THE STUDY OF FEAR AFFECTING THE BODY

Leah Rohde

Cary Academy

ABSTRACT

The purpose of this study was to find things that changed human body temperature. Fear is the body's way of responding to a potential threat, many physical and mental changes happen when scared. The experiment was conducted by the volunteer watching a frightening video then their temp was taken. Changing if the volunteer knows what's happening or doesn't does not affect their body temp. Since the volunteers were only subjected to the fear for 30 seconds there was no noticeable change in body temp.

INTRODUCTION

Temp is the matter that consists of hot and cold. It is in every object subjected to the senses. The temp of an object can be measured with a thermometer or can be felt by the human touch.

Temp is truly the acceleration of the fundamental particles in the object. The faster or slower the particles move affects the heat given off by it. The more kinetic energy the particle has the higher its temp is. Kinetic energy

The body’s reaction to fear is called fight or flight. The part of the brain called the amygdala controls the body’s reaction to fear. When one is frightened adrenalin starts pumping and the body starts sweating ready to either fight the danger or run from it. The heart beats faster and people blink quickly and can feel a change in body temp.

Body temp is the body ability to maintain its average temperature. For most people it is usually around 98.6 degrees. People are warm blooded, meaning body temp stays relatively the same. This does not mean body temp doesn't change over time, or with the climate, just not by much.
Figure 1 shows how the body changes throughout the day

The body controls temp by expanding or decreasing the size of the red blood cells, and the speed in which they travel through the blood stream.

Sir Alfred Hitchcock was known as the master of Suspense. He has directed 60 movies over his lifetime. He invented the bomb theory, a way to tell the difference between shock and fear. He compares shock and fear to a bomb under a table. He says that if two people were sitting at a table talking, and there was a bomb beneath the table. If the camera shows the viewers that the bomb is there, and then cuts back to the two people and so forth, this is fear. If the camera only focuses on the two people having the conversation, then the bomb randomly goes off, that’s shock.

Fear is summarized as the involuntary reaction to potential danger. When the brain sees a potential threat without knowing it was coming goes into panic mode. Again, the heart starts pumping adrenaline into the blood system and fight or flight kicks in. Anxiety is another type of fear when somebody is anticipating the worst. Anxiety can lead to
Siobhan Cuffe did a paper on human inaccuracy when measuring temperatures. Cuffe talked about how temperature for humans is felt through the skin. Cuffe used placed speech to see if it threw off how the volunteers felt the temperature of the water. Cuffe placed the subject’s feet in the same temp water to see if they felt a difference. Cuffe found that the subject was incorrect most of the time.

**MATERIALS AND METHOD**

The materials used are temp probe, volunteers, CD player, headphones, timer

The volunteers watched a video, the video started the fight or flight reaction to their body. The temp of their hand was then measured with a temp probe, and recorded. Two other volunteers did the same thing and an average temp was taken.
The Volunteer held their breath for as long as the volunteer possibly could. The volunteer then watched the same video as the first experiment. After the video the volunteers held their breath and were timed.

The volunteer ran for 5, 10, 15 min. The volunteer’s temp was then taken.

RESULTS AND DISCUSSION

![Graph showing temperature changes](image)

Figure 3 shows how body temp changes when subjected to fear/anticipation

In this experiment the shock control and anticipation are relatively the same. The volunteer’s body temperatures were a bit different to begin with because bodies are different. This is because the volunteers were only subjected to the fear for less than 30 sec. If the volunteers were to be frightened for a longer period of time their body temp would have increased due to the hearts increased beating.
Figure 4 shows how long the volunteer held their breath for before and after fear.

In this experiment, the volunteers held their breath for longer after they watched the video. This is because before they watched the video, they were scared of what will happen, and the brain can't focus on one thing. However, after the volunteers have seen the video, their brain is at ease because they know nothing else is going to happen and therefore are able to hold their breath for more time.

Figure 5 shows how body temp changes when drinking different things.
This experiment shows that drinking different temp water does not affect body temp. This is because when something is ingested it goes down to the stomach, and doesn't change the upper body temperature. The water is changed to body temperature, and does not affect anything.

Figure 6 shows the temp of the body after running for a certain amount of time

This experiment shows that running for any time until 15 min does not affect body temp by much. This is because the body relaxes quicker after running for a short interval of time. The longer time spent running the longer it takes to get the body temperature back to normal.

CONCLUSION

I have found that not many things drastically changed human body temp. This data shows what can happen to people, under different situations. The hypothesis was not correct; body temperature does not change when one is scared. In the future some experiments to do in the future are to: measure body temp when angered, and to measure body temp before and after sleep.

CITATIONS

