

How To Overcome Math Anxiety

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“Say to them that are of a fearful heart,
be strong, fear not . . .”

Isaiah 35:4

Introduction

When you think about learning math, do you ever have a fearful heart, thinking that it is like doing the impossible? If you are afraid of math, then “be strong” and “fear not”! You, too, can learn math! Consider the following story by Ede, who was herself terrified of math. Ede overcame her fear of math, and so can you.

Ede's Success Story

I first attended college in 1966 as a bright eyed, rebellious 60's teenager. I partied way too much and totally blew the opportunity for an education. After two semesters, my parents decided that their money would be better spent elsewhere.

In 1986, married and with three children who were exhibiting signs of being more intelligent than me, I returned to school. I met with a counselor at the local community college who informed me that since I had been to college (at the turn of the century mind you), there were now both math and science required courses. In 1966 you only had to deal with math if your major required it; mine did not.

I immediately told the counselor that there was no way I could "do math." She immediately told me that if I didn't, I would never get a college degree. I went to the testing center and promptly scored in the fourth grade range on the math placement test. To this day, the director tells me no one has ever scored that low! I spent the next term in the math lab getting my very basic skills up to an 8th grade level and then entered beginning algebra.

The first day of class, the instructor passed out a 10 question "pre-test." I, of course, did not know one answer, and I panicked. I ran out of the room, straight to the rest room where I threw-up everything I had eaten for the entire week before the pre-test! When I returned to class (totally mortified and feeling very much less than brilliant) the instructor was assuring the class that the test didn't count for anything and that our grades were for comparison purposes only, etc. When class was over, he asked me to stay, and I didn't let the poor man get a word in edgewise. I just rattled on about how I couldn't do this and how my life was over and on and on. He invited me to

the math lab and also suggested I speak with someone in the counseling office about my math anxiety.

I went to the math lab that afternoon and except for classes, rest room breaks and home to feed the family, I never left! When I graduated two years later, I had successfully passed Beginning and Intermediate algebra, College Algebra, and Statistics. I got A's in all the algebra classes and a B in Statistics! My instructor was incredibly patient with me. I would do one homework problem, and he would check it for me. Then I would move on to the next one. I knew my confidence was building when I finally could go three or four problems before having him check them. When I finally left the math lab, they threatened to bronze my chair!

I also took my instructor's advice and went through a math anxiety program offered by the college's testing and assessment office. I finally learned that throwing up was not acceptable behavior and this time around, I really worked hard at learning math. This go round I didn't waste time "winging it" as I had all through high school so long ago. I was taught to accept math as a puzzle and that I had all the pieces—I just needed to figure out how they went together!

I am more than proud to say that I graduated from the community college, went on to whiz through the University of Central Florida in 3 terms, and graduated with a degree in History and a minor in Geology. A day doesn't go by that I don't use some of the math I learned along the way, mainly statistics, but I would have never gotten there without those basic math classes.

What Is Fear? What Are Phobias and Anxiety?

There are many different types of fears. Lists containing hundreds of named fears and phobias from acrophobia (the fear of height) to zemmiphobia (fear of the great mole rat!) are readily available. Where do fears originate? Are we born with these fears or are these fears learned through experiences? Is there a difference between fears and phobias? To answer these questions, let's first consider some definitions from the American Heritage Dictionary.

Fear (definition #1): “a feeling of alarm or disquiet caused by the expectation of danger, pain, disorder, or the like; terror; dread; apprehension.”

Fear (definition #2): “extreme reverence or awe, as towards a supreme power.”

When we think about fear, it is usually in the context of the first definition, referring to a terror, dread, or apprehension. These fears may be a result of our previous experiences, or perhaps they are a result of a perceived threat. However, sometimes fears build up in our imaginations to the point that they are excessive compared to the reality of the dangers involved. When such a fear is essentially unfounded, we call it a **phobia**. A phobia is a persistent, abnormal, or illogical fear of a specific thing or situation.

A distinction should be made between a fear and a phobia. When fears are founded, they serve to protect us by warning us of danger. Fear of a poisonous snake is both natural and normal, since the snake may be dangerous to us. Fear of heights is a natural and normal fear, in that falling from a cliff or falling from the top of a tall tree could definitely be harmful to us. However, these founded and natural fears sometimes become excessive like phobias, especially when we dwell on them.

As we think about certain dangers, either real or perceived, a certain apprehension called **anxiety** may arise in us. Anxiety is “a state of uneasiness and distress about future uncertainties; apprehension; worry.” However, such anxiety may intensify into “an intense fear or dread lacking a specific cause or threat.” (Both definitions are from the American Heritage Dictionary.) While the first definition of anxiety sounds like a very normal state of concern, in the second definition, anxiety may to be an intense fear, even one without a specific threat. Also, the anxiety may be the result of a very real or merely a perceived threat.

What Are “Math Anxiety” and “Test Anxiety?”

Clearly, the terms **math anxiety** and **test anxiety** refer to a state of uneasiness and distress about math and/or the taking of tests. If these terms refer to a normal state of uneasiness and distress about future events, then this seems quite natural. Unfortunately, for many students, this anxiety associated with math and/or tests may be an “intense fear or dread”, which may seem abnormal. However, it is *not* without specific cause or threat! Math and/or tests provide a very real cause or threat, especially to students who do have not learned how to cope with them! In particular, if you have not prepared for a test by doing all the homework, then your fear of failing the test is very real indeed!

Math Success Strategy

**If you have not prepared for a test by doing ALL the homework,
then your fear of failing the test is very real indeed!**

The rest of this topic will provide some thoughts about math anxiety and test anxiety. If you suffer from math anxiety and/or test anxiety, you are *very* normal, [many people across this country and around the world suffer as you do](#), and [\(the good news!\)](#) there is help available!

Is Fear a Help or Hindrance?

While excessive fear is certainly destructive and painful, a reasonable amount of fear in certain situations is beneficial. For example, as children we must learn to fear and stay away from hot stoves and other things that can be harmful to us. In school as we study for exams in our classes, a reasonable amount of fear is beneficial, providing motivation to increase learning and perform well on the exams. The key word is reasonable. Excessive anxiety results in low self-esteem and poor academic performance. On the other hand, many students who lack even a reasonable amount of fear are equally hindered in learning, since they may lack motivation to study.

Also remember, there is a second and entirely different meaning of fear:

Fear definition #2: “extreme reverence or awe, as towards a supreme power.”

According to this second definition of fear, fear can be extremely beneficial. In order to have a reverence or awe for math by this definition, you would have to really understand it. This context of having an awesome fear of math would be quite the opposite of the fear of the unknown that is usually associated with math anxiety. Most people who fear math do so because they don't know it, and they seem to have no hope of ever being able to learn it. On the contrary, someone who has spent long hours studying and learning math develops this reverence-type fear for *math*. How did this happen? The secret is hours and hours spent with the subject that allows one to know and respect math in its deepest parts. If you spend enough time on math, maybe you can turn fear #1 into fear #2!

Is There a Difference Between Math Anxiety and Test Anxiety?

Since math anxiety has to do with fear of math while test anxiety has to do with fear of tests, these are different, but frequently overlapping topics. Many people who have high anxiety about math have no particular problems with exams in other subjects. Likewise, many people who have no

particular problem with anxiety about math may have high anxiety about taking exams. Of course, some people have high levels of anxiety about math, exams, and math exams in particular! The good news is that those who suffer from math and test anxiety can be helped by spending more time on homework and by following specific strategies outlined in this book to prepare for and take exams.

Can I Measure Math Anxiety?

If you have a problem with math anxiety, you might wonder about how your level of anxiety compares to other students across the country and around the world. Several diagnostic tests have been designed to measure attitudes and levels of anxiety towards math. One of the best known is the Mathematics Anxiety Rating Scale (MARS) by Richard M. Suinn of the Rocky Mountain Behavioral Science Institute at Fort Collins, Colorado. This test can be obtained from your local counselor or by writing to the Institute at Fort Collins. Data to indicate the scores of other students from a variety of majors and colleges can also be obtained to allow you to compare your own scores to those of other students. Other diagnostic tests that measure math anxiety are also available.

How Do I Overcome the Fear of Math?

The first step in overcoming the fear of math is to realize the source of the fear. Remember that you were not born with this fear. The anxiety probably began with an experience or a series of experiences in your past. Since this time, you have probably spent years reminding yourself of how bad you are at math! The good news is that you can change all of that by changing your attitude and your study habits. As evidence that you can succeed in math, read the Student Success Stories throughout this book. These success stories are just a few samples of the many stories of students who, like you, never thought they would succeed in math--*but they did it, and you can too.*

A Student Named J's Success Story

J was a student of long standing anxiety, who summarized her experience in overcoming her fear. The following paragraph explains her story in her own words after taking a one-hour course in math study skills.

This class [MGF 1050 Math Thinking Skills] was quite helpful, but it was not at all what I expected when I registered. I was originally under the impression that this was going to be a class on math and how to understand it. I was pleasantly surprised to find out that we dove much deeper than this. I not only learned tips on studying and learning techniques, but I also learned about myself and how my mind learns. Prior to taking this course, I thought I was learning disabled in math. I thought I would never excel in math. This term has proved me wrong. I have now made my first 100% on a math test, and I have a “B” average in MAT 0024 Basic Algebra. The most important thing I learned was that it wasn't a learning disability that was holding me back—it was fear! When I released my fear, I found I was actually enjoying it. I am recommending this class to several people.

The second step in overcoming the fear of math is that you must realize that the main ingredient in math anxiety is the fear of the unknown. You are afraid of the math because you don't know how to do it. To overcome this problem, you must spend time with it. Perhaps you need to budget your time more carefully, change your priorities, or do something to make more time to spend on math homework.

Your third step is to find an instructor that is sensitive to students with math anxiety. Select an instructor whose explanations you can understand, one who will answer questions without intimidating you. If you do not know the instructors, talk to them or ask enough students who have been in their classes to get some idea of the instructors' priorities, attitudes, and teaching styles. (Before you sign up for the class, you may want to talk to the instructor, or even to observe the instructor's class from outside in the hall.)

Next, be certain you get in the right class. Nothing generates math anxiety like being placed in a math class for which you do not have the necessary, prerequisite skills. Because of the cumulative nature of math, it is critically important that you begin with an appropriate course that covers the right level of math.

Once you are in the right class with the right instructor, try to get to know a few of the students in the class. Establish **lifelines** so you can “**phone a friend**” if you don’t know the answers! If possible, form a study group, and work together with friends before and/or after class. In overcoming math anxiety, it will really help to have a friend, someone you can talk to.

Students who have high levels of math anxiety, usually also have low self-confidence and self-esteem as they relate to math ability. So if you are overcoming math anxiety, you probably need to build your self-esteem. Focus on doing things that will help build your confidence. Get regular outside help (formal or informal tutoring), locate videos, computer software, extra textbooks with user-friendly explanations, and other resources that can help bring the concepts down to a level you can understand.

Math Success Secret

Understanding math concepts is the ultimate antidote to math anxiety!

Even as a child’s fear of the dark is based primarily on the fear of the unknown, once the light is turned on, the fear stops. It is through experience that we learn that the boogie-man is not actually there in the darkness. In a similar way, the more we practice math, the more confidence we gain in our abilities and the less we experience the fear associated with the unknown. Once the math “night light” is turned on, the fear stops.

Math Success Secret

NEVER GET BEHIND IN MATH!

Nothing creates anxiety towards math like getting behind in the homework. It is so important that you **keep up with the homework day by day**. If you don't understand the homework, get help *immediately*!! For most students, math anxiety is not nearly as serious a problem as **math avoidance**. If the truth were known, you probably don't *want* to do the math, and you would probably rather "promise to do it later"! If this is the case, it is really important that you do your math homework *now*! Do the math homework today and every day! Do your math first, before you become too tired to think clearly. Always do the math homework as soon as possible after class, while the explanations are still fresh in your mind. In this way, homework will be easier to understand, so it will take you less time to do your homework. With the right help and discipline, you can do this math!