# Extinction

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Psychological **extinction** is a phenomenon that occurs when an animal or human no longer responds to a previously reinforcing stimulus because it is no longer followed by a reinforcing consequence. This learned behavior occurs by **operant conditioning**, a form of learning in which an animal or human learns to associate a particular behavior with a particular consequence. In the case of psychological extinction, the previously reinforcing consequence is no longer provided, and as a result, the behavior that was previously reinforced no longer occurs. This process can be useful for reducing undesirable behaviors, as it allows an individual to unlearn the association between a particular behavior and a reinforcing consequence.

For example, imagine as a parent you decide to give your child a piece of candy every time they throw a tantrum in hopes of getting them to stop. In turn, your child quickly learns that throwing a tantrum leads to getting candy so, as a result, they continue to throw tantrums to get candy. However, if the parent decides to stop reinforcing the child's behavior by no longer giving the child candy when they throw a tantrum, the child may eventually stop throwing tantrums altogether. This is because your child no longer associates throwing tantrums with candy and as a result that behavior becomes extinct.

Sometimes extinction of behavior is resisted. **Extinction-induced aggression** occurs when an individual becomes aggressive after the reinforcement for a particular behavior is removed. It is important to note that extinction-induced aggression is not the same as aggression that is directly reinforced by the consequences it produces. Instead, it is a form of aggression that is indirectly related to the process of extinction and the frustration that it can produce. To continue our example from earlier the child would act out in a different form of tantrum to try and get candy. To reduce extinction-induced aggression, it is often necessary to use positive reinforcement to teach an alternative behavior that can be used to obtain the desired consequence.

Example

In the TV series "The Office", Jim once conditioned Dwight to expect a mint whenever he heard his computer chime by giving him a mint every time his computer made a sound. This is an example of **classical conditioning**. Over time, Dwight began to associate the sound of his computer with receiving a mint. Even when Jim stopped giving him mints, Dwight would still expect to receive one whenever he heard the computer chime.

 However, as time passed without receiving a mint, we assume Dwight's behavior of expecting a reward began to decrease as we never see it happen again. This is an example of psychological extinction, where a behavior that was previously reinforced (receiving a mint) is no longer reinforced, leading to a decrease in the frequency or intensity of that behavior over time. Initially, Dwight may have become confused or frustrated about why he was no longer receiving a mint when his computer chimed. He may have continued to look around or reach for a mint out of habit, but eventually, the behavior of expecting a mint when he heard his computer chime would have faded away.

### Vocabulary

**Extinction**: when an animal or human no longer responds to a previously reinforcing stimulus because it is no longer followed by a reinforcing consequence

**Operant Conditioning (Instrumental Conditioning):** learning method where behavior is influenced by its consequences

**Extinction-Induced Aggression:** an increase in aggression when implementing repeated cycles of extinction and reinforcement

**Classical Conditioning:** behaviors that are learned by connecting a neutral stimulus with a positive one

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