



## How does background noise affect our concentration?

By Philip Miele, Dublin, Ohio

Mark A. W. Andrews, director and professor of physiology at Lake Erie College of Osteopathic Medicine at Seton Hill University in Greensburg, Pa., offers a reply:

BACKGROUND OR LOW-LEVEL noise in the home, work or school often disrupts people's concentration. According to the National Institute for Occupational Safety and Health, ambient noise also affects people's health by increasing general stress levels and aggravating stress-related conditions such as high blood pressure, coronary disease, peptic ulcers and migraine headaches. Continued exposure does not lead to habituation; in fact, the effects worsen.

Several studies have indicated that stress resulting from on-going white noise can induce the release of cortisol, a hormone that helps to restore homeostasis in the body after a bad experience. Excess cortisol impairs function in the prefrontal cortex—an emotional learning centre that helps to regulate “executive” functions such as planning, reasoning and impulse control. Some recent evidence indicates that the prefrontal cortex also stores short-term memories. Changes to this region, therefore, may disrupt a person's capacity to think clearly and to retain information.

Though not definitive, recent research also suggests that noise-induced stress may decrease dopamine availability in the prefrontal cortex where the hormone controls the flow of information from other parts of the body. Stress resulting from background noise, then, may decrease higher brain function, impairing learning and memory.

## HOW CAN BIOLINK AND PLAY ATTENTION HELP?



## STEP 1

We will start by administering a Focus test to measure if Auditory, Visual distractions or both affects the student's ability to pay attention. NOW for the FIRST time, you will have a percentage score to show you how much of a role it plays.

## STEP 2

We will select your training protocol.

Many people with ADHD cannot filter out distracting elements in their environment. They stare at the bird outside the window while the teacher is teaching her lesson. They play with a paperclip never hearing a word at the staff meeting.

The ability to filter out distractions is called discriminatory processing. It's a skill that we all have to some degree. People with ADHD commonly find it very difficult to sustain and direct their attention. Play Attention has a superior exercise to teach and increase the accuracy of discriminatory processing. As with all Play Attention games, your mind is the mouse or joystick. You'll activate the game with your attention as you learn to filter out distractions. You'll begin initially in a quiet room and progress to a more stimulating environment to learn to filter out ambient noise and sights. This gets you prepared to do your best in the classroom or workplace.

Play Attention also has the Academic Bridge which helps you learn to filter out distractions while you do your homework! Yes, real homework like math, spelling, reading, or even balancing your chequebook if you're an adult.

