

Bryant-Taneda

# AP Psychology 12

## Stress & Health Review

**Human Behaviour and Disease**



# Burnout

*Burnout* is a psychological term meaning physical, mental and emotional exhaustion.

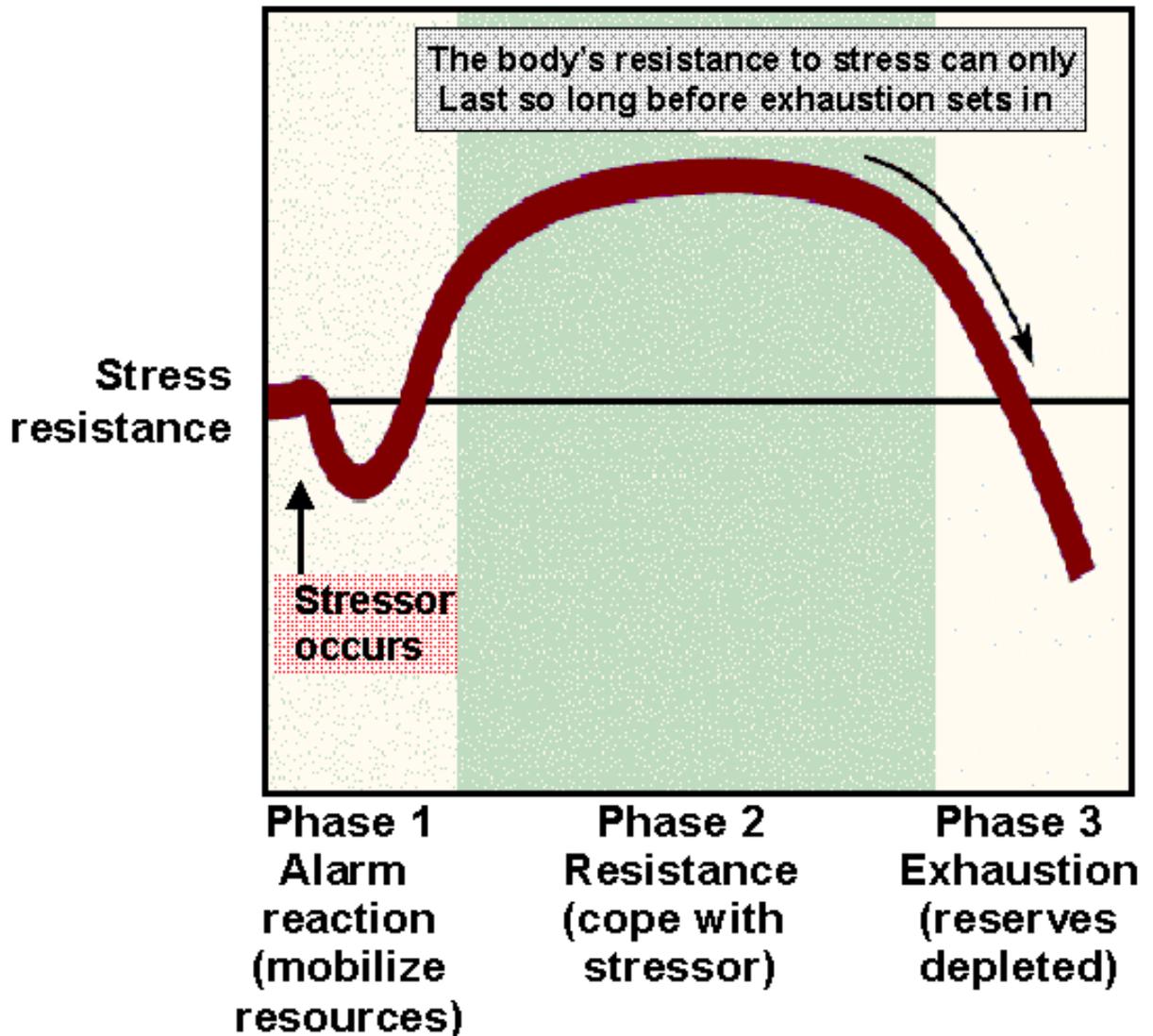


# Hans Selye: General Adaptation Syndrome

The result of prolonged stress, is a shrunken *hippocampus*.

So, what is an inference that can be made?

- People in refugee camps will possibly have memory problems. They need time to heal.



# Addictions

Social behaviours can create biological reactions.

Can addictions be social? How might they become biological addictions?

Our socializing can introduce us to behaviour, then we mimick the behaviour, then the behaviour becomes a habit.

Practise makes permanent!



# Teens & drugs

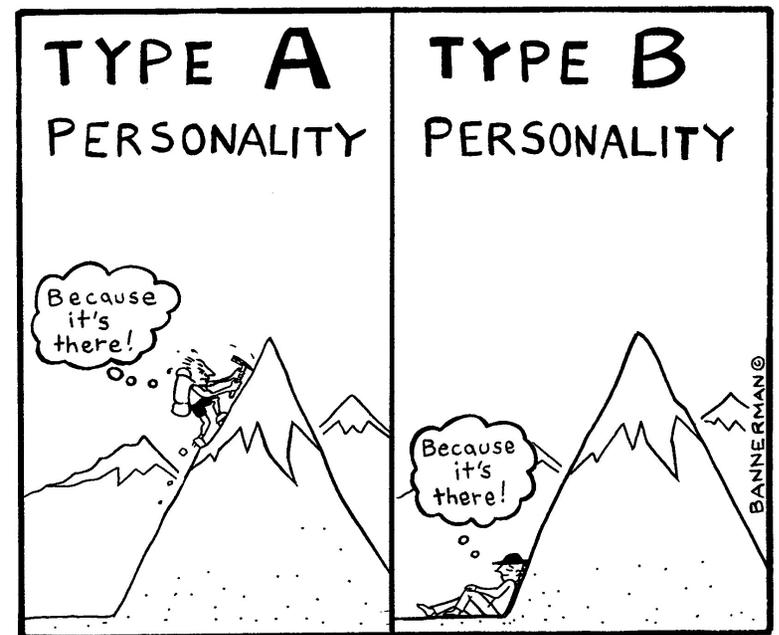
- What is the connection between teens and drugs?
- There is a strong correlation between having friends who use drugs and then the likelihood of a youth falling into drug usage.



# Type A Personality

Type A person:

- i) Accomplishes too many things in too little time
- ii) Free floating hostility
- iii) Achievement and competitive oriented
- iv) Struggles against time



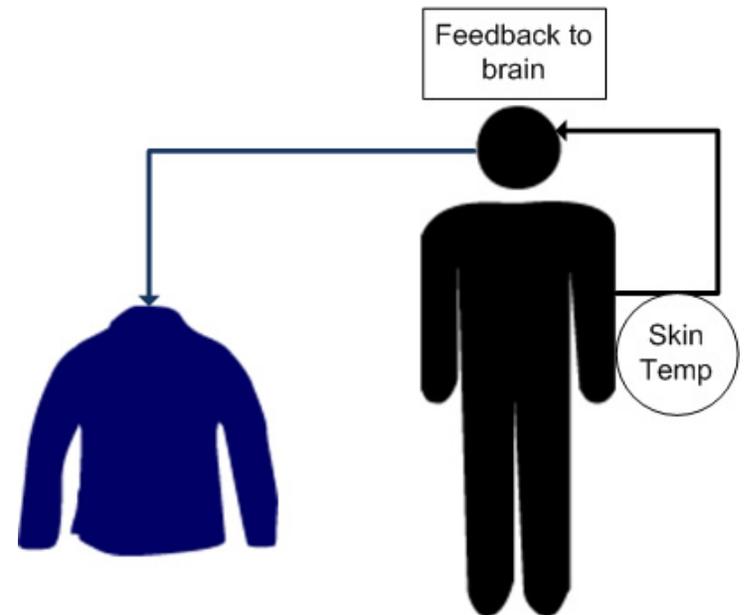
# Type B Personality

- i) Lives at a lower stress level
- ii) Works steadily
- iii) Enjoys achievement
- iv) In a competition, they don't mind losing
- v) Poor sense of time and managing time
- vi) Thinks about outer and inner worlds



# Set point for physiological functions

- The kidneys perform a vital role in *homeostasis*.
- Homeostasis insures our vital functions stay close to their *set point*, a relatively stable equilibrium.



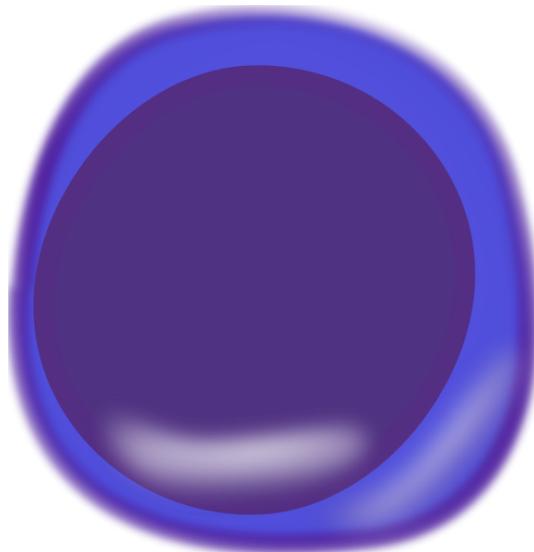
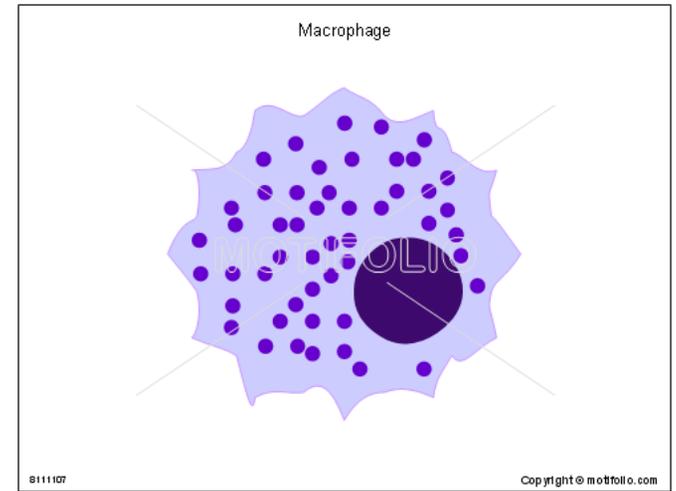
# Epinephrine, Norepinephrine, & Cortisol

- *Adrenaline* – part of our “fight or flight” response
- *Noradrenaline* – part of “sympathetic nervous system”
- *Hydrocortisone* – released in response to stress (suppresses the immune system); it promotes build up of plaque on arterial wall



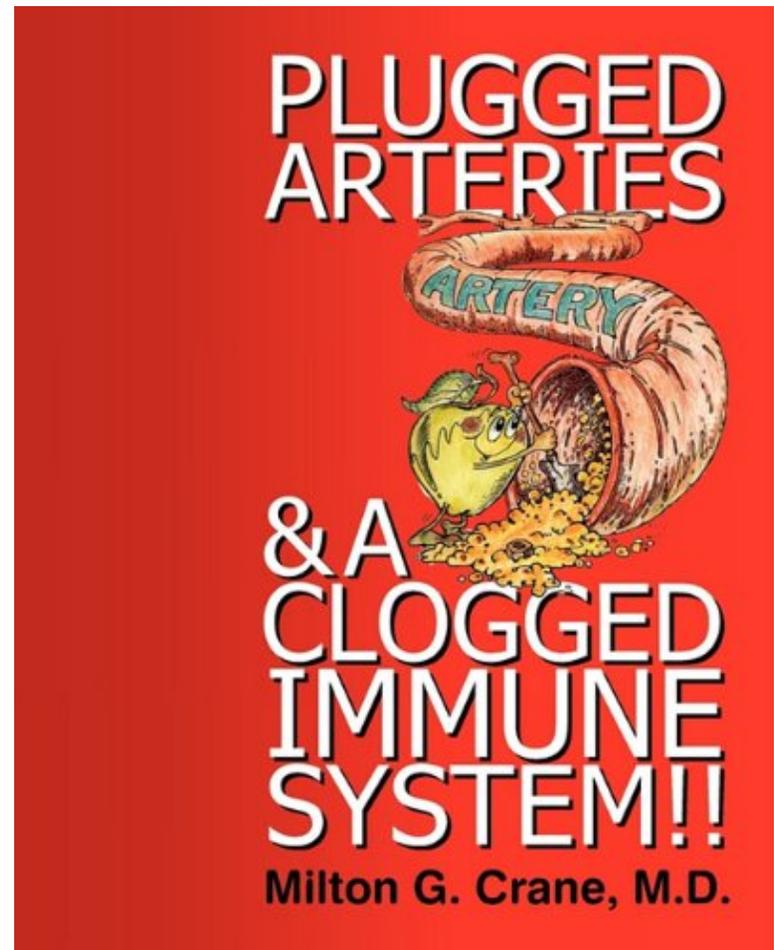
# Macrophage & Lymphocytes

- *Macrophages* search for and *eat* **bacteria** or foreign bodies
- *Lymphocytes* fight **infection**
- Macrophages and lymphocytes are part of the *Immune* system?



# Support System

- An increase in the *immune system*, is a decrease in arterial problems.
- The Immune system is connected with the brain.
- How? There is a vast network of *communication pathways* between these two systems.



# Meditation and Relaxation

- Meditation refers to practices that promote *relaxation*.
- Meditation is a practise where the individual trains the mind to bring about some benefit; usually there is some form of acknowledging content without becoming identified with the content.



# Spirituality and Faith

- Link with health?

Studies show that people who are spiritual, and have a strong faith, recover from operations sooner, have better health, have a lesser mortality rate, and they suffer less from depression ...

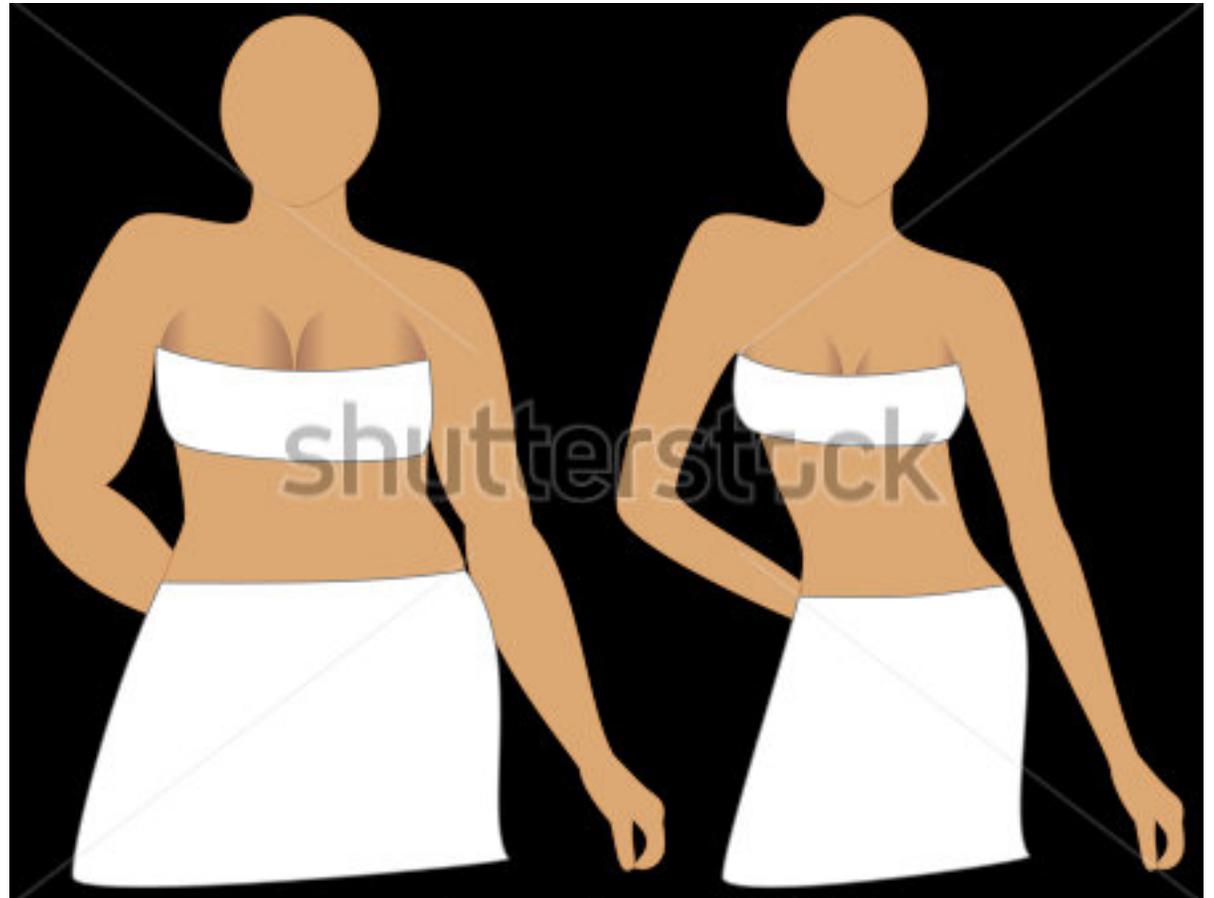
Why is this so?

Possibly it is a correlation with *good* habits and *good* health



# Weight Loss & eventual weight gain

- *Regression toward the mean* tells us that people who lose weight, will eventually gain it back (to the weight they first were).
- So what can we learn from this?
- Maybe we shouldn't stress about being a certain weight, maybe we should focus on health.



# Fat cells – Can we lose/shrink them?

Can we lose fat cells?

**NO**

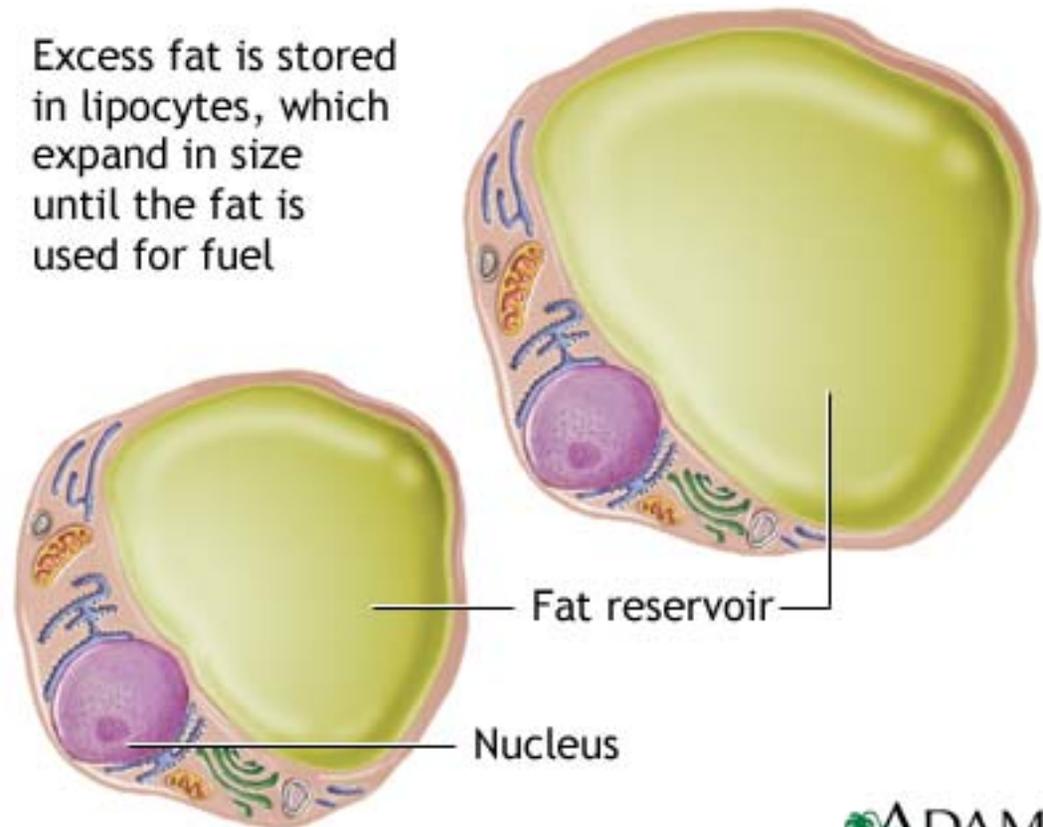
Can we shrink fat cells?

**YES**

So how does this effect our knowledge about stress and behaviour?

We should be careful to monitor how our young children eat, and care for their development of fat cells

Excess fat is stored in lipocytes, which expand in size until the fat is used for fuel



# Biofeedback – Training

What is it? Awareness of our autonomic nervous system

- It is a form of *Meditation*.
- It is also *Relaxation*.

So how does Meditation affect Stress and Health?

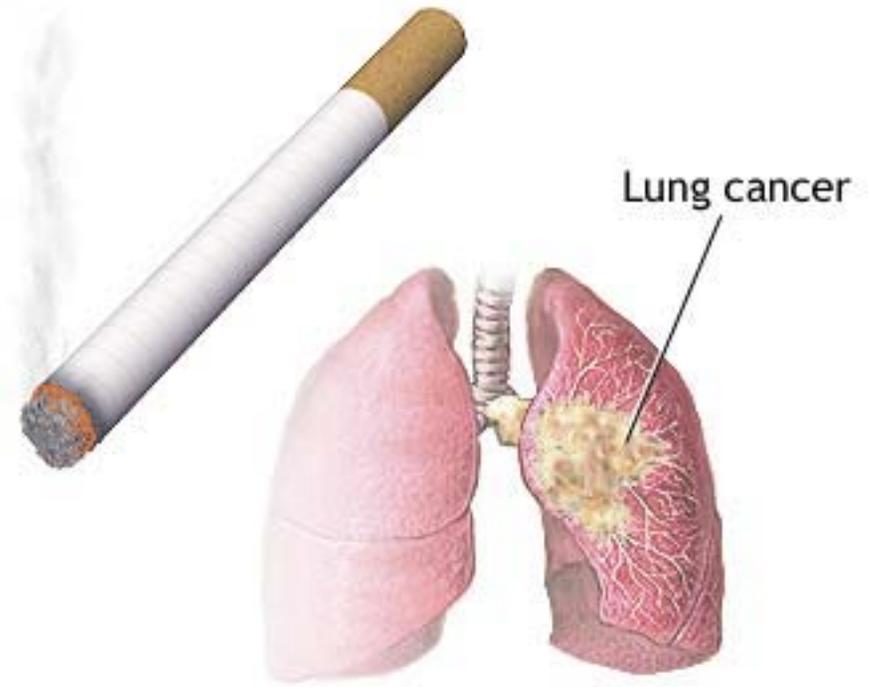
- If we can be mindful of our heart rate, our pulse, and our muscle tension, we can help our body calm down and live longer.



# Mortality and Behaviour

who wants to live longer? :0

- Smoking is a behaviour. How does it affect mortality? The casual and social behaviour can become an addiction.





# Fringe/Alternative medicine & Cyclical diseases

- Cyclical diseases are like *arthritis*.
- A person might obtain some massage therapy for their arthritis and thereafter believe they are *cured!*
- A person with arthritis might take homeopathic medicine and think, they've been "healed!"

Is there another variable that could be responsible for the healing?

- Regression toward the mean
- Symptoms can just disappear



# Ader & Cohen: Research on conditioning the immune system

- This was a study of taste aversion
- They found that the immune system can be conditioned
- Mice were *injected with immune suppressing drug* for lupus – and this injection was paired with sugar drink (c.conditioning)
- Eventually the *taste of sugar water alone* reduced the inflammation
- So what do we learn about the immune system? What do we learn about health?



# Obesity - effect on Life expectancy

- Excessive eating paired with little physical activity is a behaviour induced condition mostly a problem for white males



# Leptin (*thin*) hormone

- Letin is a *fat signaling* hormone; it controls hunger and feelings of satiety
- Leptin receptors are insensitive therefore they increase weight; in overweight people leptin levels are excessively high
- *Hypothalamus* – regulates hormones or decreases weight; regulates metabolism

