Module 3: Sensation and Detection
Topic 1 Content: Signal Detection Theory Notes

Introduction

Signal Detection Theory

Click the ***NEXT*** button to begin.

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Factors Involved in Missing Signals

Have you ever missed a phone call or text? Hover your mouse over each factor to see why this may have happened.

- Your phone was too far away for you to hear it. This is a problem of absolute threshold where the signal was too faint to be heard.
- Noise was interfering with your ability to hear the notification signal. This is a problem of difference threshold where the sound from your phone entered your ear, but was indistinguishable from other noises entering your ear at the same time.
- You weren't paying attention or were paying close attention to something else. *Selective attention* is when you focus conscious attention on one stimulus and exclude other incoming information.

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Signal Detection Theory

Signal detection theory helps explain many important psychological phenomena. If you have asked someone out on a date recently, and are waiting anxiously to hear back, you will probably not miss the text or call responding back to you (although you might miss other important signals, such as your mother asking you to take out the trash after dinner).

It is important to understand the conditions under which people are more or less likely to detect signals, and in some cases, it can prove a matter of life or death. If a pilot is flying through a difficult patch of turbulence, will she still notice a signal on the cockpit dash that indicates the airplane fuel levels are lower than expected? Specifically, will she be able to detect the *signal* (the flashing light indicating low fuel) amidst the *noise* (the challenging weather conditions)? When designing that airplane's warning lights and sounds, signals like this one must be clear and easily detected so the pilot is able to notice them.