



# Managing Mathematics Anxiety



- What is Mathematics Anxiety?
- How is it developed?
- Is it healthy?
- How can you learn to manage it?
  - Study Skills
  - Stress Reduction
- Why do you need to learn to manage it?



## The Fight or Flight Response

from


A Guide to Stress Reduction

L. John Mason, Ph.D.

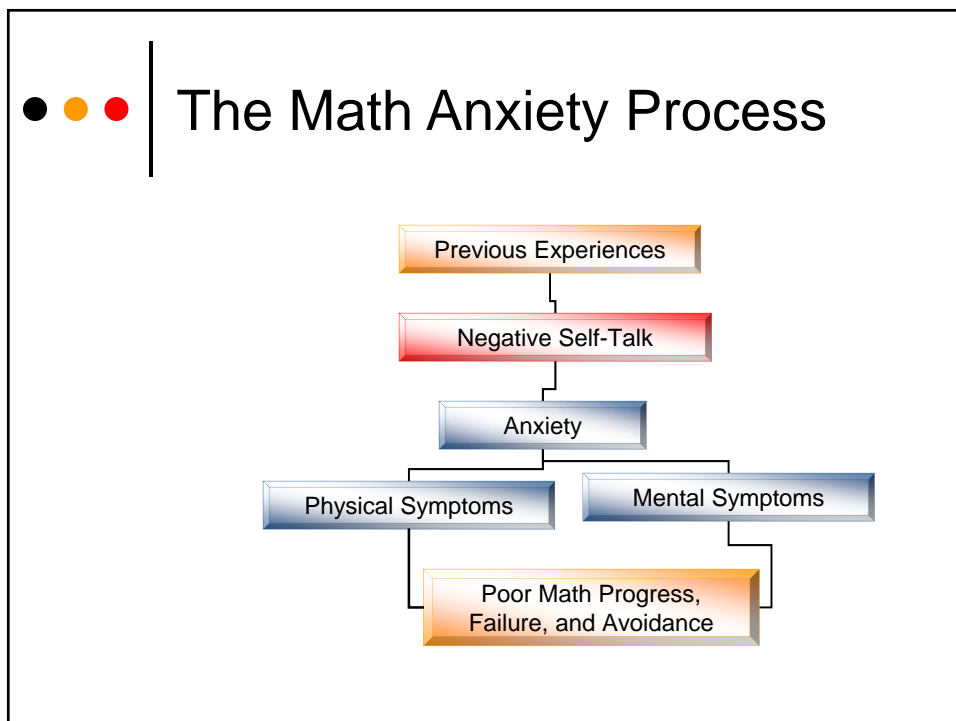
In the case of extreme threat, a variety of physiological changes occur with dramatic suddenness to allow you to survive, either by fighting the threat or by fleeing from it. What typically happens?



- The heartbeat increases to pump blood throughout the necessary tissues with greater speed.
- As the heart rate increases, blood pressure rises.
- Breathing becomes rapid and shallow.
- Adrenaline and other hormones are released into the blood.
- The liver releases stored sugar into the blood to meet the increased energy needs of survival.
- The pupils dilate to let in more light. Senses are heightened.
- Muscles tense for movement, either for flight or protective actions.



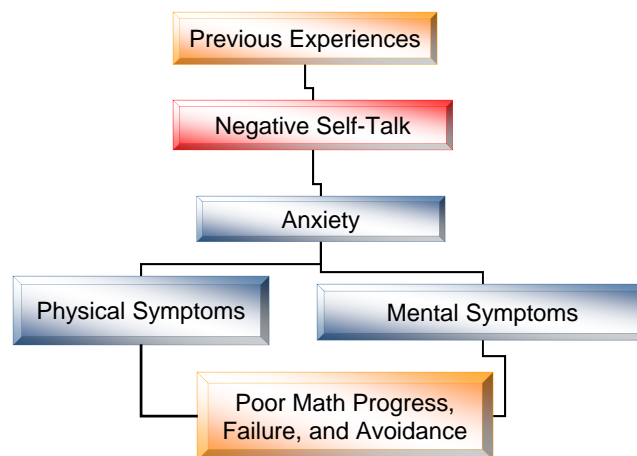
- Blood flow is constricted to the digestive organs.
- Blood flow is constricted to the extremities causing the hands and feet to become cold.
- Blood flow increases to the brain and major muscles.
- The body perspires to cool itself, since increased metabolism generates more heat.



## Examples of Negative Self-Talk

- ★ “I’ve never been any good at math, so I won’t be any good at math now”
- ★ “I’ve never been able to do word problems, so I can’t do them now”
- ★ “I don’t work math problems fast enough”
- ★ “I’m always the last person to finish the test”
- ★ “I’m afraid to ask this question because it’s stupid!”
- ★ “Why do I need to know this stuff?”
- ★ “I’m getting the answers, but I don’t know what I’m doing!?!”

## The Math Anxiety Process





## Stress Reduction Ideas

### ☞ Relaxation

The Relaxation Response

Herbert Benson, M.D.

Counter the effects of anxiety by evoking the relaxation response...



## Stress Reduction Ideas

### ☞ Visualization

Positive Self-Talk

Desensitization



## Math Myths

- Myth 1: Mathematics ability is inherent
- Myth 2: Mathematical insight comes instantly if it comes at all
- Myth 3: Only very few can do mathematics
- Myth 4: Mathematics is a male domain

Remember: Anxiety is not lack of ability.  
Anxiety is manifested as lack of ability.



## Math Anxiety Bill of Rights

by Sandra L. Davis

- I have the right to learn at my own pace and not feel put down or stupid if I'm slower than someone else.
- I have the right to ask whatever questions I have.





## Math Anxiety Bill of Rights

by  
Sandra L. Davis

- o I have the right to need extra help.
- o I have the right to ask the teacher or tutor for help.
- o I have the right to say I don't understand.



## Math Anxiety Bill of Rights

by  
Sandra L. Davis

- o I have the right not to understand.
- o I have the right to feel good about myself regardless of my abilities in math.





## Math Anxiety Bill of Rights

by  
Sandra L. Davis

- I have the right not to base my self-worth on my math skills.
- I have the right to evaluate my math instructors.
- I have the right to relax.



## Math Anxiety Bill of Rights

by  
Sandra L. Davis

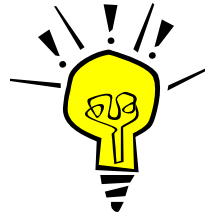
- I have the right to be treated as a competent adult.
- I have the right to dislike math.
- I have the right to define success in my own terms.





## Tips for Success in Mathematics

- ∞ Select an appropriate class
- ∞ Give yourself time
- ∞ Stay Current
- ∞ Attend all classes
- ∞ Sit near the front
- ∞ Take full class notes
- ∞ There is no such thing as a STUPID question.



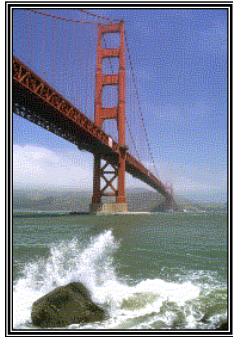
## Tips for Success in Mathematics

- ∞ Capitalize on the magic of "NOW"
- ∞ Math is not a spectator sport
- ∞ Focus on problem solving
- ∞ Over learn your math
- ∞ Take frequent breaks
- ∞ Practice
- ∞ ***Practice, Practice, Practice***





## What's At Stake?



- § “If I could do math I would...”
- § Studies show that starting salaries increase by \$2,000 per year for every math class completed after ninth grade



## What's At Stake?

“The ability to think mathematically will have to become something taken for granted as much as the ability to read a newspaper is at present. Such a change will seem fantastic to some people. But, so would universal literacy have seemed absurd a few centuries ago.”

--W.W. Sawyer



## What's At Stake?



- In today's complex world, literacy has a new dimension--mathematical competence. It's the new Latin.



THE END

Managing  
Mathematics Anxiety

Brent Griffin  
Revised Spring 2003