

Building Communities Through Fun: Why Don't We All Like Roller Coasters?



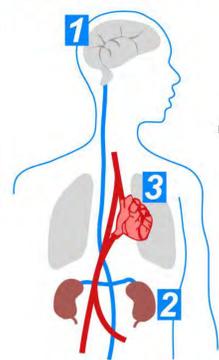
Presenter: Anna Lisina - St. Petersburg College, Florida

Abstract

If you have ever been to Busch Gardens, you must have noticed how many people line up to ride roller coasters. You may even have been one of them. Why would one spend an hour standing in line only to be strapped to a metal frame and tossed around at 40 to 60 mph for 2 to 4 minutes? The answer is, literally, in our brain, anatomically, physiologically, and psychologically. Does it mean, then, that we are all the same? What is someone doesn't like roller coasters? Is this person different anatomically or physiologically? To answer this, we must first answer a different question: Why Do Humans Ride Roller Coasters?

Introduction

THE FIGHT OR FLIGHT RESPONSE

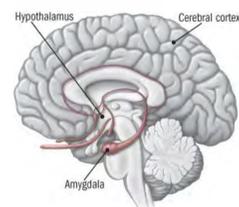


1. Stress causes sympathetic nervous signals to adrenal medullae
2. Adrenal medullae release catecholamines into bloodstream
3. Fight of flight reaction causes reactions in multiple parts of the body

The main part of it is so called "fight or flight" response, the integral part of our survival instinct. All human beings are equipped with it from birth. The mechanism activates independently of our will and includes all parts of the body, including nervous, endocrine, skeletal, and muscular systems.

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Brain Physiology



When we experience a stressful event, the amygdala, an area of the brain that contributes to emotional processing, sends a distress signal to the hypothalamus. This brain area functions like a command center, communicating with the rest of the body through the nervous and endocrine systems so that the host has the energy to fight or to flee.

Corticosteroids released during a short term, moderate transient stress, such as a roller coaster ride, get into the brain where they bind to glucocorticoid receptors and increase the amount of dopamine. In certain parts of human brain dopamine has to do with pleasure and anticipation of pleasure. This makes us feel invigorated.

A "golden mean" as applied to roller coasters.



Are they all enjoying the ride? Obviously not. Why don't we all like roller coasters? It sounds like we all should enjoy the rides. Aren't we all the same anatomically and physiologically? And who doesn't want to feel brave, invigorated and stress-free?



The answer is classical: Moderation is the key. In order to enjoy the invigorating results of fear, the feeling should be just right. The ride must be short and not too fearsome. This may present a challenge. How scary is scary enough? For some people there is simply too much fear in roller coasters to enjoy the revitalizing effects of adrenaline surge.

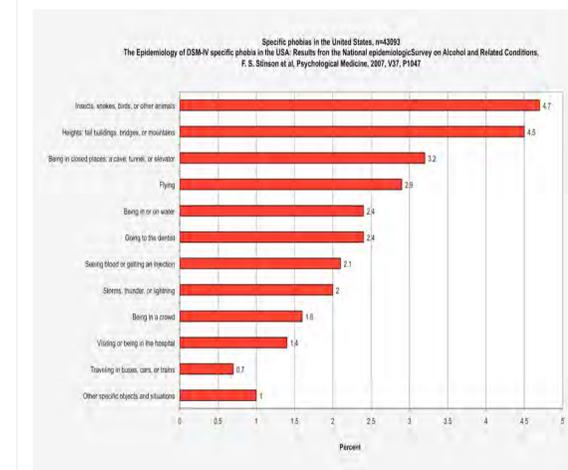


"Think of looking at a tiger in a cage. Both the tiger and the cage are needed in order for one to experience excitement: the tiger without the cage would be frightening; the cage without a tiger would be boring." Michael J. Apter. "The Dangerous Edge: Psychology of Excitement."



A caption under the cartoon: "I used to be a stockbroker, but I am looking for a gig a little easier on the stomach."

How can we explain it scientifically?



How can we explain these differences scientifically?

1. Different phobias. Michael Otto and Brian Newmark: high speed, fear that something will go wrong with the ride's operation, absence of control.
2. Anatomical differences such as number of neurons in a brain or how they are connected to each other.
3. Physiological differences, e.g. the efficiency in neuron-neuron interaction.

4. Previous life experiences differ from person to person as well as their influence on the individual's future behavior.

Conclusion.

While the majority of people like roller coasters because of the similarities in human anatomic, physiological, and psychological constitution, the small percentage stands out due to their unique inherent fears, life experiences, and slight nuances in anatomy and physiology.

Works used:

1. Cooker, Robert. Introduction. Roller Coasters: A Thrill Seeker's Guide to the Ultimate Scream machines. Michael Friedman Publishing Group, Inc, NY, NY 2000. Print.
2. Damasio, Antonio R. Descartes' Error: Emotion, Reason, and the Human Brain. G.P. Putnam's Sons. NY 1994. Print.
3. Sapolsky, Robert. Biology and Human Behavior: The Neurological Origins of Individuality. Lec. 9 03:30-07:00. The Teaching Company 4151 Lafayette Center Dr, St 100, Chantilly, Virginia 20151-3819. 2005 DVD.
4. "Turning roller coaster fears into thrills." MGH Hotline. MGH. 22 Jan 1999. Web. 23 Dec. 2014.
5. "Understanding the stress response." Harvard Health Publications. Harvard Medical School. Mar. 2011. Web. 30 Sept. 2014