



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

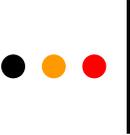
A Guide to Stress Reduction

L. John Mason, Ph.D.

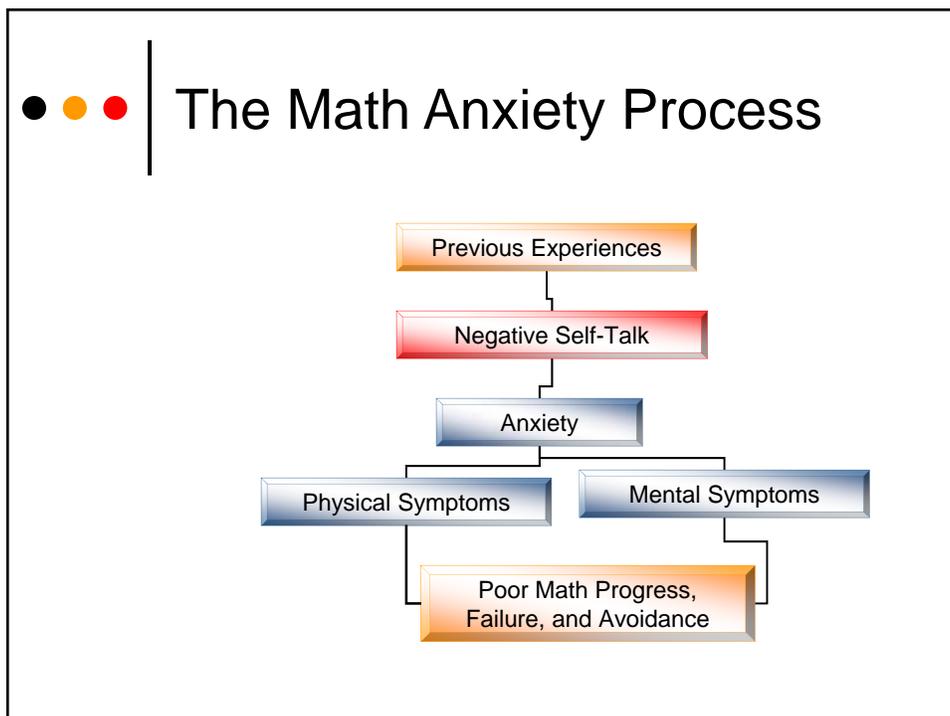
In the case of extreme threat, a variety of physiological changes occur with dramatic suddenness to allow you to survive, either by fighting the threat or by fleeing from it. What typically happens?



- 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.



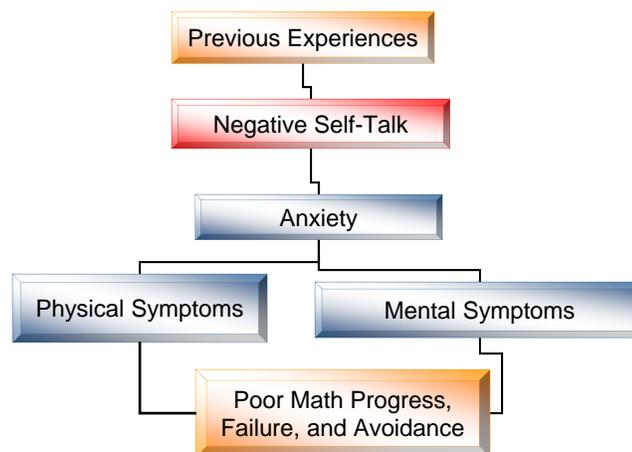
- Blood flow is constricted to the digestive organs.
- Blood flow is constricted to the extremities causing the hands and feet to become cold.
- Blood flow increases to the brain and major muscles.
- The body perspires to cool itself, since increased metabolism generates more heat.



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

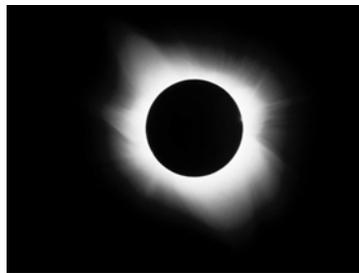
Remember: Anxiety is not lack of ability.
Anxiety is manifested as lack of ability.



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.



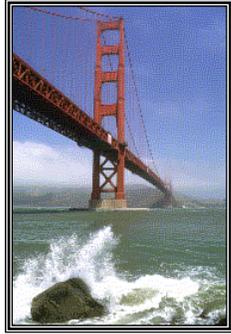
Tips for Success in Mathematics

- ∞ 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

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Revised Spring 2003