Watson & Rayner (1920)

Watson & Rayner studied the case of Little Albert; he was reared almost from birth in a hospital environment; his mother was a wet nurse in the Harriet Lane Home for Invalid Children. Albert's life was normal, he was healthy and happy at 9-months of age, when he was first brought into the lab. He was on the whole unemotional and his stability was one of the principal reasons for using him as a participant in this test.

Before Conditioning

To begin, Little Albert was confronted with a white rat, a rabbit, a dog, a monkey, with masks with and without hair, cotton wool, burning newspapers, etc. At no time did he ever show fear in any situation, and this was confirmed by the casual observations of the mother and hospital attendants. No one had ever seen him in a state of fear and rage; he practically never cried.

He was then tested for his reaction to loud noise. Experimentally this was done by striking a hammer upon a suspended steel bar. On the third stimulation the child broke into a sudden crying fit. This is the first time an emotional situation in the laboratory had produced any fear or even crying in Albert. This was his baseline response.

Watson & Rayner wanted to test a series of predictions;

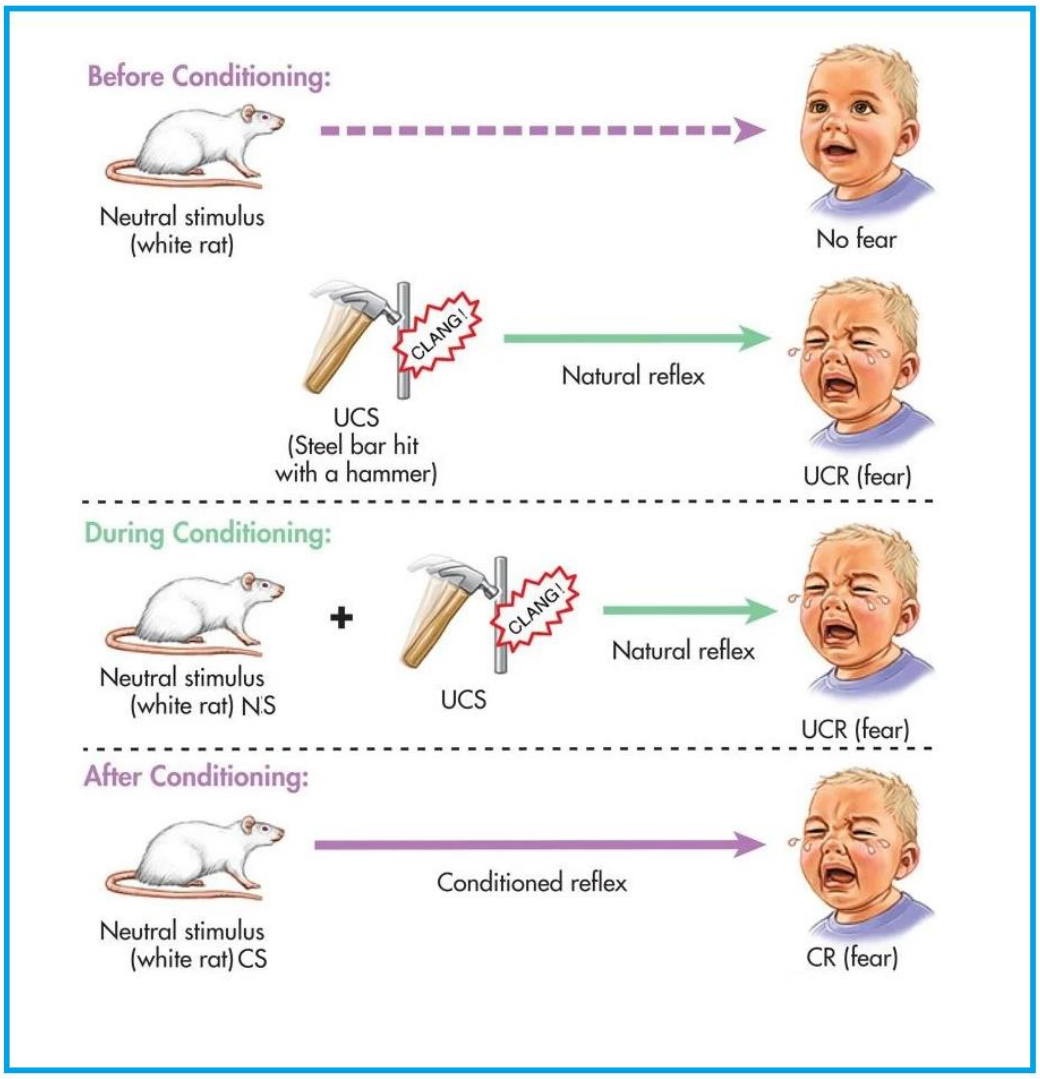
1. Can we **condition fear** of an animal, e.g., a white rat, by visually presenting it and simultaneously striking a steel bar?
2. If such a conditioned emotional response can be established, will there be a transfer to other animals or other objects (**generalised**)?
3. What is the effect of time upon such conditioned emotional responses, **how long** would it last?
4. If after a reasonable period such emotional responses have not died out, what laboratory methods can be devised for their removal (can they be **extinguished**)?

Experimental testing for these began when Albert was 11 months and 3 days old. It was felt that as Albert would face frightening noises at some stage in his life the study was not too unethical.

Conditioning

Following his baseline response to all the objects, Watson & Rayner set about conditioning a fear. They did this using classical conditioning; every time Albert went to touch the white rat, the researchers would strike the steel bar, creating noise. The steel bar was the unconditioned stimulus (UCS) creating an unconditioned response (UCR) of fear at the beginning. This was then paired over time with the white rat, which was a neutral stimulus (NS) and over time, became the conditioned stimulus (CS), creating a conditioned response (CR) of fear alone. This was evident after 7 repeated trials.

This is illustrated below:



When the rat was presented alone, Albert baby began to cry. Almost instantly he turned sharply to the left, fell over on left side, raised himself on all fours and began to crawl away so rapidly that he was caught with difficulty before reaching the edge of the table. This was as convincing a case of a completely conditioned fear response.

Five days later Albert was again brought back into the laboratory and tested to see if this response could be generalised to other white objects. They tried various other animals. A rabbit made Albert afraid. A dog made him show some fear but not as much as the rabbit. A fur coat made him afraid. He did not like cotton wool but was not as afraid as he was with the animals. The researchers concluded that there was some generalising of the fear response to other furry objects.

At 13-months old Albert was tested again. Here a Santa Claus mask and fur coat were used, each producing a fear response as before. A rat, dog, rabbit were also used in the follow-up tests, however the response was noted with a certain loss in the intensity of the reaction. It

was concluded that conditioned responses continue after one month and that they can be generalised beyond the original object. This is called **stimulus generalisation.**

After Conditioning

This would have been the extinction phase, unfortunately Albert was taken from the hospital the day before the tests for removal of the conditioned response were made. Watson & Rayner suggested that these responses in the home environment are likely to persist indefinitely, unless an accidental method for removing them is hit upon. They aimed to re-condition Little Albert but were not given the opportunity.

They concluded that it is probable that many of the phobias in Psychopathology are true conditioned emotional reactions either of the direct or the transferred type.

Reference:

Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. Journal of Experimental Psychology, 3(1), 1–14.