Believing is Seeing: How Mindset Can Improve Vision

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(PhysOrg.com) -- How you see isn't just about how good your eyes are - it's also about your mindset, according to a study published in *Psychological Science*. For example, in one experiment, if someone was told that exercise would improve their vision, they saw better after doing an athletic activity - jumping jacks - than an unathletic activity with the same effect on heart rate - skipping.

The researchers, led by Ellen Langer at Harvard University, were interested in how the mind and body connect, particularly how mindset affects the body's performance. Langer has studied this kind of connection for decades. "Many of the things that we think we can't do are a function of our mindset rather than our abilities to do them," she says. In this case, she was interested in whether what we think affects how well we see.

People expect to see only the first few lines on traditional eye charts. Volunteers in an experiment who read a eye chart arranged in reverse order (the letters got progressively larger, with the giant "E" in the last row) saw a greater proportion of the smallest letters than when they viewed a traditional eye chart.

Another experiment took advantage of the belief that pilots have good eyesight. College students in the ROTC were brought into a flight simulator, given army fatigues to wear, and told to fly the simulator. They did simple flight maneuvers, then did an eyesight test by reading markings on the wings of planes ahead - actually lines from an eye chart.

A control group of ROTC students was put in the same conditions, but they were told the simulator was broken, and that they should just pretend to fly the plane. The people who had performed like pilots, as opposed to those who just pretended, saw 40 percent better.

These findings suggest that visual acuity is influenced by mindset and might be improved by psychological means. Just being aware of this might help people improve their eyesight, says Langer - if they pay attention to when they can see well and when they can't, for example, or simply believe that they can see better when they aren't sitting in a dark room at the optometrist's office. These findings along with others from Langer's lab lead them to question how many of our limits are of our own making. The research is part of a larger inquiry into the psychology of possibility.

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