Conquering Mathematics Anxiety

Andre Freeman, Ed.D.
Charter Oak State College
What is Math Anxiety

- Feelings of tension, apprehension, or fear related to mathematics or numerical information
- Adverse emotional responses to doing math or the prospect of doing math
- Feelings of worry about experiences with mathematics or the consequences of those experiences

(Beilock & Willingham, 2014; Beilock & Maloney, 2012)
Its Common!

In the United States, an estimated 25% of four-year college students and up to 80% of community college students suffer from a moderate to high degree of math anxiety.

(Jones, 2001; Yeagar, 2012)
What are its implications?

- Compromises working memory contributing to less mathematical cognition
- Leads learners to choose speed over accuracy (i.e. limits mathematical reflection)
- Prevents students from taking mathematics courses and selecting mathematics-related majors and careers

(Beilock & Willingham, 2014; Beilock & Maloney, 2012; Ashcraft & Krause, 2007)
What are its Causes?

- Negative Mathematical Experiences
  - Poor Mathematical Performance
  - Behavior of Teachers
  - Teaching Style of Teachers

- Social Influences
- Deficits in Basic Mathematical Skills
How Can It Be Conquered?

- Strategies to regulate negative emotions

Reappraisal (Reframing) Techniques

- Recognize that physiological responses (sweaty palms, rapid heartbeat) are appropriate and beneficial for learning.
- Think Positively: Believe that a test is a challenge, not a threat!
How Can It Be Conquered?

- Strategies to regulate negative emotions

Expressive Writing

- Write a short essay describing how you feel about taking the upcoming exam. How do your present feelings relate to previous experiences.
How Can It Be Conquered?

- Strategies to reduce anxiety

Be Proactive

- Ask questions
- Read your mathematics text – read the explanations, examples, hints
- Study math according to your learning style (visual, audio, kinesthetic)
How Can It Be Conquered?

- Strategies to reduce anxiety

Study Effectively

- Don’t try to memorize facts and procedures – focus instead on understanding concepts
- Study for periods, then take a break
- Study in relaxed, comfortable environments
- Don’t procrastinate – study regularly
- Use multiple resources
Resources

There are a lot of resources available to you.

- Books
- Websites
- Math Coaches
- Math Tutors
- Your Instructor
You Can Do It!
And Help Is Here!
- Professor Jody Tate, MS
Math Anxiety Bill of Rights

- I have the right to learn at my own pace and not feel put down or stupid if I am slower than someone else.
- I have the right to ask whatever questions I have.
- I have the right to need extra help.
- I have the right to ask a teacher or TA for Help.
- I have the right not to understand.
Math Anxiety Bill of Rights

- I have the right to feel good about myself regardless of my abilities in math.
- I have the right not to base my self-worth on my math skills.
- I have the right to view myself as capable of learning math.
- I have the right to evaluate my math instructors and how they teach.
- I have the right to relax.
Math Anxiety Bill of Rights

- 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.

~ Sandra L. Davis
HELP IS HERE!

0 1) Your instructor is here to help you! Reach out as soon as you have a question or concern.

0 2) eTutoring (click on the e-tutoring link in Blackboard to access FREE help!)
   O Live Tutoring where you can meet with a tutor in one-on-one tutoring sessions via a fully interactive, virtual online environment.
   O Offline Questions where you can leave a specific question for an eTutor who will respond within 48 hours.
HELP IS HERE!

3) Your text and/or your courses learning resource (WebAssign, ALEKS, MyLogicLab, MyMathLab) are wonderful resources
   - Work the examples in the text—they are often VERY similar to the homework problems.
   - If you do not understand something you read or an example, ask your instructor or post your question to the discussion board.
   - Use all available resources (videos, instructor lectures, supplemental websites, etc.)
   - Practice is the KEY to success in mathematics!
HELP IS HERE!

O WEBSITES To Check Out:
O www.khanacademy.org (great videos!)
O www.purplemath.com
O www.coolmath.com
O www.mathisfun.com
O www.wolframalpha.com
O www.youtube.com (search for your topic)
You can learn anything!

http://youtu.be/JC82Il2cjqA

Copy and paste this into your browser to watch a wonderful video on the art of believing in yourself!