Does Subliminal Persuasion Work?

It Depends on Your Motivation and Awareness

Recent psychological research provides more answers about why and when subliminal information can influence people's preferences and behaviors.

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We like to believe that we do the things we do because we consciously decide to do them. Recent scientific research in psychology, however, demonstrates instances when our actions can be caused by things of which we are not aware (Wegner 2005). For example, imagine that you just completed a computerized driving test. You attempt to notify the attendant that you have completed the test, but she ignores you while she talks on her cell phone about her new shoes. Much to the attendant's dissatisfaction, you choose to interrupt and give her your information. Pausing to explain your unusual forthrightness, you may conclude that your actions reflect your

annoyance and desire to get home before *American Idol* starts. Although such an explanation could reasonably account for your own behavior, you find out later that your directness with the attendant was instead caused by words related to "rude" being flashed at you on the computer screen so fast that you did not notice them while you took the driving test.

Our Cognitive Architecture

Curious as this may sound, this is the exact effect reported by Bargh, Chen, and Burrows (1996) in one of the top journals in social psychology. Furthermore, similar effects have been replicated dozens of times since the publication of the Bargh et al. paper. For example, relative to a control group, decreased memory (Dijksterhuis, Bargh, and Miedema 2000), increased honesty (Randolph-Seng and Nielsen 2007), and increased scores on a general-knowledge test (Dijksterhuis et al. 1998) have all been found following subliminal flashes of elderly (e.g., *old, gray, wrinkle*), religious, and academic words, respectively (for a recent review see Andersen, Moskowitz, Blair, and Nosek 2007; Mather and Romo 2007).

As it turns out, these findings are not as remarkable as they seem; instead they are simply a consequence of the way we are cognitively built. In order to do just about anything (e.g., write, drive, walk), our actions must at times be separated from our conscious thoughts about those actions. This separation is necessary simply because we can consciously think about only one thing at a time (Macrae and Johnston 1998). If you don't believe that a separation exists between your conscious thoughts and your actions, stop reading right now and get up and walk around while consciously thinking about every action your body must engage in as you walk. Most likely you will walk very slowly and may even stumble. However, if you don't consciously think about every action your body must perform to move, you not only don't stop moving, you actually are able to move faster (e.g., run without falling down). So how does our body know how to move without the involvement of conscious thought? Nonconscious processes are involved.

It is not only our own actions that can operate separately from our thoughts; even our thoughts themselves show a similar separation because of our inability to consciously think about more than one thing at a time. Our use of language is a great example. Most often when we think about speaking or writing we are only aware of the product (e.g., what we actually say) and not the process (e.g., how to combine the words into something that can be understood by others; see Nisbett and Wilson 1977). How is it possible that something as dynamic and complex as language can seem to magically appear out of nowhere (Bargh 2006)? The answer is that we simply are not aware of the thinking that goes on before we speak. If we were aware of the process, our conscious mind would be so bogged down that it would become difficult to speak or even write.

In fact, recent physiological research provides evidence that information we cannot consciously see can influence neurological brain structures (Dehaene and Naccache 2006), suggesting physiological differences between conscious and nonconscious thinking (Satpute and Lieberman 2006). For example, the amygdala is uniquely involved in processing emotion in nonconscious social stimuli (Phelps 2005), and the inferior temporal cortex is uniquely involved in nonconscious matches of currently perceived stimuli to previously learned patterns that already exist in memory (Satpute and Lieberman 2006).

Subliminal Procedures

How is the way we are cognitively built related to being persuaded to think, feel, and act according to words being presented so fast that they cannot be seen? In the science of psychology, subliminal techniques—defined as the presentation of stimuli, such as words or images, in ways that do not allow for conscious awareness (e.g., too faint or fast)—are usually employed to better understand how things like language and action are possible (Dijksterhuis, Aarts, and Smith 2005). Ironically enough, considering the rocky history of subliminal research (see Pratkanis 1992), subliminal procedures are now invaluable tools in the science of psychology because they allow experimenters to discover and manipulate thinking processes that would otherwise be too uncontrolled and fleeting to study (Bargh and Chartrand 2000). For example, researchers have subliminally presented people with photographs of African Americans and then immediately measured how they judge others. Procedures like this allow scientists to understand how stereotypes are associated in the mind without the need to rely on a person's own self-report that at worst lacks access to the underlying thought process involved and at best is censored based on "political correctness" (see Devine 1989). A side benefit to the basic research done in psychology using subliminal procedures is that reliable scientific theories and methods can be applied to one the most controversial areas of marketing research—subliminal persuasion.

Persuasion

The topic of subliminal persuasion is not new to the readers of the SKEPTICAL INQUIRER (see Epley, Savitsky, and Kachelski 1999; Moore 1992; Pratkanis 1992). Based on available research at the time, Pratkanis (1992) agreed that subliminal perception (information from the world that cannot be consciously sensed but still registers in our minds) is an established phenomenon; yet subliminal persuasion (the notion that subliminal perception can influence thinking, feeling, and acting) is a myth. Epley et al. (1999) reviewed more recent research that had not been published by 1992 when Pratkanis wrote his article, which provided clearer evidence that subliminal persuasion in conjunction with subliminal perception is not only possible but reliable in a laboratory setting. In the ten years since Epley et al. published their 1999 article, research using subliminal techniques has continued to advance and now regularly

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appears in some of the top research journals in psychology. Nevertheless, controversy about applications of subliminal persuasion to the real world (i.e., consumer context) remains.

In part, this controversy has emerged because of the lack of evidence that subliminal information can influence consumer behavior (Pratkanis and Aronson 2001). Nevertheless, scientific research has persisted, and two important factors in determining whether or not subliminal persuasion can occur are beginning to emerge: motivation and awareness. Specifically, a person's current motivations at the time of being exposed to subliminal information and a person's awareness of being exposed to subliminal information will determine in part whether subliminal persuasion is possible (see Bargh 2002; Dijksterhuis, Smith, van Baaren, and Wigboldus 2005).

Motivation

When psychologists use the word *motivation* they are usually referring to some type of movement toward a desired outcome (Vallacher and Wegner 1987). A good example would be goal pursuit. If one has a goal to satisfy one's hunger, then one's feelings, thoughts, and actions will usually reflect this desire. Nonetheless, how does one choose which way to meet one's goals, wants, and desires? For example, there are a number of ways to reduce hunger, but what determines the chosen method (e.g., I will make a banana-mayo sandwich)? Excluding obvious restrictions placed on our choices by the environment or past choices (e.g., all I have is bananas, mayo, and bread in the fridge), part of the answer rests once again on how humans are cognitively built. Given the complex world in which we live, it would be difficult at best to successfully pursue many of our goals, wants, and desires if we had to rely solely on our conscious mind, which can think of only one thing at a time.

Fortunately, even our motivations can be pursued without the need of conscious involvement and therefore can be manipulated by subliminal techniques (for a review of the dozens of studies in this area see Dijksterhuis, Chartrand, and Aarts 2007). For example, people subliminally presented with photographs of Coke cans and the word "thirsty" rate themselves as thirstier than those not exposed to any subliminal presentations (Cooper and Cooper 2002), and people subliminally presented with either "drink" or "cola" simply drink more liquid compared to those who did not receive the presentations (see Dijksterhuis et al. 2005). In the studies just reported, subliminal presentations increased motivations of thirst, yet, consistent with past research (e.g., Beatty and Hawkins 1989), the subliminal presentations did not influence how people specifically quenched that thirst (e.g., brand choice).

This pattern of results is problematic if claims of subliminal persuasion are to be substantiated; for persuasion (subliminal or not) is really about influencing specific choices, not general motivations. Nevertheless, recent research has found that general motivations are important to consider when investigating whether subliminal influences on specific choices (i.e., brand choice) are possible. For example, imagine the following scenario: You arrive at a movie theater just in time to catch the last half of the previews. Unknown to you, the words *Drink Coke*

have been subliminally presented during the previews. How will this subliminal message influence your motivation to get out of your seat and walk to the concession stand to get a Coke? If you put yourself in that situation, you may conclude that it will depend on what your current motivations are at the time. Are you thirsty, hungry, or neither? Do you want to see the rest of the previews? Do you mind missing the beginning of the movie? Do you have money to spend on a drink? At any one moment, we have a number of potential motivations that are all competing to be acted upon, and we are not consciously aware of many of them. We can act upon only one of these motivations at a time, so which one is likely to "win"? The winner will probably be the motivation that most easily comes to our conscious mind because of the priority placed upon that choice by our likely general motivations in the situation (e.g., staying in my seat to see the movie; see Macrae and Johnston 1998).

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While showing the difficulty of using subliminal persuasion to influence specific choices where people's motivations cannot be controlled (i.e., outside of a laboratory setting), this scenario also suggests how subliminal persuasion can be successful. Specifically, if you could align someone's preexisting general motivations (e.g., thirsty and wanting to buy a drink) with a subliminal message ("Drink Coke"), you may be able to actually influence what brand of drink they choose. This is exactly what researchers in psychology have found. If people are already thirsty, being subliminally presented with thirst-related words (e.g., dry) causes them to be more easily persuaded—relative to thirsty people subliminally presented with neutral words—by an ad for a sports drink that emphasized its thirst-quenching characteristics (like Super-Quencher) than a sports drink that does not (like PowerPro; Strahan, Spencer, and Zanna 2002). Further, actually subliminally presenting a brand choice (such as Lipton Iced Tea) increases the chances that people will choose that drink over other brands offered (such as Coca Cola and Spa Rood), relative to a control, but only if they are already thirsty, generally consider that brand to be thirst-quenching, and do not habitually consume the brand being subliminally presented (Karremans, Stroebe, and Claus 2006).

Although the limited evidence is supportive of the importance of a person's motivation at the time of being subliminally presented with a stimulus, more research in the area is needed. One situation in which current motivations may have differing influences on subliminal persuasion is when someone is aware beforehand that they will be subliminally presented with a stimulus.

Awareness

Awareness in this context simply refers to a person's knowledge of being exposed to information. One common counter by critics of subliminal persuasion is that research investigating the effectiveness of subliminal self-help tapes shows none of the claimed effects (e.g., Greenwald, Spangenberg, Pratkanis, and Eskenazi 1991). The problem with this research is that as soon as you tell people that they are being exposed to subliminal information (even if it is not the correct information) their cognitive processing of information from the environment is altered. For example, psychological research over the past twenty-five years repeatedly demonstrates that if a person becomes aware (or thinks they are aware) of potential influences from subtle stimuli on their thoughts, feelings, or behaviors, the normal influences of the stimuli changes, reverses, or just disappears (for an overview of this research area see Glaser and Kihlstrom 2005). That is why one essential characteristic of subliminal research is that the participants must show no awareness of the subliminal information (Bargh and Chartrand 2000).

A great example of the influence of awareness on subliminal primes comes from an experiment by Dijksterhuis, Bargh, and Miedema (2000). As mentioned in the introduction, typically research has found that if you subliminally expose (or "prime") people with words related to old age (e.g., *old, gray, wrinkle*), it will temporarily have an effect on their behavior, such as cause them to remember less. To see what would happen if people were told they were going to receive subliminally presented "elderly" words that may negatively influence their memory, Dijksterhuis and colleagues put people into four different experimental conditions. In two conditions people were not told they were being subliminally presented with the words and in the other two conditions they were told about being subliminally presented with them. Within each of the two conditions participants either were or were not actually subliminally presented with the words. They found that only within the condition in which participants were not told about being primed but actually were primed did the typical memory effects occur (compared to the other three conditions). Therefore, as John Bargh recently put it, trying to be persuaded by subliminal information that you are aware of "is something like trying to tickle yourself; priming doesn't work if you're aware of it" (Carey 2007, 5).

Subliminal Advertising

As Epley et al. (1999) put it in their SKEPTICAL INQUIRER article, "For some, the bottom line of research on subliminal persuasion is, well, the bottom line—whether the effects of subliminal stimuli can be harnessed in a consumer setting." As Epley and colleagues noted, and as is the case for most of the

research cited in this article, research showing effective demonstrations of subliminal persuasion has been done in laboratory settings in which subliminal presentations are highly controlled. Nevertheless, given the consistency of the research reviewed, the findings can be applied to real life.

First, care must be taken to maintain a truly subliminal message; therefore techniques similar to subliminal self-help recordings will probably not work because the person is told of the presence of subliminal primes. Second, it seems that preexisting motivations are needed in combination with a congruent subliminal prime to push someone's initial leanings into a specific direction (e.g., brand). What this means is that subliminally priming someone who is sitting on their couch watching TV will probably not work; however if subliminal primes can be used within specific contexts that match a person's preexisting general motive, such as priming a certain type of ice cream at an ice cream shop, a certain type of computer at a computer store, or even a certain type of beverage at a vending machine, then subliminal persuasion may be more successful (Karremans et al. 2006).

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In the end, the available evidence to date does not allow for a dismissal of the potential for subliminal persuasion techniques to have an influence on people's preferences and behaviors in their everyday world. It is important, then, not to ignore the possibility of being persuaded by subliminal information. Becoming aware of the many ways in which people will attempt to get us to do things (either blatantly or subtly) will allow us to be more critical consumers of our world. □

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