

# Does cheering affect the outcome of college hockey games?

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Credit: BalticHurricanes/Wikipedia

We all love belting our lungs out at sporting event, hurling insults and encouragements in turn, but does it actually have an effect on either team's performance? A study conducted by a student at the University of Nebraska seeks to answer this question.

The study was performed by Brenna Boyd, an undergraduate research

assistant working under Lily Wang, a professor in the University of Nebraska-Lincoln's Durham School of Architectural Engineering & Construction. Boyd will present her findings at the 170th Meeting of the Acoustical Society of America (ASA), being held Nov. 2-6, 2015, in Jacksonville, Fla.

According to Boyd, her interest in the project stemmed from the the long-standing argument in college football over which team has the loudest stadium.

"I wasn't into football—I was into hockey—so I wanted to know how loud our hockey stadium was, while also learning a little bit more about acoustics," said Boyd. In doing so, she hoped to also determine whether the crowd noise was detrimental to communications on the field.

For her acoustic survey, Boyd measured the [noise levels](#) during four college hockey games played by the University of Nebraska-Omaha team at Omaha's Century Link Center from November 2014 through March 2015. She modelled her study off of a similar 2011 study by Andrew Barnard, a professor at Michigan Technological University, that evaluated the noise levels during college football games. As hockey stadiums have closed roofs rather than open ones, they have the potential to amplify sound by dint of their increased surface area.

For the loudest game, which was a rivalry match with St. Cloud University, the average loudness equivalent level in the student section was 95.5 decibels - the equivalent of hearing a jackhammer from 50 feet away - with a peak of 132 decibels, the equivalent of a jet engine about 100 feet away.

Not surprisingly, Boyd said, noise levels in the student section were consistently louder than the others. When the noise levels were synchronized with game events, Boyd found that there wasn't a strong

correlation between decibel level and goals scored by the home team.

"The loudest game was December 12, and we won that one by one goal, so I think there wasn't enough data to see whether loudness was correlated with how many goals they achieved during the game." In post-game surveys given to the UNO players after each [game](#), Boyd said that the majority reported that the crowd was loud but not distracting—"about 70% between silent and loud"—and that the noise levels didn't prevent them from communicating with their teammates or coach while in play.

Future research for Boyd involves potentially measuring the sound levels at the new UNO stadium, Baxter Arena, to gauge if the venues differ acoustically and whether the players prefer one stadium over another.

**More information:** Presentation #1aNS7, "Measurements and player surveys of crowd noise levels during college hockey games" by Brenna Boyd and Lily Wang, will be take place on Monday, Nov. 2, at 10:15 AM in Grand Ballroom 1. The abstract can be found by searching for the presentation number here:

<https://asa2015fall.abstractcentral.com/planner.jsp>

Provided by Acoustical Society of America

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