

Acrophobia: How it is Developed and Solutions for Eliminating it

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Acrophobia is defined as an extreme fear of heights, and is a very common phobia, occurring in one in every 20 individuals (Coelho, 2010). “Acrophobic behavior involves the avoidance of various height-related circumstances, including stairs, terraces, apartments, and offices located in high buildings, and sometimes bridges and elevators” (Coelho, 2010, p. 864). This phobia has many different effects on its subjects who possess it, both mental and physical (Brandt, 2015). With this multitude of people that have this phobia, scientists are working hard to study why and how it is developed, as well as ways to improve the phobia or even make it go away completely in a person. Scientists are now discovering ways in which acrophobia is developed, one being passed down genetically through family members (Gregory, 2008). Solutions such as an augmented reality system are just one of several new ways to relieve subjects of this phobia (Juan, 2006). Despite the common occurrence of acrophobia around the world, there is much that the public does not know about it.

Developing Acrophobia

There are three types of phobias: specific, social, and agoraphobia. Social phobias cause extreme anxiety in social or public situations. Agoraphobia is the fear of being alone in public places. Acrophobia, however, is a specific phobia; a phobia that focuses on specific objects. Specific phobias are also the most common of the three types (Gregory, 2008). Many studies show that phobias are influenced by environmental factors, which could simply be an exposure to high places as a child, or a traumatic event that occurred that shaped how a person felt about flying in an airplane. However, as mentioned before, studies show that acrophobia can be acquired genetically as well.

Although this a rather recent discovery, scientists are looking further into the idea that phobias are more commonly found in someone whose parents or other relatives possess that same phobia, especially for females, who have a higher probability of having phobias than men (Gregory, 2008). They also examined related levels of anxiety in family members, which has an impact on the likelihood of developing or having a phobia as well. Coelho takes two approaches to phobias in general, explaining that phobias are either developed through feelings of anxiety that causes fear in an individual. In other words, it means “I’m anxious because I fear, and I fear because I’m anxious” (Coelho, 2020, p. 868). The other approach involves a reaction to threat stimuli. It is unclear which is more common in determining if someone has a phobia or not.

Kapfhammer (2015) explained that acrophobia was also a major predictor of later anxiety conditions, especially for women. Acrophobia can increase the chances of developing anxiety in the future, and anxiety can increase the chances of developing acrophobia, or any type of phobia. It was also found that migraines are significantly linked to acrophobia as well, in the same way as anxiety. Migraines can be a result of acrophobia and are more common in individuals with this phobia. They can also increase the likelihood that someone will develop acrophobia.

Another way of developing this phobia stems back to the very beginning of a person’s life. Infants have a higher probability of developing acrophobia at their young age due to how they are parented by their mother or father (Kapfhammer, 2015). When an infant is presented with any type of cliff or a drop off from where they are currently crawling or sitting, their initial reaction to the drop is fear. How their parents react to this can determine what the infant

remembers and how they will react in the future. If the mother or father respond with positive emotional referencing, then the infant will most likely calm down and not see the current situation as a threat. If, however, the mother or father panics and reacts poorly, the infant will recognize their negative emotional reaction and respond negatively to heights. This will cause them to associate the heights with fear in the future (Kapfhammer, 2015).

Physical Reactions to Acrophobia

Many different physical reactions can happen when a person with acrophobia is presented with heights. The main areas that are affected include eye movements, head movements, posture, and locomotion (Brandt, 2015). Brandt (2015) explained that “spontaneous movements of eyes and head were recorded both separately and simultaneously in individuals susceptible to fear of heights and in controls while standing still on an emergency balcony or while walking on the balcony” (p. 39). The most common reaction and quickest reaction to heights in individuals with acrophobia was the rapid eye movement. It was also found that subjects remained rather stiff when walking along the balcony (Brandt, 2015). They avoided looking to the side of the balcony, and kept a very stiff neck and posture.

When individuals were not presented with a balcony, but rather a horizon, two different reactions occurred. While some focused and explored the horizon with their eyes, others froze and stared at a fixed spot into the distance. Posture was also split between being stiff or swaying, depending on what individuals were presented with. Brandt (2015) found that some individuals began to sway when presented with heights and “The increase in body sway amplitudes at heights introduces a real danger of falling from high places” (p. 42). This increased risk of falling

causes individuals to experience even more anxiety than before, and continue to feel more fear towards the situation they are in.

Coelho (2010) explains that many individuals rely heavily on sight to help control their posture and balance. He also explains that “acrophobics report a heightened sensitivity to physical symptoms, such as dizziness, feeling short of breath, or heart palpitations” (p. 865). These are just a few of the many effects that heights have on individuals with acrophobia. These reactions to heights can help scientists to determine whether someone has acrophobia or not.

Kapfhammer (2015) found that people with acrophobia typically have similar reactions to dealing with situations in which heights are presented. When trying to maintain control and balance, individuals will increase their postural sway. This helps these individuals focus on a stationary object in the distance that they think will help them feel less endangered. Unfortunately, most individuals are unaware of this instinctual sway, and it can typically cause feelings of dizziness, vertigo, or emotional upset that will only make their situation worsen (Kapfhammer, 2015).

Solutions for Eliminating Acrophobia

One solution found for reducing the occurrence of acrophobia in individuals is the implementation of an augmented reality system (Juan, 2006). Immersive photographs were taken, and blended together using photoshop to create a 2-dimensional world around an entire 360 degrees. This allowed individuals to look around a virtual location far above the ground, such as a terrace, without actually being there (Juan, 2006). The combination of the lessened fear and reassurance from not being physically present at the location allowed individuals to feel

more confident around heights, and gradually become less anxious and afraid of them in real life. Despite this study having positive outcomes for many participants, it proved to not be as effective as the real world solution. In other words, individuals who overcame their acrophobia without the use of the augmented reality system experienced better results than those who did (Juan, 2006).

This augmented reality system was also involved in a similar test with the same participants. Instead of creating a 2-dimensional world within the system, individuals were presented with just an image of a location far above the ground. Before they were shown the photo, they were brought to the actual location of where the photo was taken, and their reactions were compared. Their ability to recognize that the image was different from being there in real life allowed them to feel less anxiety and be less worried about the dangers of being in that actual location (Juan, 2006).

Conclusion

Acrophobia has existed for many years and as of right now, will continue to be a part of society until a confirmed treatment can be found. While the augmented reality system has proven to work for many individuals, it cannot guarantee the elimination of the phobia within someone (Juan, 2006). It is also more common for an individual to overcome their fear of heights without the help of the augmented reality. Unfortunately, this strategy cannot apply to everyone (Juan, 2006). As of now, it is impossible for every person suffering from acrophobia to be able to overcome their fear on their own or through the help of technology, but there is hope for a cure in the future.

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