Do subliminal messages actually work?

Subliminal messages include any stimuli (words, images, sounds) that activate the brain below conscious awareness. This usually pertains to visual stimuli that are presented for about 3/100\textsuperscript{th} of a second, or 30 milliseconds (ms). This seems to be the sweet spot for subliminal presentation, because the image is presented long enough to activate the visual cortex of the brain (detecting shapes, colors, movement), the temporal lobes (object recognition), and the limbic system (emotional reaction), but the image disappears too quickly for it to be processed by the prefrontal cortex (consciousness).

Subliminal images have technically been around for as long as we’ve had film. Film reels usually run 24-frames per second (42ms per frame), so one could argue that most of the visual information being presented during a movie or TV show is subliminal. It didn’t take long for film-makers to start experimenting with this. For example, in the 1943 short, titled “Wise Quaking Duck,” Daffy Duck spins a statue around and, for a single frame, the statue’s shield shows the words, “BUY BONDS.” Also in 1943, Warner’s Bros started the decades old tradition of subliminally slipping “adult content” into their cartoons by
showing a naked pin-up girl in the background for two frames in the feature, “Daffy the Commando.”

Subliminal messages began to really get people’s attention when, in 1957, a marketer named James Vicary claimed that he could increase sales of Coca-Cola at movie theaters by including subliminal messages like, “Thirsty? Drink Coca Cola,” into films. Vicary discussed his findings on radio and television and quickly became a marketing guru. By the end of the ‘60s, he had accruing over $4.5 million (equivalent to $35.6 million today) in consultation fees from companies wanting to create their own subliminal advertising campaigns (Rogers, 1992). Amazingly, all of this occurred despite the fact that other scientists couldn’t seem to replicate Vicary’s results and Vicary, himself, never provided any hard evidence that he had ever conducted the original experiments (Byrne, 1959; Champion & Turner, 1959; Dixon, 1958).

While James Vicary’s experimental findings were clearly suspect, they sparked widespread public hysteria over the supposed power of subliminal messages. This was during the beginning of the Cold War era and Americans were worried that Russians might use this new technique to brainwash the country. If Vicary could get people to drink more Coke simply by suggesting it in a subliminal message, then what might the effects be if a Soviet spy were able to implant their own subliminal message (e.g., “Kill the President”) into a popular movie or TV show? By the early ’70s, the government had received so many letters from concerned citizens that the FCC pledged to formally investigate any use of subliminal messages in television, movies and radio (FCC, 1974). To date, no one has ever been prosecuted by the FCC for subliminal content.

So, do subliminal messages actually work? Should we worry about being brainwashed by text or images that we can’t even consciously see? To start with, most of the scare over subliminal
messages began with the James Vicary “Coke study,” and Vicary, himself, later confessed that he never actually conducted the study (O’Barr, 2005). However, recent research finds that subliminal messages may, indeed, affect our thoughts, emotions, and behavior; perhaps even our consumer purchases.

One study by Strahan and colleagues (2002) sought to find out if subliminal messages could actually affect feelings of thirst. While participants fixated their vision on the center of a screen, they were subliminally exposed to thirst-related words (e.g., thirst, dry) or neutral words. Participants were then asked to take a mood inventory, which contained the question, “How thirsty are you on a scale from 1 (not at all thirsty) to 7 (extremely thirsty)?” Afterward, they were thanked for their time and offered a glass of Kool-Aid as a thank-you gift. Any remaining liquid was later measured to see exactly how much participants drank. Results showed that the subliminal messages had only marginal effects on subjective thirst and how much Kool-Aid was consumed. However, half of the participants had been previously instructed to not drink anything for 3 hours before coming to the study, thus inducing thirst. When participants came to the study already somewhat thirsty, the subliminal message was found to have surprisingly large effects on both measures of thirst. In other words, the subliminal message wasn’t enough to create a sense of thirst in itself, but it was able to exaggerate feeling of thirst if it was already somewhat present.

Results of Strahan et al., 2002:

Expanding on these findings, Karremans and colleagues (2006) examined whether subliminal messages could be used to increase consumption of a specific brand. They performed a similar study, but subliminally exposed participants to the words, “Lipton Ice.” At the end of the study, participants were offered either Lipton Ice Tea or another brand of iced tea. Results showed that if participants were somewhat more likely to choose Lipton Ice if they were exposed to the brand subliminally, but
this effect increased dramatically if participants had been directed to not drink anything for the preceding 3 hours. Once again, subliminal messages weren’t able to create a desire (to drink) on their own, but could accentuate one that was already present (see Bermeitinger et al., 2009, for similar results). These studies show that if marketers can get at people when they already want to consume something, subliminal messages can work to enhance consumer desires and incline people to purchase a particular brand.

Results of Karremans et al., 2002:

![Bar graph showing the percentage of participants choosing Lipton Ice based on their thirstiness.]

There has been a recent resurgence of interest in subliminal marketing, with companies finding that subliminal messages can successfully exaggerate and strengthen pre-existing consumer tendencies. For example, Gibson and Zielaskowski (2013) recently found that gamblers bet 55% more money if they play at a slot machine that subliminally displayed dollar signs and the words, “JACK POT.” The experimenters interviewed gamblers and found that if they used one of these machines, they rated themselves as 47% more confident that they were going to walk away winners. Such practices are perfectly legal given that the media and images displayed in Casinos are not regulated by the FCC. Researchers have even found that subliminally exposing consumers to a brand over and over again makes them form more positive evaluations of that brand. This operates on what’s known as the “mere exposure effect,” in which repeated
exposure to any object increases our familiarity with it and, since people love what’s familiar, creates more positive feelings toward that object. For example, Bagdziunaite and Ramsøy (2014) found that subliminally exposing women to specific clothing brands made them rate those brands as being more preferred when picking among multiple clothing lines. A prior study by Gibson (2008) found that this effect was strengthened if consumers were subliminally exposed to a logo (Coke vs. Pepsi) alongside emotionally positive images (cute animals). However, this only had an effect on consumer ratings if participants weren’t already strongly devoted to a particular brand. Studies like these show that subliminal exposure to specific brands may be especially powerful when a) there is already some consumer drive to purchase a product, and b) consumers don’t have pre-existing ideas about what particular brand to purchase.

In the end, what does this mean for consumers? Are we destined to be brainwashed by advertisers into buying whatever they want us to? Not necessarily. Researchers have found that the effectiveness of subliminal messaging in the real world—where we are frequently and repeatedly exposed to many different advertising messages on a daily basis—is actually quite minimal (Pratkanis, 1992; Theus, 1994). Ironically, the fact that companies have so bombarded consumers with marketing messages means that the effect of any one message tends to be countered by the effect of another. For example, unless people are repeatedly exposed to only one brand of Cola on a daily basis, it’s unlikely that any one Cola company could win you over with subliminal advertising.

Secondly, subliminal messages only have power when they are working to enhance pre-existing behavior (e.g., shopping) or desires (e.g., thirst). At this point in time, it’s extremely difficult for advertisers to expose people to just the right marketing message (“Coke is the
thirst quencher!”) at just the right moment (when a person is thirsty). These conditions are easy enough to set up in a controlled experiment, but not in the real world.

This may not always be the case, however. Online advertisements are getting progressively better at targeting the right consumers at the right time. Amazon, for example, is becoming so confident in their ability to effect and predict consumer decisions that the company recently initiated a program that ships products to consumer’s local distribution centers before consumers purchase the products (Bensinger, 2014). If Amazon really can influence and predict consumer behavior, this will allow them to deliver goods to customers even faster, perhaps even the same day it’s ordered.

Currently, it’s safe to say that subliminal advertising cannot force people to buy things they otherwise wouldn’t. However, in the near future, with advances in consumer tracking and increasingly individualized marketing tactics, it may become a real test of will to not click “Buy.”
References


