The same brain network controls attention in visual and auditory tasks

**Outcome:** Researchers from CELEST, an NSF-funded Science of Learning Center, have found that the same areas of the brain control visual and auditory attention. Using “functional Magnetic Resonance Imaging” to measure the areas of the brain used during different tasks, they discovered that the brain network controlling attention to visual and auditory tasks is shared.

**Impact / benefits:** This work by graduate student Lingqiang Kong and Profs. David Somers and Barbara Shinn-Cunningham is helping scientists unravel how the brain controls attention to different kinds of input, which is important for everything from helping students with attention disorders to understanding the consequences of distracted driving.

**Explanation / background** In order to make sense of all of the things that happens around us, we constantly have to suppress unimportant input. This allows us to make sense of important events, but only because we ignore other details. In the current work, CELEST scientists found that the parts of the brain that control what we attend are the same, whether the information is visual or auditory, even though there are other areas of the brain that are devoted to separately processing either auditory or visual inputs. This result helps explain why we cannot look and listen to different events without missing some parts of the scene, yet also why we can make better sense of competing visual and auditory inputs than two competing visual inputs.

Caption: Areas of the brain used during a demanding auditory task (in red), a demanding visual task (in green), or in both (in yellow).

Credit: The CELEST Center, Boston University

Permission from copyright holder via email or NSF form 1515 to use images publicly.