CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
J0406

Project Title
Do Video Games and Other Distractions Ease the Awareness of Pain?

Abstract

Objectives/Goals
The objective is to determine if video games and other distractions ease a person's awareness of pain.

Methods/Materials
14 people, ages ranging from 8 to 49, participated in the experiment by placing their toes of one foot into a bucket of ice water. The time they kept their toes in the water was recorded. Next, they placed their toes of their other foot into the bucket of ice water. This time, though, they played a video game while having their toes in the ice water. The time they kept their toes in the water was recorded. I made sure that I used the same chair, the water temperature was approximately the same and the experiment was done in the same room of my house for each participant.

Results
I created a chart to record the times for each participant. The difference of the two trials was calculated for each participant to determine if the participant, while playing the video game, kept their toes in the same, more or less time than without the video game. In all but two trials the times with distractions were longer than the times without distractions.

Conclusions/Discussion
Based on my experiment the results show that when you have a distraction the awareness of pain goes down. I observed in my experiment that when the participants had their toes in the water while not playing the video game they were squirming and grimacing. While they were playing the video game it seemed like they didn't even know that their toes were in the ice water. I also did some research in addition to my experiment.

When you injure yourself the pain signal goes through the peripheral nerves and travels through the spinal cord. The pain meets up with cells called gatekeeper cells. The gatekeeper cells may send the pain signal up to your brain, reduce the signal or block it out. Your brain will then tell your body how to react to the pain. One thing the brain may tell your body to do is to to release endorphins. Endorphins are a natural painkiller. Besides your own body's way of dealing with pain such as releasing endorphins, distractions are another way. If a person is concentrating on something else their awareness of pain is less.

Summary Statement
My project is about how distractions which might include playing video games, playing sports or concentrating on a task could reduce a person's awareness of pain.

Help Received
Mom and Dad helped conduct the trials. Science teacher approved the project and Mom helped with the placement of items on the board.