

Math Anxiety

Are you a student who gets anxious at just the thought of taking that required math class? Do you worry about having to figure out everyone's part of the bill when you have lunch with a group of friends? Do you believe that you simply do not have a math mind? Do you avoid activities or other classes that may involve mathematics? If any one or more of these situations describes you, you may be suffering from Math Anxiety.

What is Math Anxiety?

Math anxiety is an intense emotional feeling of anxiety that people have about their ability to understand and do mathematics. People who suffer from math anxiety feel that they are incapable of doing activities and classes that involve math. Some math anxious people even have a fear of math; it's called math phobia. The incidence of math anxiety among college students has risen significantly over the last decade. Many students have even chosen their college major in the basis of how little math is required for the degree. Math anxiety has become so prevalent on college campus that many schools have designed special counseling programs to help math anxious students. Math anxiety is an emotional, rather than intellectual, problem. However, math anxiety interferes with a person's ability to learn math and therefore results in an intellectual problem.

What Causes Math Anxiety?

Math anxiety does not have a single cause. Often math anxiety is the result of a student's negative or embarrassing experience with math or a math teacher in previous years. Such an experience can leave a student believing him or herself deficient in math ability. This belief can actually result in poor performance, which serves as confirming evidence to the student. This phenomenon is known as the self-fulfilling prophecy. Math anxiety results in poor performance rather than the reverse.

Math Myths

There are a number of erroneous beliefs about math, which contribute to students' fears, and anxiety, about math. Some of those myths include:

- Men are better in math than women. FALSE. Research has failed to show any difference between the sexes in math ability.
- There is a best way to do a math problem. FALSE. Most math problems can be solved a number of ways.
- Some people have a math mind and others don't. FALSE. Most people are much more capable in math than they believe they are.
- It's bad to count on your fingers. FALSE. Counting in fingers actually indicated an understanding of arithmetic.
- Those good in math do problems quickly in their heads. FALSE. Even math professors review example problems before teaching them in class.

Math Games

Math anxiety is often perpetuated by a number of mind games that students play themselves.

- *I don't do math fast enough.* People learn at different rates. How fast one does math is not important.
- *I don't have a math mind.* This belief interferes with one's real ability to learn math.
- *I got the right answer but I did it the wrong way.* There is no best way to do math problem.
- *If I get it right, it's too simple.* Math anxious students often discount their own abilities when they are related to math.
- *Math is unrelated to my life.* Freeing yourself of the fear of math adds choices and freedom to your life

What to do About Math Anxiety

Math anxiety is a learned psychological response to math, which interferes with a student's ability to perform math. It is not a reflection of a student's true ability in math. There are a number of strategies a student can use to overcome the anxiety response. Some of the primary strategies are described here.

- **Review and learn basic arithmetic principles and methods.** Many students, perhaps because of early negative experiences, never really developed a solid foundation in basic arithmetic, particularly multiplication and fractions. Because math is an accumulative discipline, that is complex concepts are built cumulatively on more simple concepts, a student who has not developed a solid arithmetic foundation will have trouble learning higher order math. A remedial course or short course in arithmetic is often a significant first step in reducing the anxiety response to math.
- **Be aware of thoughts, feelings, and actions as they are related to math.** Math anxiety affects different students in different ways. It's important to be familiar with the thoughts you have about yourself and the situation when you encounter math. If you are aware of unrealistic or irrational thoughts you can work to replace those thoughts with more positive and realistic ones.
- **Seek help!** Math anxiety is learned and reinforced over a long period of time and therefore is not quickly eliminated. A student can reduce the anxiety response more effectively with the help of a number of different services. Staff psychologists and counselors in the Student Counseling Services can help students analyze their psychological response to math, learn anxiety management skills, and develop effective coping strategies.
- **Learn the vocabulary of mathematics.** One of the problems students have with math is understanding the terms and vocabulary. Math often uses words in a completely different way than they are used in other subject. The term "factor" is an example. Students often confuse lack of understanding of terms and vocabulary with math ability.
- **Learn anxiety reduction and anxiety management techniques.** Anxiety can greatly interfere with concentration, clear thinking, attention and memory. Students can learn relaxation anxiety

management techniques that are very effective in controlling the emotional and physical characteristics of anxiety that are interfering with mental processing capabilities.

- **Work on having a positive attitude about math.** Having a positive attitude will build self-confidence and thus reduce anxiety.
- **Learn positive self-talk.** Giving yourself positive self-talk helps to counter and overcome your belief in the math myths or to stop playing mind games on yourself. Positive self-talk is effective in replacing negative thoughts, which create anxiety with positive thoughts that reduce anxiety.

Learn effective math class and study techniques

Students who fear math often avoid asking questions to save embarrassment, sit in the back of the classroom, fail to seek help from the professor, and usually put off studying math until the last moment. All of these negative behaviors are intended to reduce the student's anxiety but actually result in more intense anxiety. There are a number of positive behaviors, which actually help the student learn and perform better in math classes.

- First, sit near the front of the class where you will experience fewer distractions and feel more a part of what is being discussed.
- Second, if you have questions, ask! Rest assured that you are not the only one who has the same question you want to ask. Don't be afraid to seek help from your professor after class or during office hours.
- Third, prepare! Read the textbook material before it is discussed in class. Do the problems. Math skill comes from practice and repetition.
- Finally, after class, review the material covered again.

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