



Melbourne School of Psychological Sciences

Plain Language Statement

PROJECT TITLE: **Investigating the Genetic and Environmental Influences on Singing Ability: A Twin Study**

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We would like to invite you to participate in our study: *Investigating the Genetic and Environmental Influences on Singing Ability: A Twin Study*. This research aims to use an online twin study to find out the relative importance of genes and environment in shaping singing ability. The project is supported by the Australian Government through the Australian Research Council's Discovery Projects funding scheme (Project DP170102479).

What is the purpose of the study?

"Why are human beings musical? Why does music evoke powerful and pleasurable feelings in us? Why do so many people find music such an important part of their lives?"

For centuries, many have been intrigued by the expression of musical abilities. Much remains unknown about why and how humans have the capacity to process and produce music. Investigating the genetic and environmental influences on various types of music behaviour can help piece together the puzzle of human musicality. Our twin study on singing intends to contribute an important step towards this goal. Singing behaviour is ideal for such investigation because it is a universal trait present in all human societies. Even though singing behaviour emerges naturally, not everyone sings at the same level of expertise. While it is possible that some individuals are not good at singing because they have not received music training, some musically-untrained individuals are able to sing more accurately than even well-trained musicians. Singing ability also seems to run in some families (e.g., Jackson 5, the Beach Boys and the Corrs, just to name a few). It is therefore conceivable that singing ability is underpinned by genetic influences.

Moreover, singing behaviour is worth investigating because [singing is good for all of us!](#) To help everyone maximise their singing potential and sing more to enjoy singing's numerous benefits, a thorough understanding of the genetic and environmental influences on singing is necessary.

Who is eligible?

We are seeking the participation of identical and non-identical twins aged 15 and above.

*There is absolutely **no requirement** on singing and music ability.*

What would I be asked to do?

After you have indicated your interest in participating to Twins Research Australia (or with us directly, if you are not a member of Twins Research Australia), we will email you a link to our online study which you can access on computer or mobile device anywhere you like (a quiet location is recommended). Please ensure you complete the study by yourself, without your twin being present.

There are several components to complete in the online study:

- 1) Answer some background questions: name, sex, birthdate, email address, languages spoken and education level.
- 2) Do some music and singing activities:
 - a. Sing a familiar song three times*
 - b. Hear and match pitches by moving a pitch slider
 - c. Hear and sing some pitches*

- d. Hear and sing some short melodies*
 - e. Hear 2 versions of a familiar song and judge whether they sound right
- 3) Answer some questions about your music and singing experience (e.g., your childhood engagement with singing and music, any musical training undertaken, interest in singing and music, and self-assessment of musical and singing abilities)

**You will be audio-recorded during these activities.*

It will take you **20-30 minutes** to complete the entire study. You also have the option to save your progress and resume later using a unique link that will be emailed to you if you cannot finish the study in one go.

What are the risks?

It is unlikely you will experience harm during the study. While the risks to you are likely to be minimal, there is a chance that you might experience some fatigue due to the length of the study. To mitigate this possible risk, the online study allows you to save your progress in the study and resume later if you cannot finish the study in one go.

What are the benefits?

You can choose to receive a personalised feedback report (via email) about your singing ability based on the singing activities you have completed. If you and your twin both complete the entire study before 30 September 2019, you will be eligible to enter a lucky draw to win \$1,000 worth of gift cards from selected retailers (i.e., \$500 for each of you). The winning twin pair will be selected by chance. For more information about the lucky draw, please refer to the [terms and conditions](#). Once the study is fully completed, a summary of the findings will also be made available to you. The results may also be disseminated through conference presentations, journal publications or mass media.

How would my confidentiality be protected?

All data collected for the study will remain confidential. It will be used for the purposes of investigating singing ability in twins. It will be stored digitally on a secure, password-protected server and subsequently in a password-protected computer folder, with access limited to members of the research team. The information you provide to the study will not be made available to anyone outside of the research team and the Twins Research Australia without your consent. We will not share personal information among your family members without your consent. Your confidentiality would be protected subject to legal limitations. The results of the research will be published in a form that will not allow individuals to be identified. Your data will be retained for a minimum of five years after the last publication or public release of the work of research. After this period, all digital files will be deleted and hard copy documents will be appropriately destroyed. However, if you are a member of Twins Research Australia, a copy of your data will be lodged with them where it will be retained indefinitely. Your data may be used again for future ethically approved research.

What if I want to withdraw from the Research?

Participation in this research is completely voluntary. You are free to withdraw at any time and to withdraw any unprocessed data previously supplied. This would have no effect on your relationship with any member of the School of Psychological Sciences, Twins Research Australia, or the University of Melbourne. Please note that once your data have been removed, you and your twin will no longer be eligible for the \$1,000 gift card lucky draw.

Where can I get further information?

If you have not understood any of this information please contact any of the researchers listed above. This research project has been approved by the Human Research Ethics Committee of The University of Melbourne. If you have any concerns or complaints about the conduct of this research project, which you do not wish to discuss with the research team, you should contact the Manager, Human Research Ethics, Office for Research Ethics and Integrity, University of Melbourne, VIC 3010. Tel: +61 3 8344 2073 or Fax: +61 3 9347 6739 or Email: HumanEthicscomplaints@unimelb.edu.au. All complaints will be treated confidentially. In any correspondence, please provide the name of the research team or the name or project's ethics ID number.

How do I agree to participate?

If you are registered with Twins Research Australia: Please indicate your consent via the invitation email to allow Twins Research Australia to provide your email address to us. We will contact you shortly to arrange for online participation.

If you are not registered with Twins Research Australia: Please contact Dr. Yi Ting Tan via email to arrange for online participation.

Thank you for taking the time to consider this study.