

# Anxiety makes us More Susceptible to Danger, But Exercise can help us Change our Minds

Muzamilla Fathima\*

Department of Physiotherapy, All India Institute of Physical Medicine and Rehabilitation, Mumbai, India

## Introduction

We have a unique ability to perceive other living beings' motion. Our brains have evolved to detect movement in the peripheral swiftly and efficiently. When we look at a series of dots used to represent the human form positioned at different regions of the body – dubbed a point-light walker – we can see how well developed this biological motion perception is [1].

The majority of studies use point-light walkers to investigate how our brain detects biological motion. However, as a clinical psychologist in training, I was fascinated by the ambiguity. When you gaze at one of these figures facing you, for example, you have no idea whether you're looking at the front or the back. Surprisingly, most individuals see the walker as facing them rather than away when given this perspective. This facing-the-viewer bias has been seen on numerous occasions, and experts believe it may exist for evolutionary reasons: it's safer to presume that an ambiguously positioned human figure is facing you rather than away.

Researchers discovered that when research participants are shown figures that walk in a more masculine manner (less hip swing, for example), they have higher facing-the-viewer biases than more feminine walkers. Furthermore, when these figurines are turned upside down, observers have a significantly harder time recognising them as humans, and they no longer evoke a facing-the-viewer bias [2,3].

## The Threat Aversion

Anxious people have a strong preference for scary things in their environment. If you show two photographs (one frightening and one neutral), for example, more nervous people will look at the threatening one first – this is known as "threat bias." We discovered that persons who were more apprehensive also exhibited stronger facing-the-viewer biases in our experiment. The more concerned they were, the more biased they became.

Anxiety symptoms are lessened in research when experimenters strive to reduce threat bias (for example, through rewards). Some researchers believe that threat bias is one of the main reasons why anxiety disorders are difficult to overcome, because the more anxious a person becomes, the more likely they are to pay attention to threatening things in their environment or threatening internal stimuli, such as stressful thoughts. This contributes to the perpetuation of illnesses and makes stress reduction more difficult.

Because exercise is known to alleviate anxiety, we first looked to see if it affected facing-the-viewer bias. For ten minutes, subjects were asked to walk, jog, or stand (control group) on a treadmill. We next had them sit at a computer and complete a perceptual task, after which their bias was measured. We

discovered that treadmill users who walked or jogged showed considerably smaller facing-the-viewer biases than those who simply stood on the treadmill.

In a follow-up study, instead of exercising, participants were asked to undertake a progressive muscle relaxation task. Deep breathing was used while flexing and releasing various muscle groups. Progressive muscle relaxation is a well-known anxiety-reduction technique that can also be used to treat various anxiety disorders. When respondents were directed through ten minutes of progressive muscle relaxation, their facing-the-viewer biases were much lower immediately following, compared to a control group who completed a simple word search task for the same amount of time [4].

Both exercise and progressive muscle relaxation have been shown to lessen anxiety. However, our research also shows that these tasks also diminish threat bias in the short term (at least for human point-light walkers). While we don't know how long this impact lasts, this study adds to the growing body of evidence suggesting exercising and relaxing are beneficial activities that people should seek to incorporate into their life. Using point-walkers could be a fantastic technique to quantify reductions in perceived threat after varied activities, while further research is needed.

## References

1. Bodin, Torunn, and Egil W. Martinsen. "Mood and self-efficacy during acute exercise in clinical depression. A randomized, controlled study." *J Sport and Exercise Psychol* 26 (2004): 623-633.
2. Darko, Denis F., S. Craig Risch, J. Christian Gillin, and Shahrokh Golshan. "Association of b-endorphin with specific clinical symptoms of depression." *The Am J Psychiatry* (1992).
3. Howlett, Trevor A., Susan Tomlin, Lewis Ngahfoong, and Lesley H. Rees, Et al. "Release of beta endorphin and met-enkephalin during exercise in normal women: response to training." *Br Med J (Clin Res Ed)* 288 (1984): 1950-1952.
4. Moore, Mike. "Endorphins and exercise: a puzzling relationship." *The Phys and Sports Med* 10 (1982): 111-114.

**How to cite this article:** Fathima, Muzamilla. "Anxiety makes us More Susceptible to Danger, But Exercise can help us Change our Minds" *Physiother Rehabil* 6 (2021):250.

\*Address for Correspondence: Muzamilla Fathima, Department of Physiotherapy, All India Institute of Physical Medicine and Rehabilitation, Mumbai, India, E-mail: muzamillafathima@gmail.com

Copyright: © 2021 Fathima M. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received 03 November 2021; Accepted 16 November 2021; Published 22 November 2021