

# FACING SOCIAL FEARS: CONQUERING SOCIAL ANXIETY IN THE REAL WORLD AND WITH THE HELP OF VIRTUAL REALITY

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## YOUNG REVIEWERS:



BRYSON

AGE: 11



DELARA

AGE: 11

Everyone feels anxious at some point in their lives. Feeling anxious can be very helpful when you are in danger, as it reminds you to avoid harmful situations. However, some people have such strong anxiety that it becomes an anxiety disorder. Such strong anxiety can cause problems and distress in people's daily lives, and they may even start to avoid feared situations. There is a specific type of anxiety disorder in which people feel very anxious when they are around others. This is called social anxiety disorder. Fortunately, there are effective ways to help people with social anxiety, one of which is called exposure therapy. This type of therapy helps people to face their fears and learn to control their anxiety. Exposure therapy can be done in the real world or through virtual reality. In this article, we will explain how social anxiety can be tackled with exposure therapy and how virtual reality can help.

## WHAT IS SOCIAL ANXIETY?

### ANXIETY

The unpleasant feeling of worry, fear, and/or nervousness, often about future situations. Anxiety makes people feel uneasy and think negative thoughts.

### ANXIETY DISORDER

Worries or fears become so big and overwhelming that they start to affect everyday life. This can make simple tasks feel really hard and scary.

### SOCIAL ANXIETY

Social anxiety is when someone feels scared in social situations, like talking to people or being in a big group. It makes it difficult to feel comfortable around others.

From time to time everybody feels **anxiety** (even adults!) [1]. People can fear lots of different things, such as snakes, elevators, or tests at school. Occasionally feeling some anxiety is normal, and it helps people stay away from dangerous and harmful things. For example, if you encounter a venomous snake, feeling anxious helps you to get away from the snake and prevents you from getting bitten. However, in some cases, anxiety can become so strong that it is more harmful than helpful. For example, a person might worry that something bad will happen, even if it is unlikely. Because of their anxious thoughts, these people might start avoiding feared situations or experience a lot of distress if they cannot avoid them. For example, you might feel anxious that snakes will attack you when you leave your house, even though snakes are rare in your neighborhood. As a result, you might avoid going outside. This creates more problems because you need to leave your house to go to school or see your friends. When anxiety becomes so strong that you can no longer do everyday things, it is called an **anxiety disorder** [1] (for more information on anxiety in children, see this [Frontiers for Young Minds article](#)). Anxiety disorders can cause all kinds of problems and distress in people's lives. Bodily symptoms such as trembling, sweating, or a fast heartbeat can accompany strong anxiety.

Some people feel anxious when they are around other people. A person might be anxious about giving a presentation, meeting new people, or going to a friend's birthday party. Such social situations make almost everybody feel a little nervous at times, but some people feel strong anxiety in social situations with strangers, friends, or even family members. This is called **social anxiety**, or social anxiety disorder when it is very strong [1]. Social anxiety is one of the most common types of anxiety and it often develops when children are between 8–15 years old. People with strong social anxiety fear that others will think badly about them or reject them, or that others will notice they are anxious. As a result, when they are in social situations, they avoid eye contact, do not speak much, or tremble. Because of all these fears, people with social anxiety might avoid social situations altogether. But that is hard because people are everywhere!

Here is an example. Joey is 10 years old and has strong social anxiety. He is very anxious about various social situations, but speaking in front of other people is his biggest fear. In a few weeks, he must give a presentation in class about his dog, Milo. When Joey thinks about giving this presentation, he feels very anxious. He is scared that his classmates will think that he is stupid or that his presentation is boring, or that they will notice his hands shaking and laugh at him. Even when his parents tell him that his classmates would like to hear about Milo because most of them love dogs too, Joey still thinks his presentation

## EXPOSURE THERAPY

A type of therapy for facing fears, where you gradually get used to the things that scare you. Just like a superhero training to defeat their archenemy, exposure therapy helps you conquer your fears and feel braver.

## VIRTUAL REALITY (VR)

VR is a technology that immerses users in computer-generated environments. It often means wearing a headset that tricks your senses into feeling like you are actually inside the virtual world you are exploring.

**Figure 1**

In a virtual reality exposure therapy session, the person with social anxiety wears a virtual reality headset, through which they are transported to simulated social situations, like parties or conversations with strangers. The therapist guides them through these scenarios, helping them learn coping strategies and gradually face their fears in a safe and controlled environment.

will be a disaster. He even thinks about pretending to be sick that day, so he does not have to present at all.

## HOW TO COPE WITH SOCIAL ANXIETY

Luckily, there are ways to learn how to keep strong social anxiety under control. One method is called **exposure therapy** [2]. This type of therapy helps people face their fears in a safe and supportive environment, with the help of a therapist. Sometimes this involves practicing in real life, but exposure therapy can also be done in a computer-generated environment using a **virtual reality** (VR) headset (**Figure 1**). You may have played games in virtual reality, but it can also be used in therapy. Pretty cool, right?



**Figure 1**

But how do exposure therapy and virtual reality work? And how can they help people control their anxiety? Below, we explain the goal of exposure therapy, how exposure therapy works, and how virtual reality can add to the treatment of social anxiety disorder.

## HOW DOES EXPOSURE THERAPY WORK?

In exposure therapy, people with anxiety learn that the negative things they think will happen will most likely not happen at all [2]. You can see exposure as riding a bike, you have to keep trying. Most people

## INHIBITORY LEARNING

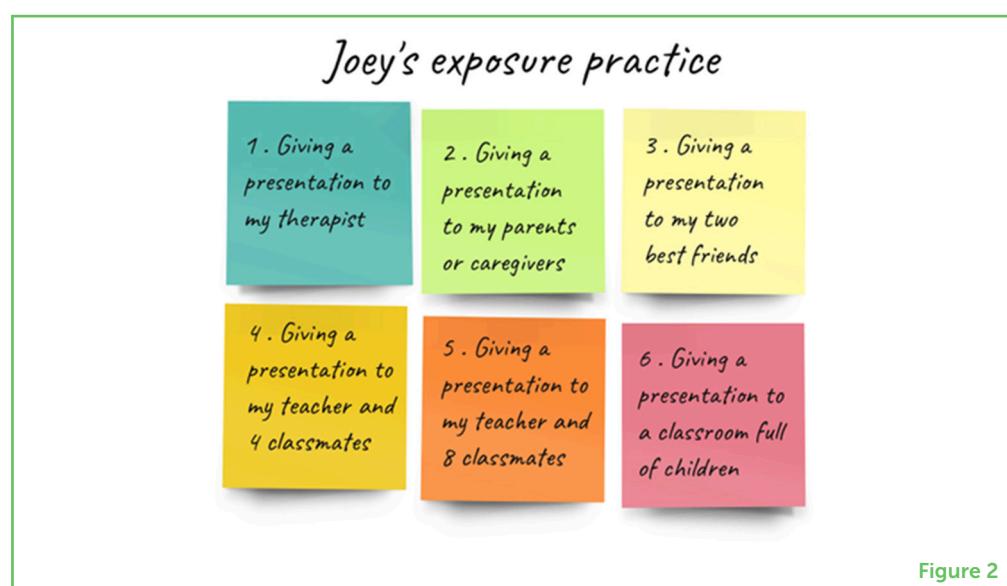
Even though the original fear might not go away, people can feel less anxious by learning that expected fears may not always come true. This helps inhibit the original fear.

have fallen off their bike at some point, but if you never try to cycle again after falling, you will always remain scared of cycling. Exposure means getting on that bike, even though it can be scary, and learning that cycling is not as dangerous as you originally thought. This is why exposure therapy is helpful—because people learn that their fears might not always come true, and this is a type of learning called **inhibitory learning** [2]. For example, if Joey's classmates compliment him on his presentation instead of laughing at him, he might feel less anxious the next time. Over time, positive experiences help people feel less anxious and more confident in their daily lives.

Let us use Joey's fear of speaking in front of others as an example of how exposure therapy works for social anxiety. With the help of his therapist, Joey practices speaking in front of bigger groups, step by step. Together, Joey and his therapist make a list of different situations in which Joey feels anxious and rate those situations from least to most anxiety provoking (Figure 2). Then, they slowly work through all the situations, and Joey is free to pick which one he wants to start with. It is important that Joey feels more confident and less anxious in each situation before practicing the next one. After each exposure practice, Joey and his therapist discuss what Joey learned from the activity. The goal of this kind of exposure therapy is to help people control their social anxiety so that, over time, they feel less anxious in social situations.

**Figure 2**

At the start of (virtual reality) exposure therapy, Joey and his therapist make a list of his feared situations. He rates them from least anxiety provoking (sticky note number 1) to most anxiety provoking (sticky note number 6).



## HOW CAN VIRTUAL REALITY ADD TO THE TREATMENT OF SOCIAL ANXIETY?

Practicing social situations in real life is hard because it is difficult to recreate them. Imagine bringing your therapist to a birthday party!

Luckily, with the help of virtual reality, this is not necessary. Instead, people can practice in a digital world.

In virtual reality exposure therapy, people can experience and practice feared social situations in a way that looks and feels real, so they will behave just like they would if the situation happened in real life [3]. The idea is that, when people later find themselves in real-life social situations, they will feel less anxious. A therapist is always present to help and to create a safe space to practice. Real-life exposure therapy and virtual reality exposure therapy both successfully treat anxiety, and they are equally effective at helping people to feel less anxious [3, 4].

There are some advantages of using virtual reality in the treatment of social anxiety. Social situations are hard to recreate in a therapist's office. Virtual reality is helpful because you only need a headset! Also, virtual reality makes it easier to start with the least anxiety-provoking social situation and work toward the most anxiety-provoking one. Besides that, virtual reality exposure therapy is cheap and can be done multiple times in a short period [5]. Research shows that the effects of virtual reality exposure therapy are **generalizable** to real life [6]. So, for example, if Joey learns how to control his social anxiety when speaking in front of a group in a digital world, he will also be able to control his social anxiety when he is speaking in front of his real classmates. Another important advantage of the virtual world is that it is easier to recreate feared situations that are specific to each person. After all, everyone has different kinds of situations they are anxious about, and this is especially true for social anxiety. However, it is important to note that some people can feel dizzy or nauseous when using virtual reality [7]. When this happens, people can take a break or switch to real-life exercises for a while. After that, you can always try using virtual reality again, just like learning to ride that bike!

## SUMMING UP

Anxiety is something everyone has from time to time. It helps us to avoid danger, but sometimes it causes problems in people's daily lives and becomes an anxiety disorder. When people feel extremely anxious in social situations specifically, it is called a social anxiety disorder. Exposure therapy can help people overcome social anxiety, by facing feared situations and teaching them that their fears probably will not come true. An easy (and fun!) type of exposure therapy uses virtual reality. In virtual reality exposure therapy, social situations are recreated so that people can learn how to control their social anxiety in a digital world. This can help people to feel less anxious and more confident in real-life social situations.

If you feel really anxious in social situations (or about other things), and these feelings are making your daily life difficult, it is important to talk

## GENERALIZABLE

Responding in the same way to different specific situations that share the same properties. This means that what you learn in virtual reality can also apply to real life.

to someone you trust—your parents or caregivers, a family member, a teacher, or a school counselor. These trusted adults can help you find the right healthcare professional, such as a therapist. Remember that it is totally okay to ask for help! Getting support can help you feel more in control of your anxiety and improve your overall wellbeing. There is no need to worry if you feel anxious from time to time—occasional anxiety is normal and generally does not require treatment. We all feel anxious sometimes, and that is OK! However, if you *do* need a healthcare professional to help you with your anxiety, know that they will be glad to do so!

## ACKNOWLEDGMENTS

Written informed consent was obtained from the individual(s) for the publication of any identifiable images or data included in this article.

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**SUBMITTED:** 14 July 2023; **ACCEPTED:** 16 July 2024;  
**PUBLISHED ONLINE:** 02 August 2024.

**EDITOR:** Elizabeth Johnson, Northwestern University, United States

**SCIENCE MENTORS:** Marijn Lijffijt and Mohammad Dastjerdi

**CITATION:** Timmerman N, Wolfert J, Wong AHK, Wening M, Wieser MJ, Harrewijn A and Franzen M (2024) Facing Social Fears: Conquering Social Anxiety In The Real World and With The Help Of Virtual Reality. *Front. Young Minds* 12:1258708. doi: 10.3389/frym.2024.1258708

**CONFLICT OF INTEREST:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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## YOUNG REVIEWERS



### BRYSON, AGE: 11

I am 11 years old and I like playing Minecraft and chilling with my cats.



### DELARA, AGE: 11

I am Delara, I am 11 years old, and I am very exhilarated to review this article. My hobbies are taekwondo, piano, viola, sewing, soccer, and reading. I love reading, and some of my favorite books are Harry Potter, The Hobbit, Esperanza, Rising, The BFG, and Anne of Green Gables.

## AUTHORS



### NICKY TIMMERMAN

I am currently completing my master's in clinical psychology at the Erasmus University Rotterdam in the Netherlands. I am interested in many areas of psychology, for example I would like to learn more about how people's feelings and thoughts affect their relationships with others. By doing research and talking to people, I hope to find ways to help others feel better and have healthier relationships. Aside from that, I really enjoy reading, dancing, and meeting people from different cultures.



### JORDY WOLFERT

I am a curious person who loves to learn about other people and how to help them, so that is why I am currently completing a master's degree in clinical psychology at the Erasmus University Rotterdam in the Netherlands. My first experience in psychiatric interviewing adolescents was at the Erasmus Medical Center in Rotterdam. I have many areas of interest, but my most recent research

focuses on how depression and eating disorders develop in children and adolescents and how the brain plays a role in this. Something I am definitely not anxious about is studying!



### ALEX H. K. WONG

I am an assistant professor at the Clinical Psychology Department at the Erasmus University Rotterdam in the Netherlands. My research interests focus on modeling how people develop anxiety-related disorders. In particular, I am interested in how people acquire fear and avoidance to certain objects and generalize to other objects. I am also interested in how to effectively reduce excessive fear and avoidance, and why people with certain characteristics are more likely to acquire fear and avoidance.



### MANON WENING

I am a mental health psychologist with a background in cognitive behavioral therapy and acceptance and commitment therapy, currently practicing within a clinical healthcare setting. I obtained my master's degree in clinical psychology from the University of Groningen in 2015, along with an honors degree in interdisciplinary leadership. My passion for clinical work emerged during my tenure at a healthcare institution focused on children and adolescents. Subsequently, in 2019, I acquired my license as a mental health care psychologist. I have developed a particular interest in treating trauma, depression, and anxiety, employing evidence-based cognitive behavioral therapies such as EMDR and various forms of exposure therapy, including virtual exposure therapy.



### MATTHIAS J. WIESER

I am a professor of clinical and biological psychology at the Erasmus University Rotterdam in the Netherlands. I am interested in how people develop anxiety and fear, what the underlying biopsychological mechanisms are, and how we can use this knowledge to inform and improve therapies. To investigate this, I conduct experiments using brain measurements such as EEG and using virtual reality to model anxiety-provoking situations.



### ANITA HARREWIJN

I am an assistant professor at the Clinical Psychology Department of the Erasmus University Rotterdam in the Netherlands. I am interested in why some children get anxiety disorders while other children do not. I study different processes that may play a role in this, such as responding to stressful situations (such as giving a speech) and focusing attention on scary things. In my research, I measure anxiety by looking at brain activity, heart rate, sweat responses, and behavior. Aside from that, I love hiking and ballroom dancing!



### MINITA FRANZEN

I am an assistant professor in clinical psychology at the Erasmus University Rotterdam in the Netherlands. I am interested in many areas and topics, including, (treatment of) social anxiety, grief, interpersonal skills, bullying, and depression, and using various methods to study those topics, such as virtual reality and Ecological Momentary Assessment. Besides my research, I love cuddling with my cat Rio, baking and cooking (and eating), and I have many plants at home. I enjoy growing plants like avocados from seeds and pits that are left over from my cooking. \*franzen@essb.eur.nl