Testing shows 3-D movies do not impact balance or coordination

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Credit: AI-generated image (disclaimer)

(Medical Xpress)—A team of researchers with Newcastle University in the U.K. has found no evidence of balance or coordination impairments in people watching a stereoscopic (3D) movie on a television screen. In their paper published in *Royal Society Open Science,* the group describes a test they carried out with volunteers and their results.

As stereoscopic viewing has moved slowly into the mainstream, consumers have begun complaining about adverse effects, such as dizziness, headaches or even nausea—some TV makers have even begun including warnings with their equipment. In this new effort, the researchers set up an experiment to test whether watching a 3D movie on a television screen causes impairments to balance or coordination.

To test for impairments, the researchers recruited 443 volunteers of both genders between the ages of 4 and 82—each was asked to watch the movie *Toy Story*—some were treated to a 2D viewing while others got the full 3D treatment. Afterwards, each of the volunteers was asked to report any negative side effects—they were also asked to wear an accelerometer while taking part in an obstacle course both before and after watching the movie, where they were asked to do things such as walk among blocks with foot holes, walk over a balance beam or guide a loop over a wire with multiple bends in it without touching the wire.

The researchers report that 66 of the volunteers reported adverse effects (including some that did not have the 3D goggles) with just nine claiming to feel faint or dizzy. More importantly, they report that none of the volunteers showed any signs of balance or coordination problems after viewing the movie.

The researchers point out that there's was just one test, conducted using a television screen—other tests will need to be done for films projected onto a screen at a theater, or in other scenarios to determine if watching 3D movies (or playing 3D games, or wandering in virtual 3D worlds, etc.) in any form might cause driving or walking problems. They also suggest it is possible that some reports of negative effects from watching 3D movies might be due to people expecting to feel such things.

More information: Balance and coordination after viewing stereoscopic 3D television, *Royal Society Open Science,* Published 8 July

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Abstract

Manufacturers and the media have raised the possibility that viewing stereoscopic 3D television (S3D TV) may cause temporary disruption to balance and visuomotor coordination. We looked for evidence of such effects in a laboratory-based study. Four hundred and thirty-three people aged 4–82 years old carried out tests of balance and coordination before and after viewing an 80 min movie in either conventional 2D or stereoscopic 3D, while wearing two triaxial accelerometers. Accelerometry produced little evidence of any change in body motion associated with S3D TV. We found no evidence that viewing the movie in S3D causes a detectable impairment in balance or in visuomotor coordination.