

Science suggests that there are only a few essential differences between animals and humans. Psychologists would argue that the laws of behavior governing the animal kingdom are more or less the same laws that govern human behavior. Superstitious or ritualistic behaviors are not considered rational, though humans often engage in them. For example, we avoid opening umbrellas inside to prevent bad luck, and we knock on wood for good luck. Even world-class athletes and famous celebrities follow peculiar personal rituals to bring them good luck. Tennis champion Serena Williams bounces her ball five times before her first serve. Actress Jennifer Aniston never boards an airplane without first touching the outside of it with her right foot. Tiger Woods always wears red on the last day of a gold tournament. What causes such behavior? Do animals behave similarly, or is superstition unique to human beings?

Renowned behavioral psychologist B.F. Skinner's research study of a group of hungry pigeons showed that superstitious behavior could be induced with what he called operant conditioning. In his experiment, whose results were published in 1947, pigeons that were fed mechanically at regular intervals came to believe they could make food appear by performing certain behaviors. They didn't know that their food would appear every 15 seconds regardless of anything they did. Hoping for more food, each pigeon learned some action or movement, such as pendulum-like head movement or turning in its cage a specific number of times. Every bird performed its own unique action over and over again, and soon food would appear. The pigeons repeated the behavior that they thought produced their last feeding. By the end of the study, 75% of the pigeons had become superstitious.

Just as Skinner's pigeons automatically repeated the actions that they thought fed them, humans repeat their routines and habit, drawing comfort from them without much mental effort. Athletes' pregame rituals are like this. The athletes repeat, again and again, the actions that they believe will bring good luck to their game. What is it that makes us believe this cause-and-effect relationship on the basis of superstition?