# Dealing with Math Anxiety

<table>
<thead>
<tr>
<th>Math anxiety is…</th>
<th>Math anxiety sounds like…</th>
<th>Math anxiety looks like…</th>
<th>Math anxiety feels like…</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Feelings of tension that affect the ability to do math</td>
<td>“I have never been good at math.”</td>
<td>- Lack of concentration and/or day dreaming during math class or when doing math</td>
<td>- Increased heart rate</td>
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<td>- Negative attitude towards math or a lack of confidence in math</td>
<td>“I hate math.”</td>
<td>- Giving up half way working through a problem or before you even start doing math</td>
<td>- Sweating</td>
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<tr>
<td>- Fear that one won’t be able to do math</td>
<td>“It’s too hard. I’ll never be able to get it.”</td>
<td>- Skipping math class</td>
<td>- Mind going blank</td>
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<tr>
<td>- Fear that math is “too hard”</td>
<td>“Math scares me.”</td>
<td>- Avoidance of math altogether</td>
<td>- Rapid breathing</td>
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<td></td>
<td>“I am math learning disabled.”</td>
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<td>- Nausea</td>
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<td></td>
<td>“I’m an English person. I am not good at math.”</td>
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<td>- Upset stomach</td>
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<td></td>
<td>“After I’m done with this course, I’ll never take math again.”</td>
<td></td>
<td>- Tenseness</td>
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</tbody>
</table>

Math anxiety has a significant negative impact on learning through math avoidance, poor preparation and study habits, poor math performance, all of which contribute to more math anxiety.

## Causes of math anxiety

Typically math anxiety is linked to a previous negative experience(s) with math. It is often linked to gaps in foundational math skills. Other factors also come into play as described below.

**Family influences**: encouragement (or lack of encouragement) at home to learn math; availability of extra support.

**Societal influences**: in our society, innumeracy is much more accepted than illiteracy; math is viewed as a difficult subject reserved for the very few “smart people”; gender stereotypes also exist (boys are good at math; girls are not).

**School influences**: poor pedagogy; frequent use of timed assessments; misrepresentation of mathematics discipline in school curriculum.

**Internal influences**: fixed vs. growth mindset Individuals with a fixed mindset see failure as an endpoint. Individuals with a growth mindset see failure as opportunity to improve.

**Neurological considerations**: the anxiety triggers parts of the brain associated with pain (Lyons & Beilock, 2012). Interestingly, it is the *anticipation* of doing math that triggers the pain response, not doing math itself.
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Myths and Misconceptions about Math:

- My parents are both not good at math. That’s why I am not good at math either.
- Men are more likely to be good at math than women, because their brains are wired to understand math easier.
- Math is too difficult for an average person to learn.
- There is no creativity in math. It’s all formulas and memorization.
- Certain ethnic groups are better at math than others.
- There’s only one right way to do math.

Strategies and Tips for Overcoming Math Anxiety:

- Know what math anxiety is and how to recognize it.
- Stop all negative self-talk.
- Focus on understanding math, not memorizing.
- Start with easier problems/math concepts first and gradually increase the difficulty level.
- Combat the math avoidance. Attend all math classes and plan to do a little bit of math every day.
- Consider your learning habits and study skills. Always study math when you are most productive during the day and in an environment that is helpful to learning.
- If necessary, go back and review foundational math skills.
- Ask lots of questions in class. No question is a stupid question.
- Understand that there often are multiple ways to solve a math problem.
- Build a positive relationship with your math professor.
- Learn from your previous mistakes. Consider them as opportunities to improve, not failures.
- Reflect on your previous math learning experiences. Recognize bad and good experiences and why you felt that way about them.
- Visualize yourself being successful in math.
- Learn and use relaxation techniques to help alleviate symptoms of anxiety.
- Celebrate your effort and hard work.
- Form a math study group with peers and commit to learning math together.
- Seek help from supports available on campus. GBC’s Tutoring and Learning Centre offers free peer tutoring services in math and English.
- Attend a workshop on test taking strategies (See “Learning and Living Smart” Workshop series at GBC) or other general study skills.