

Affective Science Perspectives on Cancer Control
The Placebo Effect

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Affective Science Perspectives: Placebo Effect

How can emotion theory and research inform our understanding of the placebo effect?

Can we leverage the placebo effect to benefit cancer prevention and control?



Affective Science Perspectives: Placebo Effect

“...a genuine psychological or physiological effect, in a human or another animal, which is attributable to receiving a substance or undergoing a procedure, but is not due to the inherent powers of that substance or procedure.”

(Stewart-Williams & Podd, *Psychol Bull*, 2004)

“...the psychological phenomenon that involves expectation and anticipation of clinical improvement.”

(Benedetti, *Placebo Effects*, 2009)

Affective Science Perspectives: Placebo Effect

“...the study of the placebo effect is the study of the psychosocial context around the patient.”

(Benedetti et al., *J Neurosci*, 2005)

“Contextual healing” (Miller & Kaptchuk, *J R Soc Med*, 2008)

“...the placebo response is an evolutionarily adaptive trait...” (Thompson et al., *Cult Med Psychiatry*, 2009)

“Placebo effects are treatment effects caused not by the physical properties of a treatment but by the meaning ascribed to it.” (Wager et al., *PNAS*, 2007)

Affective Science Perspectives: Placebo Effect

Expectancy

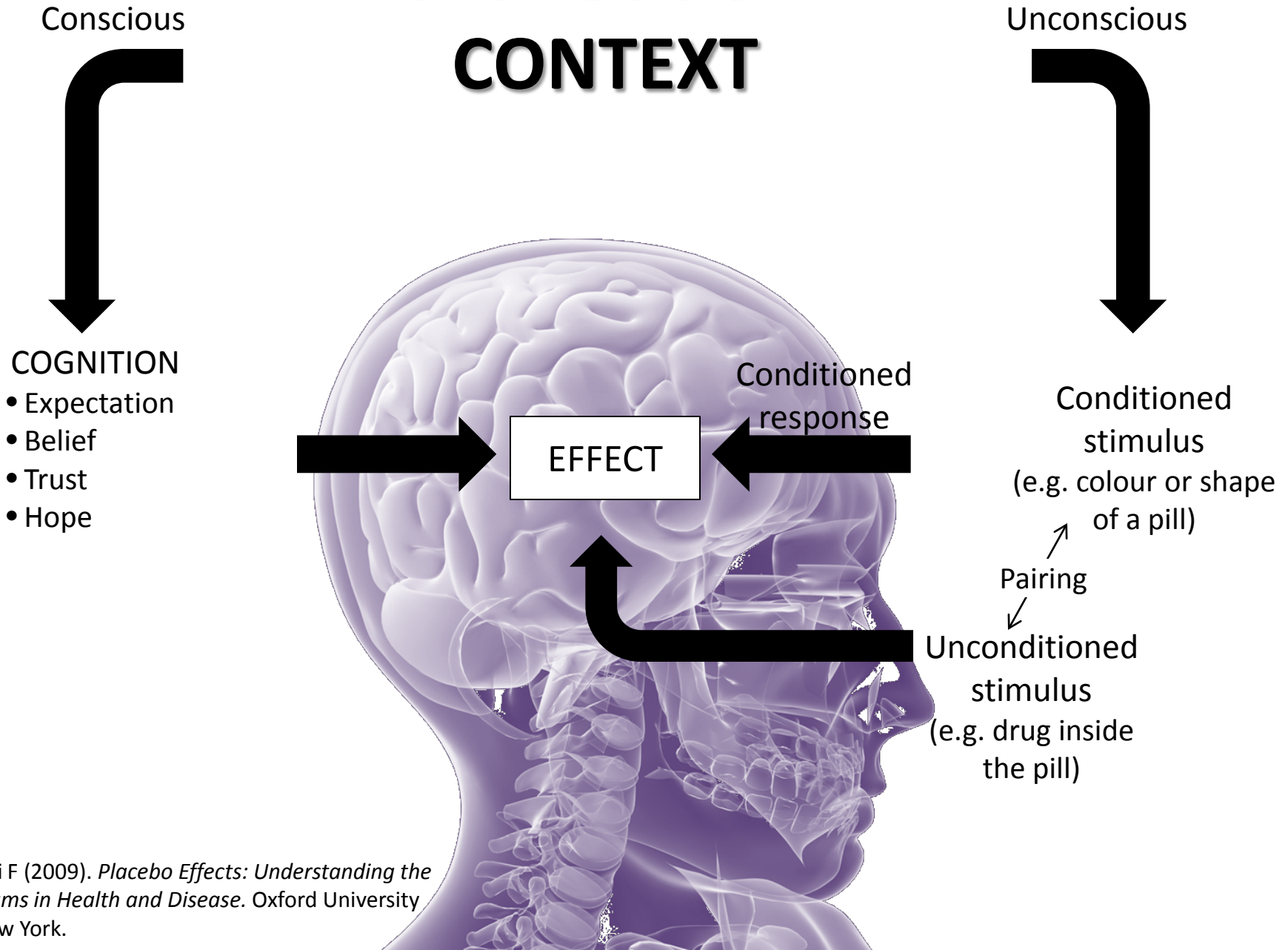
- Conscious process
- Influenced by verbal suggestion

Conditioning

- Involuntary process
- Influenced by experience (association between a treatment context and a neurophysiological response)

There is not a single placebo effect, but many effects

PSYCHOSOCIAL CONTEXT



Conscious

Unconscious

COGNITION

- Expectation
- Belief
- Trust
- Hope

Conditioned
response

EFFECT

Conditioned
stimulus

(e.g. colour or shape
of a pill)

Pairing

Unconditioned
stimulus

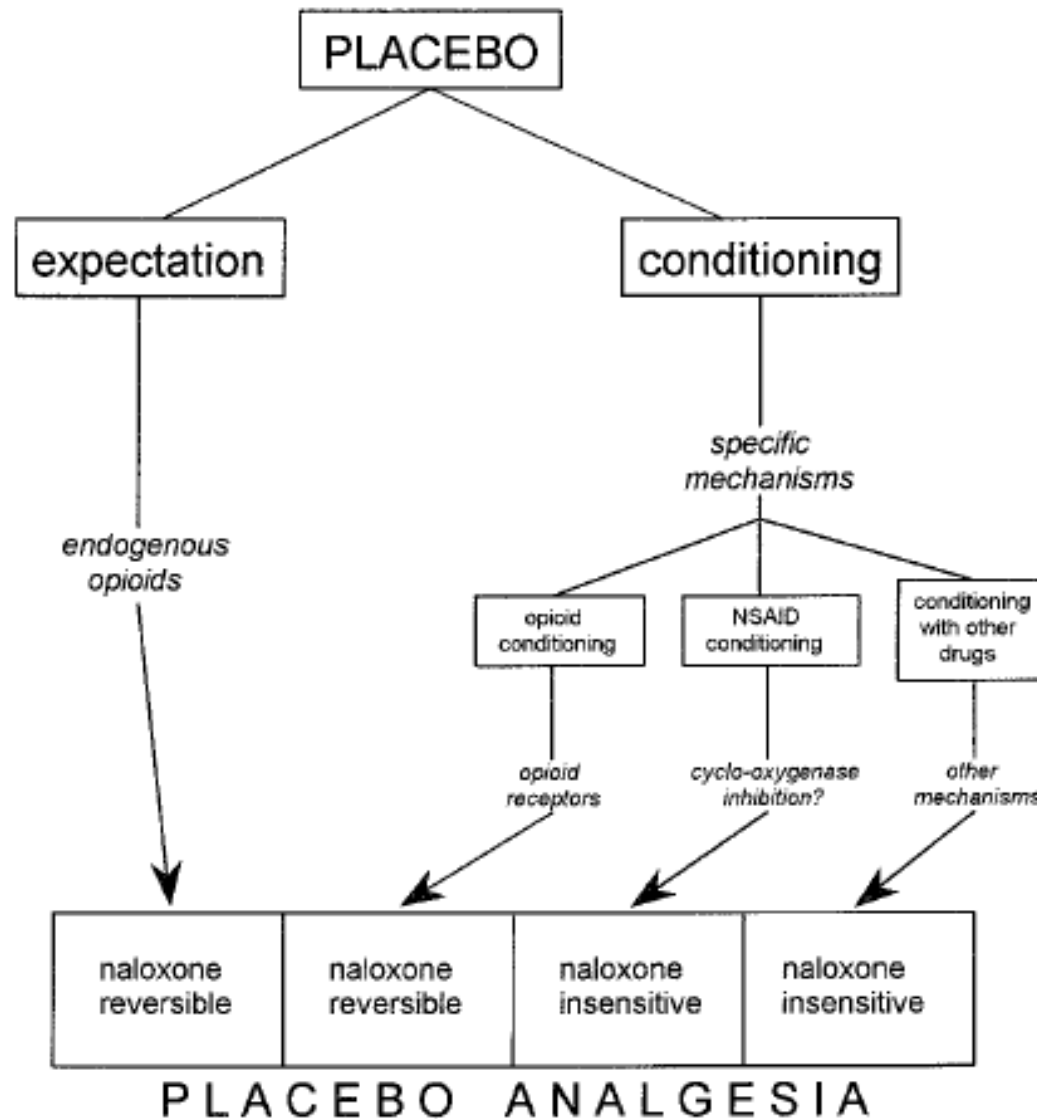
(e.g. drug inside
the pill)

Affective Science Perspectives: Placebo Effect

- Pain
- Anxiety
- Depression
- Motor function (Parkinson's disease)
- Addiction

- Anticipatory nausea and vomiting
- Immune function

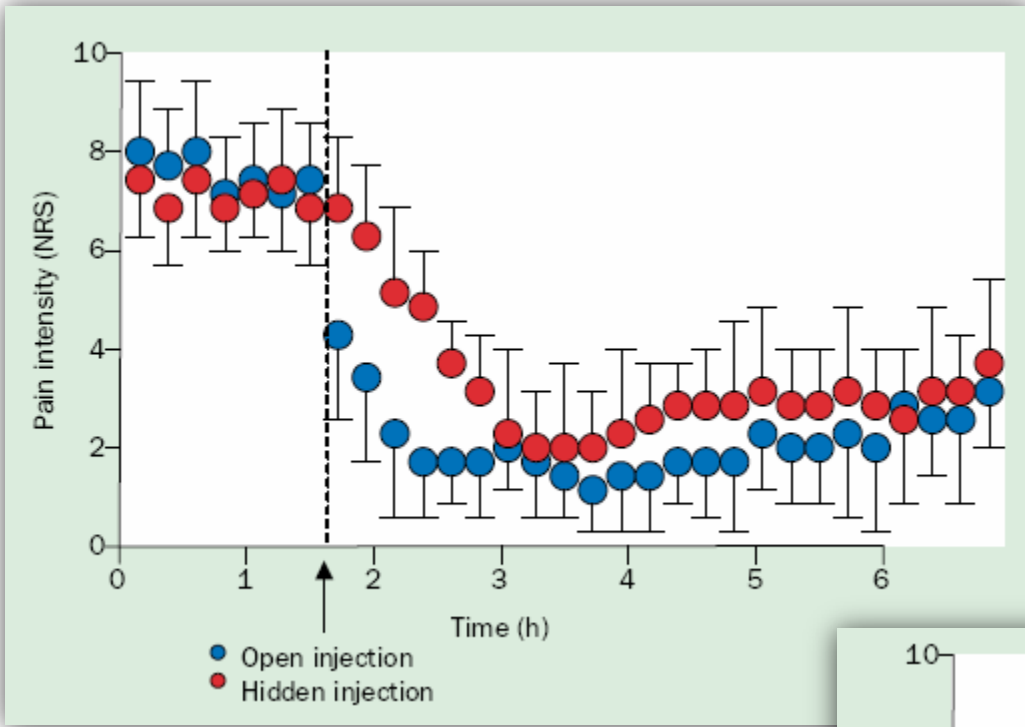
Mechanisms Activating Endogenous Opioid Systems and Nonopioid Systems in Placebo Analgesia



Linking Expectations and Placebo Effects

- Positive affectivity pathway
- Anxiety-reduction pathway
- Interpretive frame pathway

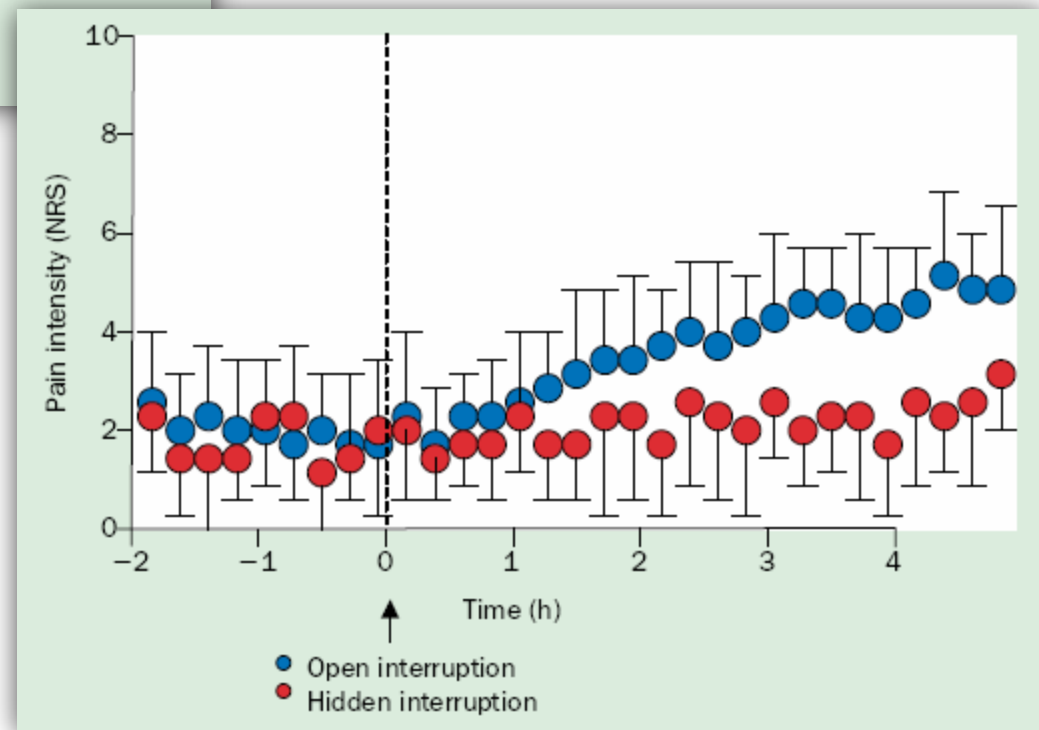
(Geers & Rose, *Soc Personal Psychol Compass*, 2011)



Top: Open versus hidden administration of morphine treatment (10 mg) for postoperative pain.

Bottom: Open versus hidden interruption of a morphine treatment.

NRS=numerical rating scale



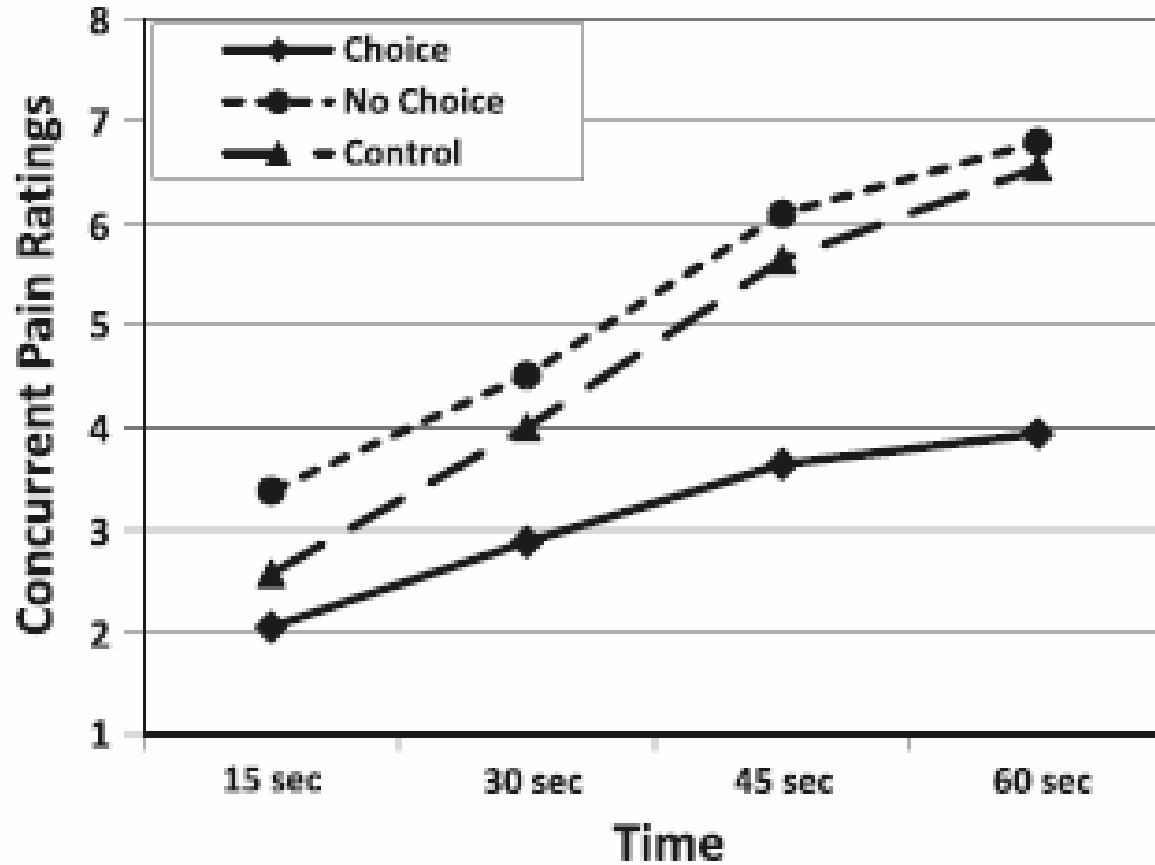


Affective Science Perspectives: Placebo Effect

Effects of Perceived Treatment on Quality of Life and Medical Outcomes in a Double-blind Placebo Surgery Trial

McRae et al., *Arch Gen Psychiatry*, 2004

Concurrent Pain Ratings as a Function of Choice Condition and Time





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