the issue, I will express my opinion.

After much examination of the subject of subliminal stimulation in advertising, I have come to the conclusion that subliminal stimulation does affect behavior and should be dealt with as an unethical advertising practice. Although subliminal advertising is not an omnipresent or major issue in the field, it is one that arises from time to time and must be dealt with. At this time, there are laws banning the use of subliminal messages in printed or broadcast advertisements. However, in the future, advertisers may find that subliminations may be so persuasive that they will ignore the laws or find loopholes through which they can slip these subconscious messages into advertising. Admen and adwomen may find it easier to use this method of enticement than to creatively produce attractive, tempting ads.

I will explain how this procedure works and concentrate on the introduction of subliminal advertising and the original uproar about this issue. I will then cite evidence that subliminal stimulation may have no effect on consumer behavior. I will also include recent studies that attempt to prove the actuality of subliminal stimulation and the
veracity of its relation to buying behavior. Finally, from the given evidence and professional opinions, I will determine and discuss my view of the use of subliminal stimulation in advertising.
Explanation and Examples of Subliminal Stimulation

Subliminal stimuli are stimuli that are so weak or last so short a time that they are below the threshold of consciousness. The brain receives messages or images quickly flashed in front of our eyes or whispered messages that are below our level of conscious awareness.\(^1\) This consciousness level varies with individuals, experimental conditions, characteristics of the stimuli, and dynamic psychological and physiological conditions of the subject. It is believed these messages can be used to influence human behavior. I will further illustrate this technique by presenting examples of subliminal stimulation.

In the mid-1950s, when subliminal messages were first examined, a theater in Fort Lee, New Jersey, flashed pictures of a skull and the word "blood" on the screen during two horror movies. More recently, in the movie "The Exorcist" the image of a death mask was flashed before audiences. A teenage viewer from Indiana sued Warner Bros. because he fainted during the movie, breaking his jawbone and several teeth. One of the major issues in the case was the fleeting death mask, according to the teen's attorney.\(^2\)

In 1961, psychologist Lester Luborsky studied effects of subliminal stimulation by asking subjects to free associate to the subliminal messages "knife" and "fenik" (a nonsense word). He found that weapons were mentioned more frequently in response to knife than to fenik.\(^3\)

Another example of response to subliminal stimulation is the effect of the "black box," invented a few years ago by Hal C. Becker. The box transmits subliminal messages for several uses. The box is used
in department stores to reduce shoplifting. Anti-theft messages are mingled with the soft music often heard in these stores. The message "I am honest. I will not steal." is repeated 9000 times each hour at a very low volume. In 1979, approximately 50 department stores in the United States and Canada used the system to decrease shoplifting and employee theft. One chain of stores claimed that it has reduced the number of thefts 37 percent, which resulted in a $600,000 saving, in a nine-month period.4

A real estate office in Toronto once used this instrument to encourage job satisfaction and enthusiasm. Sales personnel in the office are subconsciously hearing the messages "I love real estate. I will prospect for new listings for clients each and every day."5

Becker and his former partner, Louis Romberg, feel that the black boxes can be very useful in other areas. Romberg provided subliminal pep talks to the Montreal Canadiens hockey team, and Becker did the same with an unidentified National Football League team. Becker also said that politicians and advertisers have offered him jobs, but he has declined so as to avoid abuses of the black box.

Psychologists are also using the box to help people lose weight, stop smoking and overcome phobias.

Becker believes that if subliminals were put on television, they should be directed specifically at problems of obesity, drug abuse and bad driving. "We could eliminate weight problems in one generation, reduce auto insurance by 50 percent," Becker says.6

Another technique of persuasion has been reported in which the subliminal message does not flash on the screen; instead it stays on the screen, but is so dim that it is not consciously perceived.
It is considered to be more effective than the flash method because consumers are continuously exposed to the message and it may be harder to detect.
Introduction of Sublimination
Into the Advertising Field
And the Resulting Disapproval

When one understands how subliminal stimuli work, it is easy to see how useful they could be to advertisers. The first disclosure of the use of subliminal messages to induce consumer action occurred in 1956. In a New Jersey movie theater, the orders "eat popcorn" and "drink Coca-Cola" were flashed on the screen between the frames of film at 1/3000 of a second. James Vicary, the market researcher who headed the project, claimed that sales of popcorn increased 58 percent and of Coke, 18 percent. Although these results were never verified, this became one of the most widely-publicized studies ever reported in psychological literature.

In the next year, a New Orleans firm called the Precon Process and Equipment Corporation announced that it had placed subliminal images in movies, on billboards and in taverns. The psychologist and neurologist, who was also trained in engineering, said they had applied for a patent after experimenting for several years. They claimed that the consumption of one beverage that had been advertised subliminally at point of purchase had doubled.

At the same time, Vicary announced that he also had set up a firm, the Subliminal Projection Company. Radio stations began to use these messages, and frightening images like the death mask in "The Exorcist" were used to intensify the impact in scary motion pictures.

After the initial excitement, the use of subliminal messages diminished. However, studies still continued; tests were still performed, and some messages were still employed to stimulate consumer
action. For example, in the 1970s, a television commercial for children's toys included the subliminal message "Get it!".\textsuperscript{12}

A lot of public turmoil arose over these hidden persuaders. Newspapers, Congressmen and admen began to express great disapproval. Some states passed laws outlawing subliminal stimulation, and it was banned in Great Britain.\textsuperscript{13} The Federal Communications Commission eventually issued a warning against further subliminations on television and radio.\textsuperscript{14} Finally, the United States National Association of Television and Radio Broadcasters (in which the three major networks and most radio and television stations are included) banned its use.\textsuperscript{15}
Evidence Refuting the Correlation
Between Subliminal Stimuli
And Consumer Behavior

As I said, most of the interest in subliminal stimulation has died down and several researchers and experts deny that subliminations are able to affect human behavior. No one was able to substantiate the claims made by James Vicary in his attempt to augment concession sales and many people question his unscientific method of implementation and follow-up of this subliminal project.

In the early '70s, a study was conducted which indicated that subliminal stimulation has no effect on consumer behavior. I would like to give a detailed explanation of this experiment and the results obtained.

Researcher Steven George and psychology professor Luther Jennings examined previous studies and corrected weaknesses in the methods of these studies. They then conducted their own study which led to their conclusion that subliminations do not affect consumer behavior.¹⁶

The first experiment that George and Jennings looked into was that of researchers Spence and Holland. Their study is much more authoritative and scientific than that of James Vicary. Like most motivational researchers, Spence and Holland concluded that at some point below the detection threshold, subliminal stimulation induces unconscious networks of image and word associations which are not inhibited by conscious restrictions. At this specific point, the researchers believe, the subliminal stimulus is at its greatest level of influence over the unconscious and behavior. They say that stimuli presented above or below this point are not as effective on behavior.
George and Jennings asserted that, although the theory supported by Spence and Holland seems credible, they did not employ the forced-choice technique for defining the detection threshold. In this technique, commonly accepted and employed by psychologists, the subject is eventually forced to report detection of an image. In the experiment performed by George and Jennings, they corrected this methodological error. Their study, using the forced-choice technique yielded results contradictory to the outcome of the Spence-Holland study.

Another psychologist, Donald Byrne, supports the theory that deeply subliminal stimuli are effective but only operate in the area of basic physiological drives such as hunger, protection, sexual desire and the need for sleep. Byrne and Spence both directed research based on this theory. Byrne reported that subjects exposed to the subliminally presented word "beef" experienced an increase in hunger. In Spence's later study, he claimed that after showing the subliminal word "cheese" to subjects, their hunger was increased to 30 times its original intensity.

However, George and Jennings don't believe that the results of the latter two tests are convincing in confirming the influence of subliminal stimulation. Spence, himself, found fault in Byrne's study, arguing that the researcher used a threshold too close to consciousness for the maximum subliminal effect to occur. In his own study, Spence lowered the level of subliminal stimulation to a point which he interpreted as below the forced-choice detection threshold and therefore in a region he felt would lead to maximum subliminal effect.
George and Jennings have contended Spence's study, showing that the level of stimulation used by Spence was much closer to the recognition threshold than he had intended. They also observed that Spence had omitted the use of a control group, a vital part of most scientific, psychological experiments. George and Jennings conducted an experiment using control groups and presenting stimuli at the level at which Spence had actually used and the level he had intended to use. Neither experiment yielded results supporting Spence's claims.

Most studies of the type that Byrne and Spence conducted can be proven inconclusive for several reasons, according to George and Jennings. First of all, these types of studies do not take into consideration changes in buying behavior. Changes in the purchasing patterns of the subjects are not easily obtainable because usually few or no requirements have been given to subjects regarding where they purchase products. Also, most of the studies have not included adequate control groups with which to compare the changes in buying patterns. In addition to these problems, in these studies, the subliminal images have been projected against a dynamic background. Consequently, it has been impossible to determine an average index of figure-to-background contrasts. This final problem is important because it deals with the degree of subliminality of the stimulus.

After contending these studies, Jennings and George conducted their own experiment to examine the effect of subliminal stimulation on consumer behavior. In their experiment, the researchers superimposed the words "Hershey's Chocolate" over a meaningful background, using a slide projector with a rheostat to control the illumination. The correct stimulus quality below a forced-choice detection threshold
was determined by varying the illumination of the image. The image was 6 inches high and 15 inches long, each letter being 2 1/2 inches high. (The words were placed one above the other.) This stimulus was presented at 1/50 of a second in the center of a beaded screen which was located in the corner of a totally darkened room.

This study was based on research where the image was superimposed on a movie (meaningful material). The researchers also used slides as the meaningful background for the stimulus. Slides were used instead of a movie to avoid variations in background quality. The slides all had approximately the same illumination and texture in the central area where the image would be superimposed. To correct for the slight differences in the illumination of the slides, the level of illumination of the stimulus was varied.

To determine the level of stimulus illumination in relationship to its background, the experimenters tested two subjects whose forced-choice detection threshold was the exact average of 84 subjects in an earlier experiment. The two test pilots were placed in front of the screen, the distance away that would be used in the study. The researchers determined each subject's threshold for detecting any flash of light when the specific stimulus was presented against its background. They altered the illumination of each slide, using the rheostat, according to the averages of the two subjects' thresholds. This was done to ensure that the subliminal image was below the average detection threshold.

Two groups of students in two classes at a rural boarding school were used as the subjects in the George and Jennings study. There were 18 subjects in the experimental group and 19 in the control group.
The slides were used as part of a regularly-scheduled lecture. The instructor told the students that the device being used to superimpose the subliminal image on the slides was a piece of equipment that would be used after the slide presentation to demonstrate laboratory techniques. Throughout the presentation, a student assistant appeared to be preparing this apparatus for the post-lecture demonstration. He was actually superimposing the image and adjusting the rheostat. The image was flashed 5 times at 1/50 of a second on 20 of the 40 slides used. The lecturer did not know which of his classes had received the stimulus and which had received blank slides. Therefore, he could not bias his talk during the presentation. After the lecture, the student assistant demonstrated the method of presenting subliminal images on a blank screen. In this case, the image was the number 438673.

This was the technique used by George and Jennings to present the messages to experimental and control groups. The other two parts of the experiment were a set of questions posed to the students and an investigation of the candy-purchasing of students during the 10 days following the experiment.

Two weeks after the lecture, the instructor told both classes, the experimental group and the control group, that a student had thought there was something extra in the previous slide presentation. He then asked the classes the following questions which they answered on blank sheets of paper.

1. How many think something was presented with the slides?
2. Did you see a light flashing while the slides were being presented?

3. Did you feel that any of the flashes were intentional?

4. If you can describe the image that was presented either accidentally or intentionally, I will give you four dollars.

In answering the questions, only one subject, from the experimental group, felt something had been presented, but thought it was accidental. He could not describe the image, but he felt it was numbers. Five subjects, two from the experimental group, felt they had seen a flashing light. One of these was the previously mentioned subject. None felt the presentations were intentional and only three described the flash as an image. Two, from the experimental group, and the third, a control subject, all said they saw numbers. One of these students said that he felt it was numbers because of the demonstration that followed the lecture.

This questioning of the subjects was done to check the level of detection and I feel was not an accurate method for checking this. Because of the post-lecture demonstration using the subliminally projected numbers and the questions that were asked, the students may have thought they were supposed to have seen something and that the image they were supposed to have seen was a group of numbers. In order to be consistent with the rest of the group, the students may have felt they needed to report that they had seen the subliminal image. Also, if the students thought they were supposed to have noticed
something present in the slides, they could easily start imagining they had seen something.

The final part of the George and Jennings study was monitoring candy sales at the campus store. This store was the only source of candy bars within a four-mile radius, and the students had no mode of transportation. The store clerks were given forms and were told they were survey sheets for a local radio station. On these forms, the clerks wrote the names of students who purchased the following candy bars: Hershey's Chocolate, Hershey's Almonds, Hershey's Kisses, Nestle's Chocolate, Nestle's Almonds and Nestle's Crunch.

No students in either of the experimental or control groups purchased any of the Hershey's products. However, five Nestle's products were purchased by students in the experimental group and three by control group students.

George and Jennings concluded from the results of their study that since no Hershey's products were purchased, this disproves the traditional theories propounded by motivational researchers, theories which suggest that subliminal stimulation does affect consumer behavior. The study by George and Jennings certainly did not produce results supporting these theories.

Other experts with an interest in subliminations and advertising agree with the idea presented by George and Jennings that subliminal stimulation does not affect consumer behavior. University of Oregon professor Roy P. Nelson feels that there is no need to be concerned with advertisers employing this deceiving technique to sway the actions of consumers. "No doubt a few sophomoric people in the creative end of advertising do sneak double meanings into the art
and copy of some advertising in order to play the clown, but to argue that there is a conspiracy in advertising to actually sell products through subliminal devices is probably unwarranted. The person who sees such a conspiracy is a little like the fellow being shown various pictures, and each time responding that they remind him of sex," Nelson said. 17

Another advertising specialist, Sid Bernstein, a writer for Advertising Age, agrees with Nelson that the issue of subliminal messages corrupting ads is ridiculous. He says no one in the field can understand why an advertiser would want to ruin his expensive ad with "corny or dirty subliminal messages." 18

Although I am sceptical about the study done by George and Jennings and I disagree with the opinions of Nelson and Bernstein, I felt that in order to provide fair treatment of the subject of subliminal advertising, it was necessary to include viewpoints that do not correspond to my own. However, at the end of the paper, I will give my reasons for doubting the theories and opinions of these four experts.
New Studies Supporting
The Effectiveness of Subliminal Stimulation
Through Basic Drives

In spite of the studies of Jennings and George and assenting opinions of experts in the fields of advertising and psychology, there are still many strong believers in the theory that sublimination can encourage buyers to purchase certain products. I would like to illustrate this point with three studies which indicate that consumer behavior is affected by images observed by the subconscious.

In August of 1970 an experiment was conducted to test the veracity of the theory that subliminal messages do affect basic drives. The specific purposes of the experiment were to determine if subliminal stimulation could affect subjective thirst, to compare the difference in influence of supraliminal and subliminal stimuli and to compare the affects of simple and slightly more complex subliminal stimuli.

The researchers used four experimental groups, each consisting of 24 people. Subjects were told that the experiment was a study to establish recognition thresholds for various brand names. A tachistoscope was used to present the images.

Group I was exposed for 2.7 milliseconds to the subliminal nonsense syllable NYTP. Group II saw the same syllable, but subjects were also "forced" to recognize and repeat aloud five times the word Coke. The subliminal word Coke was presented to Group III, and the subliminal command Drink Coke was presented to Group IV. Researchers used the word Coke because it has a generic meaning beyond the specific Coca-Cola brand soft drink and would elicit drinking responses from most of the subjects.
The subliminal messages were presented to the members of each group 40 times over approximately a 15-minute period. Subjects then answered questions on an alleged Perceptual Health Inventory, which included questions about the approximate time-lapse since the subjects last fluid consumption and as to how thirsty the subject was. The thirst rating was a seven-point scale ranging from "not at all thirsty" to "very thirsty." The answers to these questions helped to ensure that differences in the conclusive thirst-ratings of subjects would not be due to the time-lapse of their last fluid intakes.

The results of the experiment implied three theories. Basic drives can be influenced by subliminal stimuli; a subliminal command is no more effective than a simple subliminal word, and basic drives may be influenced more by a repetitive, familiar subliminal message as by the infrequent supraliminal presentation of the same message.

In the late 1970s, researchers discovered that words with high emotional overtones have more impact. These are words such as "whore," "raped," "bitch" and "penis." They also have learned that a person must have at least a slight need to fulfill some basic drive before a subliminal message will be effective.20

The third study was conducted by research psychologist Lloyd Silverman. It does not deal with the advertising aspect of subliminations, but it offers strong and current proof that actions and thinking can be affected by images or words presented to the subconscious. Some results of this ongoing research into subliminal stimuli were published in the May 1982 edition of "Psychology Today." Silverman calls his method subliminal psychodynamic activation.21
In 1962, Silverman began trials at controlling the unconscious processes. Although he has changed certain points in his research technique, the basic experiment is the same. In Silverman's studies, he began with a baseline for each subject. This entails the researcher monitoring the undesirable behavior before he begins to modify the behavior. Silverman then exposed the subject to the control or experimental stimulus, using a kind of slide projector called a tachistoscope. The subject sees a flash of light (projected at 4/1000 of a second). The control message would be an innocent message not intended to induce a reaction from the subject, while the experimental message tends to evoke strong emotions and reactions in the subject. It is a verbal message usually accompanied by a picture portraying the message.

Neither the researcher nor the subject knows if the flash contains a subliminal message or not. This assures that the researcher is not biased and the subject is not trying to react the way in which he feels will please the researcher. An associate prepares the order in which the stimuli will be shown to the subject.

To ensure that the subliminal stimuli are below the threshold of detection, the subjects are shown both control and experimental stimuli and asked to try to differentiate one from another. More than 90 percent of the subjects are unable to distinguish the control or experimental stimuli.

To exemplify this procedure, I will describe one of Silverman's studies. Silverman conducted tests on schizophrenics, homosexuals and depressives. Each group was shown the two sets of subliminal messages -- one relevant to their particular problem and the other irrelevant.
For example, the schizophrenics were shown an aggressive message as relevant and an incest message as irrelevant. The homosexuals were exposed to messages of incest (relevant) and aggression (irrelevant), and the depressives received messages of aggression (relevant) and anal (irrelevant). He found that the relevant messages intensified the symptoms of the subjects while the irrelevant messages had no effect.

Silverman claims approximately 50 studies have demonstrated that specific behavior can be induced by subliminally presenting subjects with messages of high emotional content. He says that these changes in thoughts, feelings and behavior probably are only temporary.

He is convinced that subliminal perception is an actual, occurring phenomenon. Until Silverman's experiments, subliminal messages have been directed at conscious wishes. Silverman feels the key to behavioral control is the direction of stimuli at unconscious wishes.
Conclusion

Because of recent research, including that of Lloyd Silverman, I don't feel that the issue of subliminal advertising can be ignored. Perhaps it is not yet easy to persuade consumers with subliminal messages, but these recent results seem to prove that subliminal stimulation is a reality. It is a reality that needs to be dealt with now in the advertising field.

Although there may be advantages to some subliminal stimulation such as in weight control where the subject has full knowledge a stimulus is being used, in advertising no type of subliminal messages should be allowed. I think it is infringing upon the privacy of people to expose them to behavior control of which they are not aware, and the use of subliminal messages in advertising could lead to more controversial types of behavior control.

I feel that advertising can and should be helpful to the advertiser and the consumer, using conventional methods of persuasion. As it is now, advertisers can bring out our instinctive needs and desires without using subliminal messages. One example of this is the advertising campaign for long distance telephone calls. The slogan, "Reach out and touch someone," and the scenes portraying close friendship and love play on our need for warm human contact. People are aware of their emotional reaction to these commercials and they are aware of why the commercials cause them to react in that way.

I hope that the advertising field will not resort to deceitful methods to influence consumer behavior. I have seen examples of all types of advertising that are well-assembled, impressive and influential without using any hidden messages. I have created ads that I feel are creative and effective and contain simply a supraliminal message encouraging consumers to buy a product or employ a service.
I am concerned about the use of subliminal messages in advertising and for other possible behavioral influences. I think that subliminal stimulation has the potential to be very useful in helping people with behavioral problems and to break bad habits; I only hope this technological, psychological research will not be abused.
Endnotes


5. Ibid.

6. Ibid.


11. Ibid.


18. Ibid.


Bibliography

Books


Articles


