

# Choral singing has a soothing effect on heart rate

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This research was conducted by **Björn Vickhoff and eight others** at the **University of Gothenburg, Sweden and five other organisations**.

## Summary

This paper describes a study that showed how group singing affected the heart rate of 15 healthy 18 year olds in Sweden. They all spent five minutes humming, five minutes singing a well-known hymn, then five minutes singing a mantra. Each of the five-minute sessions was separated by a one-minute break. This experiment was complemented by a subsequent case study that sought to examine in greater detail the relationship between singing and various physiological processes: especially breathing and heart rate. Overall the research found that singing can have ‘a biologically soothing effect, and [is] beneficial for cardiovascular function’.

## Singing regulates breathing, which in turn can regulate heart rate

As part of the experiment people were asked to hum a single tone and breathe when required, to sing a well-known hymn with unguided breathing, and to sing a slow mantra which required them to breathe between phrases. The mantra was designed specifically to regulate the breathing so that participants spent 10 seconds singing as they exhaled. Because the people were singing together the research observed that the heart rates of the singers accelerated and decelerated simultaneously. The researchers undertook a more detailed case study that repeated the group singing experiment with five new participants singing alone. They found that different styles of singing led to different effects on people’s breathing, largely as a result of the different intervals in the songs, which regulated their breathing.

# Does group singing lead to a common perspective?

The researchers speculate about how singing together may also lead people to arrive at shared perspectives – as singing can encourage the production of oxytocin (a chemical in the brain which induces bonding), and the fact that heart activity informs brain processes. The logic is that since heart activity synchronises, so might brain activity.

## Keywords

**heart** **singing** **experiment** **Sweden** **choral**

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