Research shows that eye movements can be a biomarker for anorexia nervosa | Photo source Pixabay

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RESEARCHERS PROPOSE EYE TEST TO IDENTIFY EATING DISORDER

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The combination of eye tests with anxiety measures, led researchers to distinguish women with anorexia from healthy controls with 92.5 percent accuracy

Spotted: Research carried out by scientists from Australia's Swinburne Anorexia Nervosa Research Group has found a potential biomarker to identify a person's risk of developing anorexia nervosa. The results suggest that measurement of a specific type of twitching eye movement, when combined with anxiety measures, could effectively identify people with, and at risk of developing, anorexia.

The study, which was published in the Australian and New Zealand Journal of Psychiatry, built on prior research into square wave jerk eye movements, which suggested such movements could distinguish patients with anorexia nervosa from others.

Square wave jerks are tiny saccadic eye movements that take the eye off the target. They are involuntary and can be detected by recording if a person presents any brief flickering moments when focusing on a target.

To investigate jerk eye movements as a potential biomarker for anorexia, the researchers recruited a sample of 80 women. One quarter were women currently experiencing anorexia nervosa, while another 25 percent had recovered from anorexia nervosa and were at a normal weight. The final two groups consisted of 20 healthy sisters of women with anorexia nervosa, and 20 women who were healthy and acted as controls.

The researcher came up with an index known as the State Trait Anxiety Inventory, which combines rates of square wave jerks with a measure of anxiety. The results are impressive, suggesting it was

possible to distinguish anorexia nervosa in the sample from healthy controls with 92.5 percent accuracy.

"Eye movements use very specific brain regions, so when we see these types of atypical eye movements, we have a pretty good idea about which brain areas are not working the way they should," explains Andrea Phillipou, the lead researcher on the project. "These areas are also involved in other functions related to anorexia nervosa—such as body image—so it gives us an idea of which brain areas we could target with treatments such as non-invasive brain stimulation."

The results also revealed that square wave jerk rates did not differ significantly between patients currently suffering from anorexia nervosa compared with those who had recovered from the disorder, or healthy sisters of anorexia nervosa patients. This led the researchers to suggest anorexia nervosa may present a genetic predisposition.

The scientists believe that further research could help validate the biomarker as a screening tool and identify individuals at risk.

At Springwise, we have seen other innovations that make use of eye-tracking as a predictive tool. For example, eye-tracking software has been used to identify children with dyslexia.

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Takeaway:

While it is hard to estimate accurately, it is believed that eating disorders affect around 9 percent of the US population. A 2011 analysis of nearly 50 years of data found anorexia nervosa to be the most lethal mental illness. Moroeover, statistics suggest that 26 percent of people with eating disorders attempt suicide. With less than 6 percent of people suffering from eating disorders diagnosed as underweight, it can be hard to identify and properly support people suffering from anorexia. Research also suggests that 28-74 percent of the risk for eating disorders is through genetic heritability. While this can be daunting, it also presents the opportunity to identify people at risk, possibly prevent and better support them.