

# Conquering Mathematics Anxiety

Andre Freeman, Ed.D.  
Charter Oak State College

# What is Math Anxiety

- o Feelings of tension, apprehension, or fear related to mathematics or numerical information
- o Adverse emotional responses to doing math or the prospect of doing math
- o 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?

- o Negative Mathematical Experiences
  - o Poor Mathematical Performance
  - o Behavior of Teachers
  - o Teaching Style of Teachers
- o Social Influences
- o Deficits in Basic Mathematical Skills

# How Can It Be Conquered?

- o Strategies to regulate negative emotions

## Reappraisal (Reframing) Techniques

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



# How Can It Be Conquered?

- o Strategies to regulate negative emotions

## **Expressive Writing**

- o 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?

- o Strategies to reduce anxiety

## **Be Proactive**

- o Ask questions
- o Read your mathematics text – read the explanations, examples, hints
- o Study math according to your learning style (visual, audio, kinesthetic)



# How Can It Be Conquered?

- o Strategies to reduce anxiety

## **Study Effectively**

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

# Resources

There are a lot of resources available to you.

- o Books
- o Websites
- o Math Coaches
- o Math Tutors
- o Your Instructor





# You Can Do It!

And Help Is Here!

- Professor Jody Tate, MS

# Math Anxiety Bill of Rights

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



# Math Anxiety Bill of Rights

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

# Math Anxiety Bill of Rights

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

~ Sandra L. Davis



# HELP IS HERE!

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

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



# HELP IS HERE!

- o WEBSITES To Check Out:
- o [www.khanacademy.org](http://www.khanacademy.org) (great videos!)
- o [www.purplemath.com](http://www.purplemath.com)
- o [www.coolmath.com](http://www.coolmath.com)
- o [www.mathisfun.com](http://www.mathisfun.com)
- o [www.wolframalpha.com](http://www.wolframalpha.com)
- o [www.youtube.com](http://www.youtube.com) (search for your topic)

# You can learn anything!

🔗 <http://youtu.be/JC82II2cjqA>

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