



#05

# CONSCIOUSNESS



Our experience of the world is governed by both the conscious and the unconscious.

# DUAL PROCESSING

## ■ Dual processing

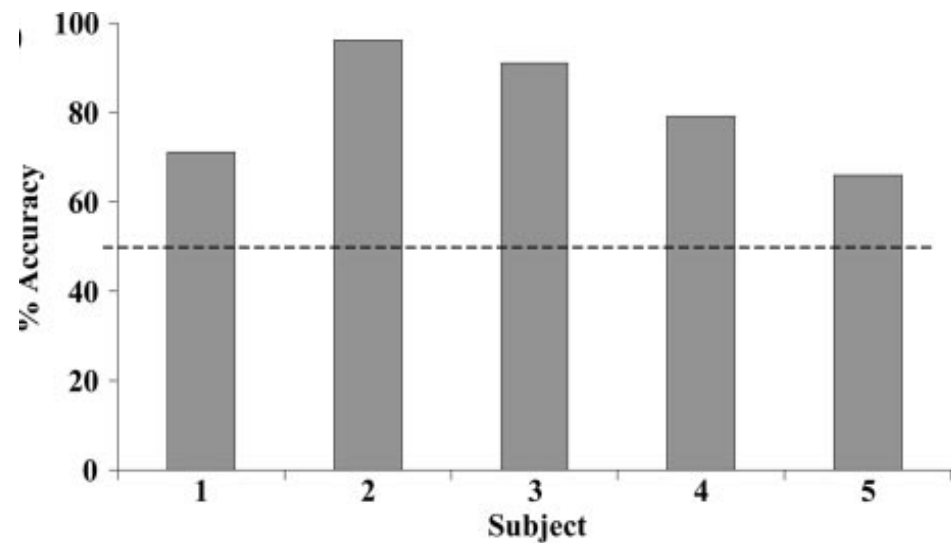
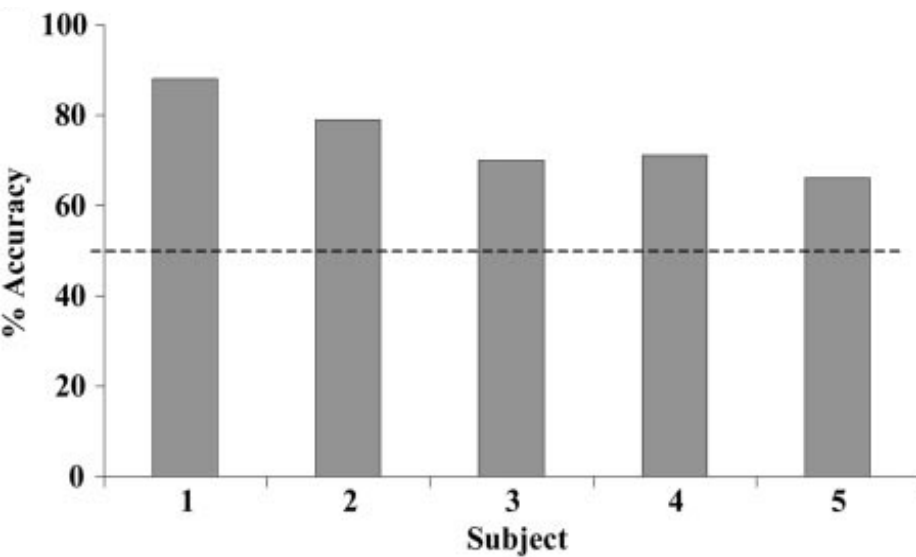
- Information is often simultaneously processed on two separate tracks (e.g., Kahneman, 2011)
- One track fast, intuitive, and unconscious; the other slow, deliberative, and conscious



Retrieval of memory of facts requires certain conscious deliberation, while retrieval of memory of procedures seems to be automatic and unconscious.



Patient TN suffered two strokes in succession, lesioning each visual cortex and causing clinical blindness. TN completely lacks functional visual cortex, but he successfully navigated down a long corridor in which barriers were placed. He showed **blindsight**, the ability to respond to what his eyes can detect without knowing he can see anything at all (de Gelder et al., 2008).



Researchers used magnetic stimulation to deactivate participants primary visual cortex and subjected them to a visual discrimination task. Participants' detection performance for orientation (left) and color (right) of the stimuli were significantly above chance (Boyer et al., 2005).

## ■ Dual processing

- The unconscious track serves as an autopilot, dealing with a lot of information, leaving those that are novel and require focused attention to the conscious track

# THE CONSCIOUS MIND



## ■ Selective attention

- Focusing of conscious awareness on a particular stimulus
- Limited capacity



<http://www.spring.org.uk/2009/03/the-cocktail-party-effect.php>

A classic example of selective attention is the cocktail party effect—the ability to attend to only one voice among many.

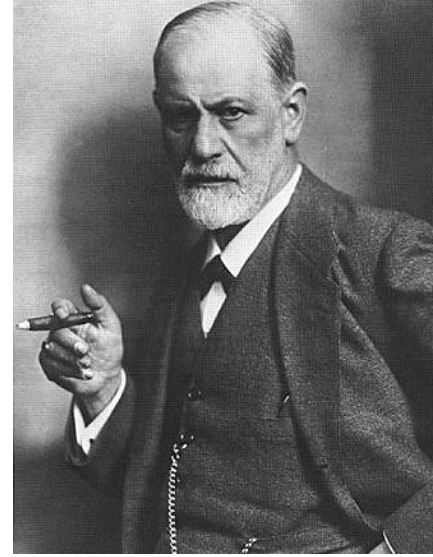


Observations conducted by the Virginia Tech Transportation Institute provided a clear picture of distracted driving under real-world conditions. Some risk estimates (for light vehicles, 2009 data):

- dialing a cell phone: 2.8 times
- talking or listening to a cell phone: 1.3 times
- reaching for an object such as an electronic device: 1.4 times

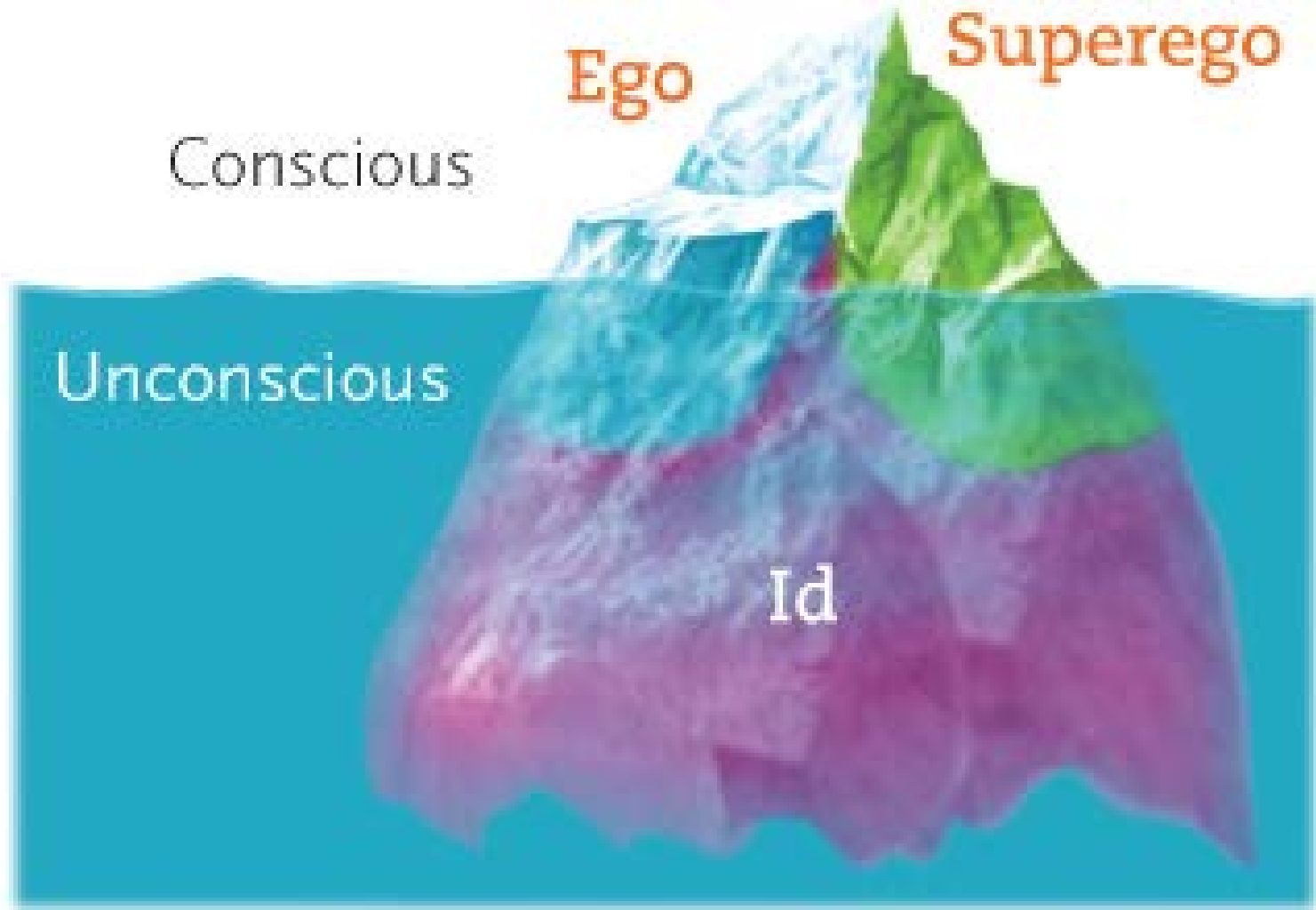
- Selective inattention
  - Inattentional blindness: Failing to see visible objects when our attention is directed elsewhere
  - Change blindness: Failing to notice changes in the environment

# THE UNCONSCIOUS MIND



## ■ Psychoanalytic theory

- Human thoughts and behavior are governed by unconscious motivations (Freud, 1915-1917)
- These motivations are products of childhood encounters



**Id:** contains our sexual and aggressive instincts and hidden memories; instinctual, impulsive, infantile, operated by pleasure principle

**Superego:** contains values and morals of society acquired from parents and authority; controls id's impulses; our conscience

**Ego:** mediates id's impulses and superego's ideals; reality principle

- Psychoanalytic theory
  - Unconscious ideas are sometimes expressed in disguised forms (e.g., slips of the tongue, dreams)
  - Manifest content vs. Latent content of dreams



## Symbol (Manifest Content of Dream)

## Interpretation (Latent Content)

Climbing up a stairway, crossing a bridge, riding an elevator, flying in an airplane, walking down a long hallway, entering a room, train traveling through a tunnel

Sexual intercourse

Apples, peaches, grapefruits

Breasts

Bullets, fire, snakes, sticks, umbrellas, guns, hoses, knives

Male sex organs

Ovens, boxes, tunnels, closets, caves, bottles, ships

Female sex organs

Freud interviewed people about their dreams and tried to associate symbols in dreams with events in daily life. Some examples are shown here.

- Psychoanalytic theory
  - Anxiety arises when the unconscious motives are unacceptable or uncontrollable
  - **Defense mechanisms**: unconscious strategies to reduce anxiety by distorting reality

Defense Mechanism	Explanation	Example
Repression	Unacceptable or unpleasant impulses are pushed back into the unconscious	A woman is unable to recall that she was raped
Regression	People behave as if they were at an earlier stage of development	A boss has a temper tantrum when an employee makes a mistake
Displacement	The expression of an unwanted feeling or thought is redirected from a more threatening powerful person to a weaker one	A brother yells at his younger sister after a teacher gives him a bad grade
Rationalization	People provide self-justifying explanations in place of the actual, but threatening, reason for their behavior	A student who goes out drinking the night before a big test rationalizes his behavior by saying the test isn't all that important
Denial	People refuse to accept or acknowledge an anxiety-producing piece of information	A student refuses to believe that he has flunked a course
Projection	People attribute unwanted impulses and feelings to someone else	A man who is angry at his father acts lovingly to his father but complains that his father is angry with him
Sublimation	People divert unwanted impulses into socially approved thoughts, feelings, or behaviors	A person with strong feelings of aggression becomes a soldier
Reaction formation	Unconscious impulses are expressed as their opposite in consciousness	A mother who unconsciously resents her child acts in an overly loving way toward the child

## Examples of the defense mechanisms

## ■ Implicit egotism

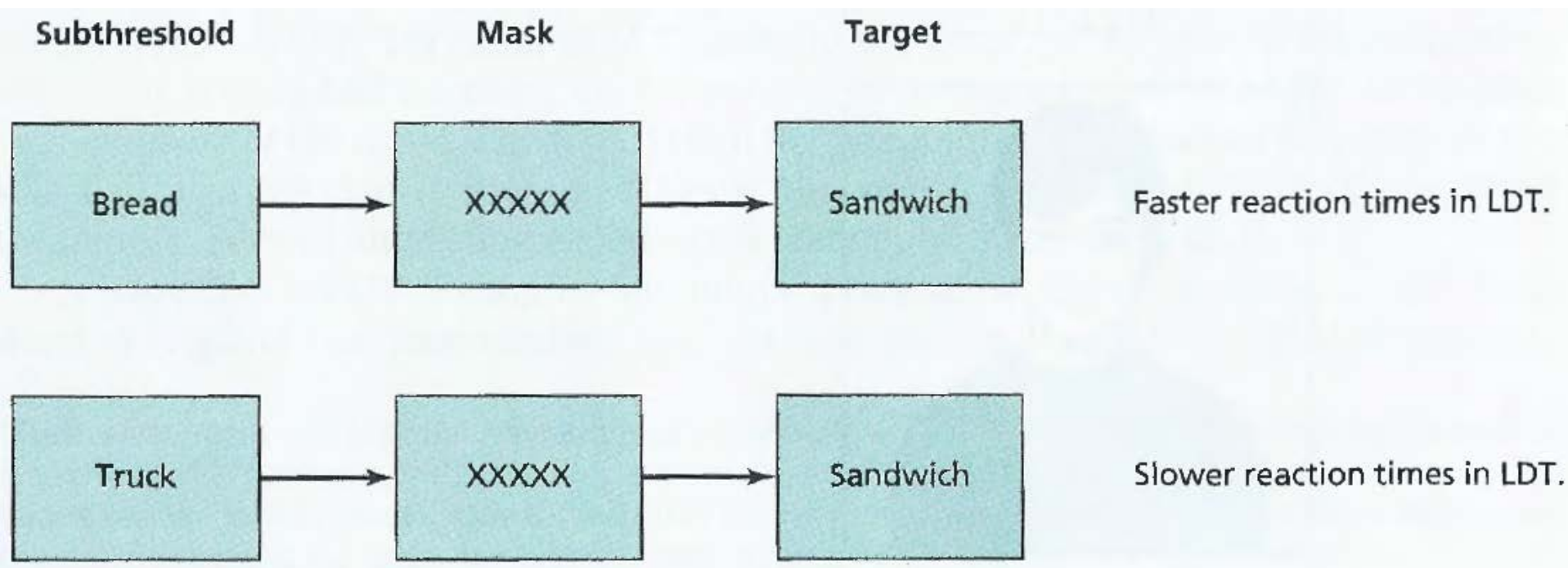
- The tendency to prefer people, places, or things that resemble the self (Pelham et al., 2005)
- People are disproportionately likely to live in places (e.g., Louis and St. Louis) and have careers (e.g., Dennis and dentists) resembling their names



Participants reported more positive evaluation of this woman when the number on the T-shirt had previous been subliminally paired with participants' own names (Jones et al., 2004).

## ■ Priming effect

- The activation, often unconscious, of certain associations predisposes one's perception, memory, or behavioral response (Bargh, 1994)
- Even unconscious exposure to a stimulus (subliminal priming) can generate the priming effect



Participants were presented subliminally either the word bread or truck. Followed by a mask (to inhibit further processing of the word), participants reported if the string of letters (in this example, sandwich) in the target formed a word (i.e., lexical decision task). Participants who had been exposed to a related word (i.e., bread) showed faster reaction (Marcel, 1983).

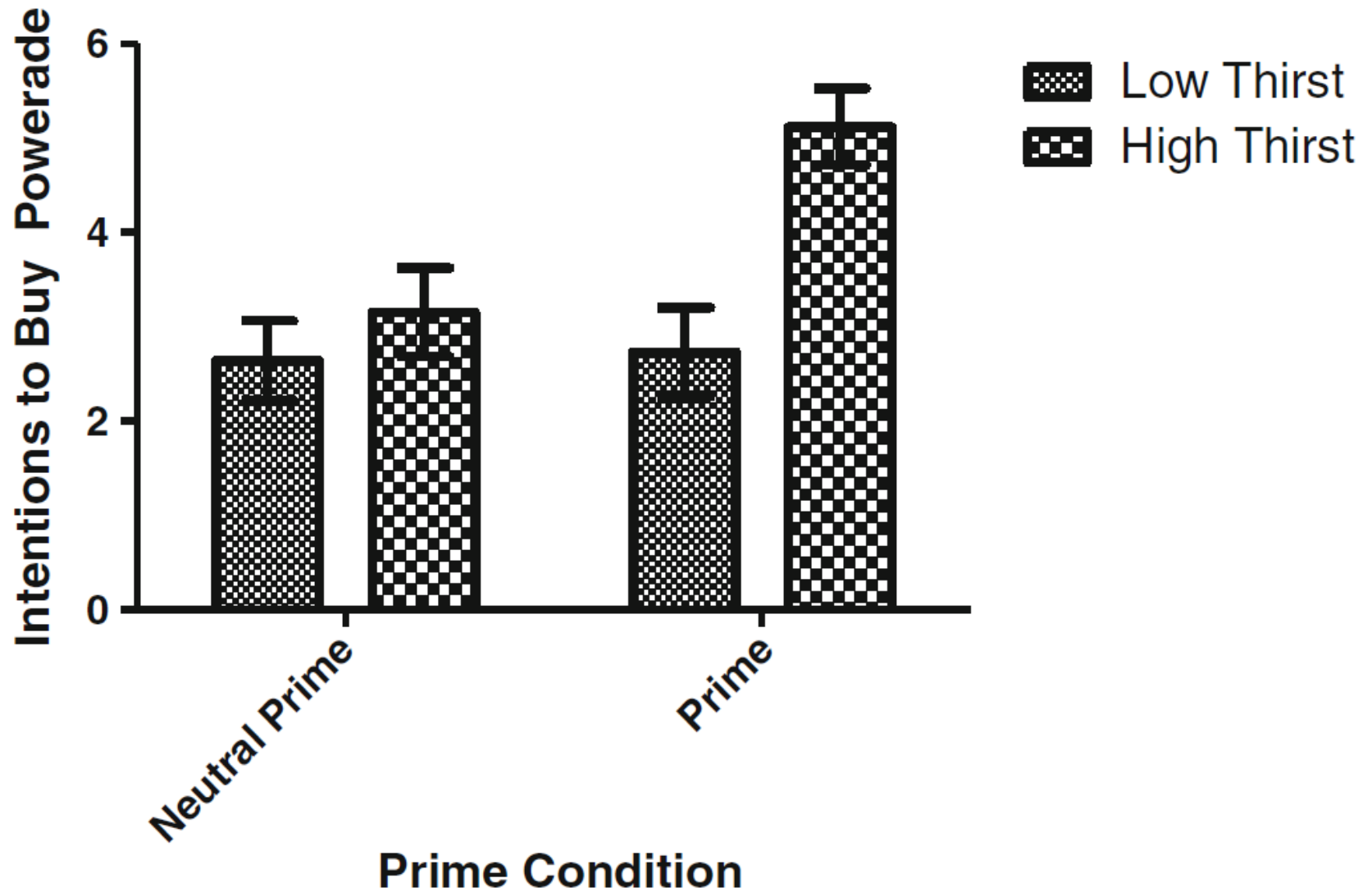


Can we get people to buy popcorn if we show this subliminal ad during a movie, regardless of whether they want it or not?

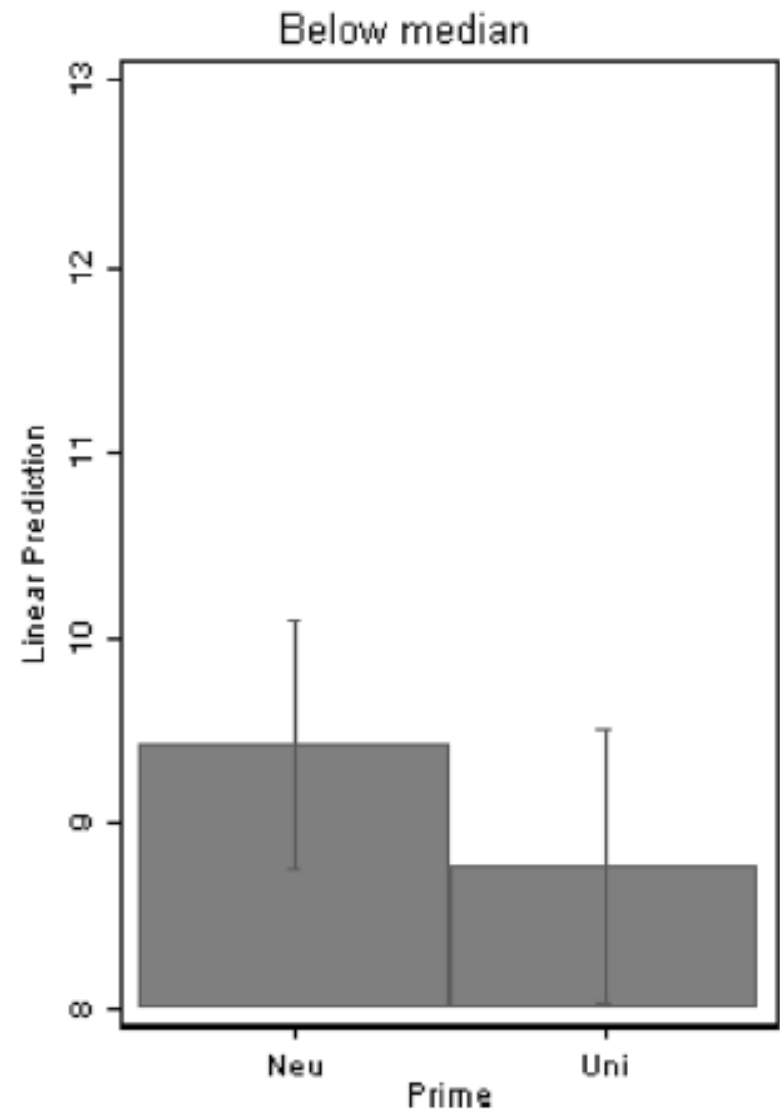
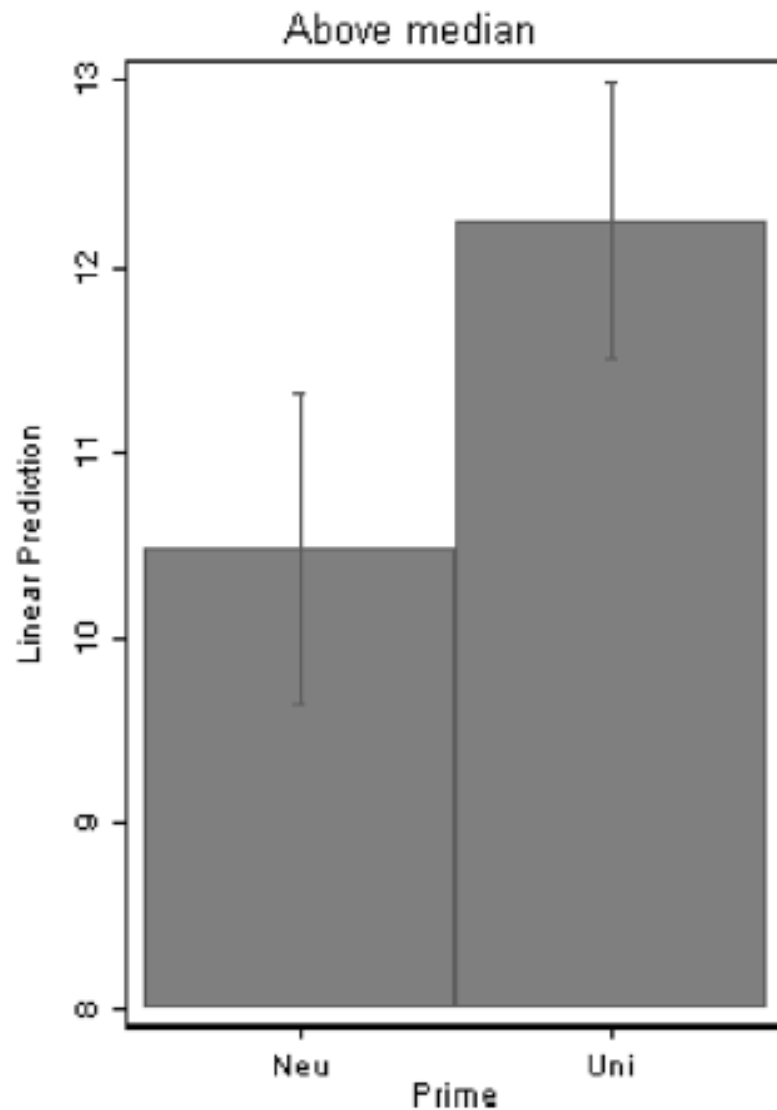


## ■ Subliminal persuasion

- Information that is not consciously perceived may nevertheless influence people (Dijksterhuis et al., 2005)
- No evidence that it can get people to act counter to their wishes



Subliminal priming a brand influences purchase intentions when consumers are in an active thirst state (Smarandescu & Schimp, 2015).



Subliminal priming of prosocial values (using words), compared to a neutral prime, increased donations by 10–17 % among participants with strong universalism values. (Andersson et al., 2017).