



Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:

Krause, AE;Forbes, M;Lowe-Brown, X

Title:

Does Reality Television-Style Singing Influence Singing Self-Concept?

Date:

2025-01-01

Citation:

Krause, A. E., Forbes, M. & Lowe-Brown, X. (2025). Does Reality Television-Style Singing Influence Singing Self-Concept?. *Journal of Voice*, 39 (1), pp.280-280.e24. <https://doi.org/10.1016/j.jvoice.2022.06.024>.

Persistent Link:

<https://hdl.handle.net/11343/322020>

Note:

This is an accepted manuscript (“author accepted” version) of an article published in *Journal of Voice* online on 23 July 2022.

This paper is not the copy of record and may not exactly replicate the authoritative document published in the journal. Please do not copy or cite without author's permission. The final article is available, upon publication, at <https://doi.org/10.1016/j.jvoice.2022.06.024>.

You may download the published version directly from the journal (homepage: <https://www.sciencedirect.com/journal/journal-of-voice>).

Published citation:

Krause, A. E., Forbes, M., & Lowe-Brown, X. (2022). Does reality television-style singing influence singing self-concept? *Journal of Voice*, advance online publication. <https://doi.org/10.1016/j.jvoice.2022.06.024>

Does reality television-style singing influence singing self-concept?

Amanda E Krause¹, Melissa Forbes², & Xanthe Lowe-Brown³

¹Department of Psychology, James Cook University

1 James Cook Drive, Townsville, Queensland 4811, Australia

Amanda.Krause1@jcu.edu.au

ORCID 0000-0003-3049-9220

²Centre for Heritage and Culture, School of Creative Arts, University of Southern

Queensland

West Street, Toowoomba Queensland 4350, Australia

Melissa.forbes@usq.edu.au

ORCID 0000-0003-2528-9763

³Melbourne Conservatorium of Music, The University of Melbourne

204-234 St Kilda Road, Southbank, Victoria 3006, Australia

Xlowebrown@student.unimelb.edu.au

ORCID 0000-0001-9064-9329

Corresponding Author

Amanda Krause, amanda.krause1@jcu.edu.au, +61 7 4781 5159

Contributorship

AK and MF collaboratively developed the study, gained ethical approval, and conducted participant recruitment. AK oversaw data collection and conducted the quantitative data

analysis; MF, AK, and XLB interpreted the results. All authors collaborated to draft the manuscript and approved the final version of the manuscript.

Funding Acknowledgement

This research received no funding.

Data Statement

Ethical approval for this project was granted on the basis that participants would explicitly consent to the possible re-use of their data by the researchers, but ethical clearance was not obtained for the sharing of the collected data.

Competing Interests Statement

The authors have no competing interests to declare.

Abstract

Hypothesis: Due to upward social comparison, we hypothesized that exposure to reality television singing (a technically demanding style of contemporary commercial music singing) would negatively influence singing self-concept compared to hearing amateur singers or plain, unembellished singing by professionals.

Study design and Methods: A between-subjects, online experiment was used. A sample of 212 individuals (Mage = 33.14; 69.30% female) participated in the study. After completing a background section, participants were randomly allocated into one of the experimental conditions (hearing one of four versions of a well-known song: a control version with piano and no singing, amateur singing, professional plain singing, and professional singing in the style of reality television singing). Participants were then asked to judge the performance they heard and to respond to items concerning their singing self-concept (including singing ability).

Results and Conclusions: A series of ANCOVAs was used to examine the impact of the experimental condition on the participants' performance judgments and singing self-concept. The amateur singing was judged as the lowest quality. While there was no significant difference by experimental condition regarding possessing good singing ability, the experimental condition did affect people's singing aspirations and perceived ability to sing along with the performers. The pattern of results suggests that exposure to reality television-style singing may have negative impacts on people's singing self-concept via upward social comparison. Self-concept has been identified as an important predictor of musical engagement and participation and plays a role in motivating action. These results encourage music educators, singing voice pedagogues, and community musicians seeking to promote

musical and singing participation to be aware of cultural influences on an individual's singing self-concept.

Keywords: singing ability, singing self-concept, social comparison theory, musical identity, contemporary commercial music singing

Does reality television-style singing influence singing self-concept?

Reality television is a global cultural phenomenon.^{1,2} One popular format of reality television is the singing competition. For example, *Popstars* in the UK spawned the global juggernaut *Idol* in 2001,³ and many other televised singing competitions followed, including *The Voice*, *X Factor*, *Got Talent* and *The Masked Singer*. For over two decades, these shows have been highly successful in capturing world-wide audiences and generating billions in advertising revenue.⁴

Research on reality television singing shows has been conducted across multiple disciplines, including popular musicology and cross-cultural studies,³ disability studies,⁵ music education,¹ and sociological studies on class, gender, and fame.^{6,7,8,9} Although there is significant popular interest in the singing portrayed on reality television as evidenced by viewership alone,¹⁰ there are only isolated examples of extant research on the reception and influence of *the style of singing* on reality television singing shows. For example, Robinson¹¹ considers reality television and implications for singing teaching, and Hartwig and Riek¹² investigate the impact of *The Voice* in the school choral context.

The expectation that reality television singing contestants sing “harder, higher, and louder”^{13,p185}—and the apparent necessity to adopt this technically and stylistically difficult form of singing to win—communicates to millions of viewers worldwide that to sing well is to sing like the winning contestants.¹⁴ This singing style generally involves performing contemporary commercial music using belt voice and chest-mix voice qualities at increasingly higher pitches during performance climaxes to elicit astonished reactions from studio and television audiences.¹³ Belt is an acoustically and perceptually distinct voice quality¹⁵ used in much contemporary commercial music singing¹⁶ where the singer carries chest voice above the *primo passaggio* and uses sophisticated acoustic and physical strategies

to achieve loud phonation and a bright timbre.^{15,17} Chest-mix voice involves some registrational transitioning of the vocal apparatus while maintaining adduction of the vocal processes and increased use of the thyroarytenoid muscle¹⁷ coupled with acoustic strategies to maintain a strong vocal quality on higher pitches, although it is acknowledged that there is great variability in the literature on the definition (and even the existence) of mix voice.¹⁵ Using belt or chest-mix voice qualities on high pitches is technically demanding and the ability to do so is commonly the result of significant vocal training.

With these characteristics of reality television singing in mind, Bartlett¹³ has argued that it is reasonable to consider that the dominance of global reality television singing shows may be influencing public attitudes towards singing.¹⁰ We argue further that it is also reasonable that this phenomenon may also influence an individual's attitude to their own singing. In a recent study on voice and self-perception, Chong et al.¹⁸ noted the scarcity of research on the factors which influence voice self-perception in both speaking and singing contexts. The global cultural phenomenon of reality television singing shows warrants research which considers whether the style of singing promoted by these shows affects people's perception of their own singing ability.

Background

Singing ability, identity, and singing self-concept

Singing is a universal human trait which emerges “spontaneously and precociously” during our development as naturally as speaking.^{19,p1182} Singing ability and musicality more broadly are considered innate,²⁰ and in most cases, can be developed.^{21,22,23,24} However, as Honing²⁵ notes, our surroundings will play a large role in what we do with our innate abilities throughout life. For example, a careless word from a choral director, parent, or peer, may lead to a belief that one is “tone deaf”.²⁶ Around 15% of people falsely believe they are tone deaf

and equate this with an inability to sing.²⁷ True tone deafness—a feature of *amusia*, or the inability to recognize musical pitches and rhythms—is rare, affecting 1.5% of the population.²⁸ Therefore, a reasonable proportion of people mistakenly consider themselves to be “tone deaf”. Recent research supports the earlier findings of Sloboda et al.,²⁷ demonstrating that people who sing accurately may rate themselves as “untalented or not a good singer”^{23,p19} (for a recent study on professional singers’ self-evaluation, see Larrouy-Maestri et al.²⁹). These beliefs develop despite the research which demonstrates that most people *can* sing in tune and in time with reasonable accuracy¹⁹ with the general population tending towards accurate pitch-matching.²³

Inaccurate evaluation of singing ability can be further explained by the broader cultural context. As Dalla Bella et al.¹⁹ note, there is a common belief that singing well is uncommon and requires formal vocal or musical training. The somewhat rigid categories of “musician” and “non-musician” persist in the popular Western imagination.^{30,31} Within music psychology literature, there is a general consensus that a “musician” has at least six years’ musical training.³² Thus, Western cultural norms mirrored in the music psychology literature perpetuate the notion that a musician is a *trained* singer, instrumentalist, or composer.^{33,34,30} This bifurcation of “musician” and “non-musician” has implications for musical and singing engagement. Krause et al.³⁵ found that some individuals ceased participating in musical activities based on an assumption that musical participation required a specific level of musical skill and expertise. A person’s beliefs and attitudes towards their own abilities can therefore act as a barrier to participation.^{36,27}

Constructing self-concept

There is a degree of ambiguity and variability in the literature when defining identity and self-concept, with the terms often used interchangeably and theorized variously as

immutable or changeable—or a complex interplay of both. While the term “identity” is a broad multi-disciplinary term used in philosophy and sociology, “self-concept” is more prominent in psychology.⁵⁹ Within the literature on music and identity, and drawing on the psychological literature, self-concept is “based on self-awareness, related to self-perception, leading to self-description, and influencing thinking, feeling, motivation, expression, and action”^{59,p267}. As Spychiger⁵⁹ explains, self-concepts are agential in that they powerfully predict confidence and our thoughts about ourselves. Extrapolating from this, we would expect singing self-concept to moderate how people behave, and how they describe, feel, and think about singing, particularly in regard to their own ability, level of confidence, and motivation to participate. Further, we adopt the position that identity and self-concept are context dependent; we think about ourselves and who we are differently depending on the situation.³⁷ Perceptions of self can be provisional in that we may understand ourselves differently depending on the situation, context, or activity.³⁸ The concept of “provisional selves” acknowledges that self-concept is socially and culturally constructed, subject to constant change, and context-dependent.^{38,39} Further, within experimental research such as the current study, the idea of “working self-concept” is a useful point of departure for exploration. Working self-concept refers to “the part of the self-concept that is relevant or made salient in a particular situation”.^{39,p500,40}

In this study we are concerned with exploring a specific aspect of cultural influence on working self-concept, namely the influence of singing style (as pervasively portrayed on reality television shows) on singing self-concept. Singing self-concept includes self-perception of singing ability. There is a longstanding view of self-concept as a social product, yet the idea that culture may influence self-concept has only been the focus of research in recent decades.³⁹ As Oyserman explains, earlier conceptualizations of self-concept considered proximal influences to be constitutive, such as one’s close relationships and

interactions, the social context, and our perceptions of how others view us.³⁹ More recently, however, distal influences such as broader historical and cultural factors, are also considered to play a role in the social construction of the self.³⁹ It is therefore important and timely to consider features of the broader cultural frame when studying how the self is being conceptualized within a particular domain such as singing.

Social comparison theory

Social comparison theory was first posited by Festinger⁴¹ in 1954 who argued that people have an innate need to evaluate themselves accurately and objectively, and that, in the absence of objective measures, comparison with others often provides a yardstick from which evaluations can be made. The theory has developed substantially since Festinger's formulation, and scholars now acknowledge that social comparison often results in biased views of the self, depending on a person's motivation for self-evaluation.⁴² As Dijkstra et al.⁴² outline, later views of social comparison theory consider that people may engage in social comparison for the purposes of self-improvement or self-enhancement.^{43,44} Social comparison can result in positive or negative affect.⁴² Relevantly for the current study, later views of social comparison theory acknowledge that the social environment may impose unwanted comparisons.⁴⁴

Social comparison can be upward or downward. Comparing oneself to others who are perceived as better, or superior, is upward social comparison. This can conjure "upward assimilative emotions" of inspiration and optimism for individuals, as the "superior example" they are comparing themselves to motivates them to improve their own abilities.^{45,p176,186} This desire to improve that arises from upward social comparison is similar to the concept of growth mindset.⁴⁶ People with a growth mindset regarding singing believe that singing is a learned skill and that their singing abilities can be improved with persistent practice.⁴⁷ On the other hand, upward social comparison can also lead to "upward contrastive emotions"

including depression, envy, and resentment⁴⁵ (see for example, deVries et al.⁴⁸ on social comparison via social media and negative affect). In the music context, Sloboda et al.^{27,p258} describe the negative impact that upward comparison can have: “accounts from people with negative musical self-concepts are full of unfavorable comparisons of their own abilities with the abilities of others”. Therefore, comparing one’s singing ability to someone with a higher skill level may be demotivating and prohibit improvement resulting in a fixed mindset that singing is an innate skill which cannot be enhanced.⁴⁷ On the other hand, downward social comparison refers to the process of comparing oneself to others who are worse off or inferior.⁴⁵ This can have positive implications for self-esteem, but it can also lead to feelings of pity. Ultimately, social comparison can both positively and negatively affect personal well-being.⁴⁹

Aim and Research Question

The aim of this study was to consider a specific and pervasive cultural influence on singing self-concept. We asked, “How does exposure to examples of varied types of singing including the style portrayed on reality television shows influence participants’ own singing self-concept?” Considering social comparison theory and upward social comparison, we hypothesized that exposure to reality television-style singing may negatively influence participants' singing self-concept compared to hearing amateur singers or plain singing by professionals.

Such an investigation has important implications for singing participation, which has been shown to have significant health and well-being effects in adults.⁵⁰ Self-concept has been identified as an important predictor of musical engagement and participation, often ahead of objective measures of ability.³⁶ Self-concept is said to play a fundamental role in motivating action.³⁹ Identifying cultural factors which might influence singing self-concept positively or negatively can promote a better understanding of singing participation across

music and general education,³⁶ singing for health and well-being,⁵⁰ and everyday musical engagement.⁵¹

Method

Design

A between-subjects experiment was used to address our study aim. Participants were randomly allocated to one of the four conditions, such that they were exposed to one of four audio clips (see Stimuli section for further details). The study received ethical approval from [reference removed for blind review]’s Human Ethics Research Committee (H8209).

Participants

In total, 272 people took part in the study; however, 39 respondents were excluded because they did not reside in Australia and a further 21 people were excluded because they did not complete the study’s experimental component. Thus, analyses were conducted on the sample of 212 Australian residents who completed the experiment. Table 1 details the study sample’s characteristics.

Australian residents were recruited via university research participation schemes and online advertising. While participation was voluntary, those who participated through a university research participation scheme received course credit as compensation.

Table 1.
Sample characteristics.

Sample	Age	Gender	Musicianship
Total (<i>N</i> = 212)	17-78; <i>M</i> = 33.14, <i>Mdn</i> = 28, <i>SD</i> = 15.52	69.30% female, 29.20% male, 0.90% non- binary, 0.50% declined to report	13.20% professional, 10.40% semi-professional, 23.60% amateur, 11.80% occasional, 41.00% hardly ever play(ed)
Control condition (<i>n</i> = 54)	17-65; <i>M</i> = 32.89, <i>Mdn</i> = 29, <i>SD</i> = 14.76	74.10% female, 25.90% male	11.10% professional, 13.00% semi-professional, 22.20% amateur,

Amateur condition (<i>n</i> = 53)	17-77; <i>M</i> = 30.89, <i>Mdn</i> = 24, <i>SD</i> = 15.97	77.40% female, 22.60% male	9.30% occasional, 44.40% hardly ever play(ed) 13.20% professional, 5.70% semi-professional, 30.20% amateur, 9.40% occasional, 41.50% hardly ever play(ed)
Professional: traditional condition (<i>n</i> = 55)	18-78; <i>M</i> = 33.57, <i>Mdn</i> = 30, <i>SD</i> = 15.48	65.50% female, 32.70% male, 1.80% non-binary	16.40% professional, 9.10% semi-professional, 16.40% amateur, 14.50% occasional, 43.60% hardly ever play(ed)
Professional: embellished condition (<i>n</i> = 50)	18-78; <i>M</i> = 35.34, <i>Mdn</i> = 32, <i>SD</i> = 16.01	60.00% female, 36.00% male, 2.00% non-binary, 2.00% declined to report	12.00% professional, 14.00% semi-professional, 26.00% amateur, 14.00% occasional, 34.00% hardly ever play(ed)

Stimuli

Participants heard a one-minute audio clip of a recorded performance. Each audio clip featured a male and female singing “Happy Birthday” in the key of F major (approximately 30 seconds each, which were combined to create an audio file of one minute’s duration). Because participants were randomly assigned to one of the four conditions, we produced clips that included both male and female versions for balance and to match representation on reality television singing shows. A sound engineer mixed the audio clips to achieve a highly consistent average intensity across samples. When using computer speakers at a moderate volume, this resulted in an average intensity level of 45 dB. These audio recordings were created for the purposes of the research.⁵² As Second Author, et al.⁵² outlined, instructions were provided to the singers to guide their approach:

1. Professional: plain version—two professional contemporary commercial music (CCM) singers (one male, one female) were directed to sing without any embellishment (melodic or rhythmic).

2. Professional: embellished version—the same professional singers were directed to sing a highly embellished version which used belt and/or chest mix in the style of reality television singing (noting that we used *The Voice* as a reference term of convenience for the style of singing commonly portrayed on reality television shows when giving these instructions, as it was a readily identifiable, popular example).
3. Amateur version—two amateur, untrained singers (one male, one female) were directed to sing “as they would normally sing the song” with basic direction from the second author as to tempo to ensure the audio file was similar in length to the professional versions.
4. Control: piano version—an instrumental version played on piano (with no vocals).

Measures

Demographics

Participants provided demographic information (i.e., age, gender, country of residence) and were asked to indicate their level of musicianship via a one-item measure by Kreutz et al.⁵³ which asked participants to select from the following options: *Professional*, *Semi-professional*, *Amateur*, *Occasional*, *Hardly ever play or played*, and *Other (please specify)*.

Goldsmiths Musical Sophistication Index (Gold-MSI)⁵⁴

This self-report measure includes 39 items concerning six aspects of musical expertise including active musical engagement (e.g., “I keep track of new music that I come across”), perceptual abilities (e.g., “I can compare and discuss differences between two performances or versions of a musical piece”), musical training (e.g., “I engaged in regular daily practice of a musical instrument including voice for ___ years”), singing abilities (e.g., “After hearing a new song two or three times I can usually sing it by myself”), emotions (e.g., “I am able to

talk about the emotions that a piece of music evokes in me”), and general musical sophistication, which draws on items from all five sub-scales. Participants were asked to indicate their level of agreement with 31 items on a seven-point scale (1 = *completely disagree*, 7 = *completely agree*), to insert a number for the seven questions querying about quantities (e.g., “I can play ___ musical instruments”), and to state the instrument they play best. This measure is widely used to measure the construct of musicality.^{55, 56, 57} In the current study, we were particularly interested in participants’ singing abilities, and used Müllensiefen et al.’s⁵⁴ coding to create a singing abilities score for each participant for use in subsequent analysis. The items in the singing abilities sub-scale possess very good internal reliability (Cronbach’s alpha = 0.870 in both Müllensiefen et al.⁵⁴ and Baker et al.⁵⁸ and .837 in the present study).

Performance Judgement

Participants were asked to judge the performance they heard via a set of seven items.⁵² We developed these items to gauge respondents’ perceptions of performance quality (e.g., overall, as well impressions of technique and training) as well as their perceptions of being able to sing along with the performers (all items appear in Table 2). Participants were asked to indicate their level of agreement with each of the items using a five-point scale (1= *Strongly disagree*, 5 = *Strongly agree*).

Singing Self-Concept

As discussed in the Introduction, self-concept relates to self-perception, which results in self-description; self-concept influences thoughts, feelings, motivation, expression, and action⁵⁹ and can be domain or context-specific.³⁷ In this study, participants’ perceptions of their singing self-concept were measured using an adapted version of Spychiger’s⁵⁹ self-report questionnaire. Our measure consisted of 17 items: 12 items were taken from

Spychiger's⁵⁹ questionnaire (specifically, 10 items from the "musical ability" subscale [e.g., "My singing ability is above average"], "To perform on stage is easy for me" from the "communication" sub-scale, and "I would like to have a greater understanding of singing" from the "ideal musical self" sub-scale). Five items were developed specifically for this study based on the pedagogical perspective of a practitioner in the field regarding singing confidence and knowledge of singing voice production (e.g., "I don't like singing on my own", "I understand how to get the best sounds from my voice"). To measure singing self-concept specifically, we worded all 17 items to address "singer" or "sing" (rather than "musician" or "music"; all items appear in Table 3). Participants were asked to indicate their level of agreement with each of the items using a seven-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*). Fiedler and Spychiger⁶⁰ report good reliability for the "musical ability" subscale (Cronbach's alpha = 0.767) and the "ideal musical self" subscale (Cronbach's alpha = 0.799).

Procedure

Participants accessed the study (hosted by Qualtrics) using a direct weblink. Individuals indicated their consent to take part in the study by answering a yes/no item prior to viewing any of the study content. After completing the background section (including the demographic questions and GOLD-MSI), Qualtrics randomly allocated the participants to one of the four conditions to complete the experimental task. Instructions were provided, asking participants to "ensure that you are wearing headphones at a loud, but comfortable, level".

After listening to the audio stimuli, participants were asked to complete the set of performance judgment items and then to respond to the singing self-concept items.

Participants were debriefed via a final webpage. Participating in the study took approximately 20 minutes.

Data Analysis

Prior to conducting the analyses to address the research question, we performed two principal components analyses. Firstly, a Principal Components Analysis with Promax rotation was used to examine the structure of the participants' responses to the seven performance judgment items. As seen in Table 2, the findings indicated a two-factor structure reflecting an evaluation of performance quality and the consideration of being able to sing along with the performers in alignment with a previous study.⁵² Thus, these two factors were labelled: (1) "performance quality" and (2) "sing-along ability". Resulting scores for these two factors were used in subsequent analysis.

Table 2.
Loadings for principal components analysis with promax rotation of the items concerning participants' judgements of the audio heard.

Item	Factor ^a	
	1	2
The quality of the performance was high	.901	
The performer/s sounded like a professional to me	.896	
The performer/s had good technique	.879	
The performer/s has had a lot of training	.796	
I relate to the sound the performer/s was making	.412	.334
I would be able to sing along with the performer/s		.810
The song would be hard to sing		-.595
Eigenvalue	3.207	1.139
Percentage of Variance	45.819	16.275
Cronbach's alpha	.874	.657

^a Factor 1 = performance quality, Factor 2 = sing-along ability. *Note.* Values < .3 suppressed.

A second Principal Components Analysis with Promax rotation was used to examine the structure of the participants' responses to the 17 singing self-concept items. A three-factor structure accounted for 56.324% of the variance. Given the pattern of item loadings (see

Table 3), the factors were labelled as “Possessing good singing ability,” “Preference for group rather than solo singing”, and “Singing aspirations”, respectively. The resulting factor scores were used in the subsequent analysis, representing dimensions of the participants’ perceptions of their singing self-concept.

Table 3.
Loadings for principal components analysis with promax rotation of the items addressing the participants’ perceptions of their own singing abilities

Item	Factor ^a		
	1	2	3
I have the ability to teach other people about singing.	.925		
My singing ability is above average.	.916		
I can sing well.	.906		
I have no singing talent.	-.903		
I am an expert as regards to certain singing styles.	.807		
I understand how to get the best sounds from my voice.	.797		
I feel that I am or could become a great singer.	.734		
I easily hear harmonics and can sound out voices.	.722		
Being a competent singer means a lot to me.	.704		.318
To perform on stage is easy for me.	.617		
I am challenged to make the most of my singing ability.	.443		.388
When I sing it feels physically uncomfortable.	-.402		
Learning to sing is too laborious to me.			
I don’t like singing on my own.		.826	
Singing with others is easier than singing by myself.		.593	
I wish I was a better singer.			.685
I would like to have a greater understanding of singing.			.647
Eigenvalue	7.526	1.046	1.003
Percentage of Variance	44.273	6.151	5.901
Cronbach's alpha	.914	.631	.595

^a Factor 1 = Possessing good singing ability, Factor 2 = Preference for group rather than solo singing, Factor 3 = singing aspirations.

Note. Values < .3 suppressed.

To address our research question, and specifically examine the impact of the experimental condition on the participants’ performance judgment and singing self-concept scores, we used one-way analysis of covariance (ANCOVA) implemented in SPSS (v.27). As it was expected

that previous music experience would impact the relationship, the GOLD-MSI singing

abilities score was included in the analysis as a covariate. In total, five ANCOVAs were performed, for which each of the three singing self-concept scores and two performance judgement scores served as the dependent variable. **Results**

In four of the ANCOVA models, there was a statistically significant main effect for the GOLD-MSI singing abilities score, such that a higher level of singing ability was associated with a higher score concerning Possessing good singing ability, Preference for group rather than solo singing, Singing aspirations, and Sing-along ability (see Table 4). Moreover, after accounting for the effect of participant's GOLD-MSI singing abilities score, there was a statistically significant effect of the experimental condition in three of the five models: Singing aspirations, Performance quality, and Sing-along ability (see details in Table 4). The pairwise comparisons are detailed in Table 5. Results indicated that for Singing aspirations, the participants who heard the ‘control: piano’ version (with no vocals) were significantly more likely to have a greater desire to improve their singing than those participants who heard the ‘professional: embellished’ version. Regarding performance judgements, the ‘professional: plain’ version was rated significantly higher in terms of its performance quality than the ‘control (piano)’ and ‘amateur’ versions. Additionally, the ‘control (piano)’ and ‘professional: embellished’ versions were rated significantly higher in quality than the ‘amateur’ version. Concerning sing-along ability, the significant contrasts indicated that compared to the ‘professional: embellished’ version, participants indicated they would be more able to sing along to the ‘control: piano’, ‘amateur’, and ‘professional: plain’ versions. The remaining pairwise comparisons were non-significant.

Table 4.
Results of the ANCOVAs

Model DV	Result concerning experimental condition	Result concerning GOLD-MSI singing abilities, the covariate
Possessing good singing ability	$F(3, 192) = 0.910, p = .437, n^2 = .014$	$F(1, 192) = 384.991, p < .001, n^2 = .667$

Preference for group rather than solo singing	$F(3, 192) = 1.532, p = .208, n^2 = .023$	$F(1, 192) = 47.287, p < .001, n^2 = .198$
Singing aspirations	$F(3, 192) = 3.556, p = .015, n^2 = .053$	$F(1, 192) = 28.343, p < .001, n^2 = .129$
Performance quality	$F(3, 197) = 17.981, p < .001, n^2 = .215$	$F(1, 197) = 0.398, p = .529, n^2 = .002$
Sing-along ability	$F(3, 197) = 37.051, p < .001, n^2 = .361$	$F(1, 197) = 27.808, p < .001, n^2 = .361$

Table 5.
Pairwise comparisons from the ANCOVAs concerning Singing aspirations, Performance quality, and Sing-along ability.

Pairwise comparison	Mean difference (Standard error)		
	Singing aspirations	Performance quality	Sing-along ability
Control: piano – Professional: plain	.317 (.156)	-.635 (.168)**	.298 (.132)
Control: piano – Amateur	.256 (.158)	.578 (.172)**	.230 (.134)
Control: piano – Professional: embellished	.519 (.161) **	-.307 (.174)	1.333 (.136)***
Professional: plain – Amateur	-.060 (.157)	1.213 (.171)***	-.069 (.134)
Professional: plain – Professional: embellished	.202 (.160)	.328 (.172)	1.035 (.135)***
Amateur – Professional: embellished	.263 (.162)	-.886 (.177) ***	1.103 (.138)***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

In much the same way as fashion models represent unattainable ideals of physical beauty for members of the general public, elite singing as portrayed in reality television singing shows valorizes a style of singing beyond the technical capability of most. Moreover, one of the central tropes of reality television shows is the unique “story” of participants, usually involving a triumph over adversity.⁵ This somewhat manufactured claim to uniqueness mirrors the common cultural phenomenon that many singers cultivate a unique image to stand out in the marketplace. For listeners, these factors may often lurk beneath the surface of conscious awareness when simply enjoying a musical performance.

It is perhaps not unsurprising, then, that the literature on singing ability and singing self-concept paints a fairly dim picture of people's beliefs about their own singing abilities. First, a reasonable proportion of people consider themselves to be tone deaf²⁷ or "not a good singer" when in fact the tendency within the general population is towards accurate singing.²³ Second, there is a common view, at least within Western societies, that singers and/or musicians are "trained".^{19,30,31} With these points in mind, and considering upward social comparison, we hypothesized that exposure to reality television-style singing (a technically demanding style of contemporary commercial music singing) may negatively influence participants' singing self-concept (including considerations of ability) compared to hearing amateur singers or plain, unembellished singing by professionals. This hypothesis was underpinned by the pervasiveness of reality television singing competitions in popular culture,^{1,10} and the portrayal of winning singers as requiring significant technical singing ability, displaying a level of expertise beyond most viewers.¹⁴ Such pervasive exposure may create expectations among viewers of their own singing which is "completely unrealistic and unsustainable".^{13,p185}

In relation to perceptions of performance quality, our results indicated that the 'amateur' version was judged to be of a lower quality than the 'professional: plain' and 'control: piano' versions. These results demonstrate that participants are interpreting these performances differently, as we intended. The lack of any significant difference in perceived performance quality between the 'professional: plain' and 'professional: embellished' versions aligns with Second author, et al.'s⁵² findings indicating both professional singing styles were evaluated equally by participants as "good singing."

The results demonstrated that there was no significant difference by experimental condition regarding Possessing good singing ability. However, people's level of musical training (specifically singing ability as measured by the GOLD-MSI) demonstrated a

significant positive association with Possessing good singing ability (as a covariate in the model). Given that this factor is defined, in part, by people's knowledge about singing, it may be that their level of training supersedes the impact of listening to one short audio clip in isolation. As past research has found, ability is often perceived to be aligned with training (e.g., notions that musicians are trained singers, instrumentalists, or composers^{19,33,34,30}). One's personal history of music education and training will always factor into their singing self-concept. While the present study's design was limited in using a short audio clip, future research is needed to continue to investigate our hypothesis more extensively; for example, to examine the singing self-concepts held by long-time reality singing television viewers, particularly those without any musical training.

After controlling for people's level of singing ability, our results indicate that compared to the participants who were exposed to the 'professional: embellished' version, those who heard the 'control: piano' version were significantly more likely to have a greater desire to improve their singing. While this was the only significant pairwise contrast concerning the four conditions, it is open to interpretation using the lens of social comparison theory. As discussed, social comparison can be upward or downward,⁴⁵ engendering either positive or negative affect.⁴² One possible interpretation for this result is that exposure to the 'professional: embellished' version with its technically demanding singing invoked negative affect and was demotivating. Thus, for people who may already believe that they are not a 'good singer', exposure to performers demonstrating reality television-style singing with its highlevel of skill may not have inspired a desire to improve. Rather, the results suggest it may have inhibited the desire to improve one's own singing. While identifying the reasons for such a result were not the focus of the current study, future research might consider the role of mindsets regarding singing ability, and whether the exposure to skilled singing and the resulting social comparison motivates or demotivates depending on the listener's fixed or

growth mindset.^{46,47} This is important for music educators and singing voice pedagogues to understand. Explicit discussion of adopting a growth mindset when providing students with a technically demanding example may avoid the negative consequences of upward social comparison, and instead promote inspiration and an optimism to improve abilities.^{45,47} An awareness of mindsets and social comparison (and the range of consequences for learners) will help educators adopt a student-centered approach to learning which acknowledges the individual differences in processing tendencies which can occur during social comparison.⁴⁸

Results indicated that people would be less likely to be able to sing along with the ‘professional: embellished’ version compared to the other three versions. In terms of singing self-concept, participants reporting this inability to sing along with the ‘professional: embellished’ version appear not to view this style of singing as forming part of their self-concept—they do not sing *like that*. Particularly in community music contexts where singing is a health and wellbeing activity, it is important to understand what styles of singing *will* encourage participation, and conversely, what styles might act as a barrier to singing participation.⁶¹ Previous research has demonstrated that people’s participation in musical activities is in part dependent on their assumptions around what a music participant *is* or *should be*.^{35,p412} These assumptions include those concerning musical ability levels.³⁵ Such a preference raises interesting questions in relation to singing and singing style, particularly in community singing group contexts, where such groups are usually facilitated by skilled vocalists. Might participants in these groups prefer to be facilitated by someone more like themselves - i.e., an amateur, or someone of comparable ability?⁵² Or would instrumental melodic guidance be preferred? Given the rise to prominence of the use of singing for health and well-being over the last two decades,⁵⁰ and the important role singing plays in managing a range of health conditions such as Parkinson’s and other health conditions,^{62,63} these are important questions relating to best practice facilitation which warrant further research.^{64,61,65}

We acknowledge that our study is not without its limitations. First, participants were exposed to a short audio clip of a familiar song in the context of an online study, without any broader performative context. Other singing styles were not included because of the focus on reality singing TV shows; however, future research should consider additional styles as well as multiple performers. Further, and because of this, we have not considered the role of musical preference in participants' responses. For example, participants may well have rated sing-along-ability low based on their own musical and stylistic preferences (e.g., they simply didn't like the style of singing), rather than due to the negative impact of social comparison. Musical tastes or preferences and invoking the desire to sing is deserving of more research attention, again, as it is relevant to encouraging musical participation. Moreover, while we controlled for participants' level of musical training, the fact that it was a significant covariate in four of the five analyses demonstrates it is a variable worthy of further consideration.

It is also important to note that we did not ask the participants to explicitly compare themselves to the performers. Rather, we relied on the idea from social comparison theory that the social or cultural environment itself would impose or induce comparison.⁴⁴ Social comparison and fixed versus growth mind set offers future avenues for research design on singing self-concept—for instance, research might consider the emotions (e.g., being inspired, overwhelmed, etc.) from social comparison.⁴⁵ Such research could also address challenges in assessing singing self-concept, such as the salience of this identity relative to a global sense of self.³⁹ Because this study was specifically targeting singing self-concept, we are unable to comment on the importance of singing self-concept to people's broader conceptions of self and identity or the role it may play in everyday life. Therefore, it would be interesting for future research to address the multiple identities people hold and how susceptible they may be to social and situational influences.

Conclusion

The singing style pervasively portrayed in popular culture on reality television singing competitions is generally beyond the capabilities of most people and may even pose a challenge for singers trained in contemporary styles of singing. This experimental study is a preliminary foray into investigating this pervasive cultural influence on people's perception of their own singing ability. Our results show that exposure to this style of singing may have negative impacts on people's singing self-concepts via upward social comparison, but more research is needed. It is well-established that singing is good for us; however, many people are reluctant to participate in singing due to their own inaccurate self-evaluations and prevalent cultural stereotypes of the musical expertise required to participate. Due to the highly skilled nature of the singing on display, reality television shows may unfortunately perpetuate and deepen these stereotypes for millions of viewers around the globe. Our results indicate that it is important for music educators, singing voice pedagogues, and anyone seeking to promote musical and singing participation (such as community musicians) to be aware of cultural influences on an individual's singing self-concept. In this way, with empathetic guidance, awareness, and support, even the most reluctant, inaccurately labelled "tone deaf" singer can experience the many joys of singing.

Acknowledgement

The authors express sincere gratitude to the singers and all participants in this research.

Reference List

¹ Butler A. The judges' decision is final: judgement in music talent reality TV and school music education. *Journal of Popular Music Education*. 2019;3(3):399-415. doi:[10.1386/jpme_00003_1](https://doi.org/10.1386/jpme_00003_1)

-
- ² Negra D, Pike K, Radley E. Gender, nation, and reality tv. *Television & New Media*. 2013;14(3):187-193. doi:[10.1177/1527476412458163](https://doi.org/10.1177/1527476412458163)
- ³ de Bruin J, Zwaan K. Introduction. In: Zwaan K, de Bruin J, eds. *Adapting Idols: Authenticity, Identity and Performance in a Global Television Format*. Routledge; 2016:1-10.
- ⁴ Semeraro E. By the numbers: America's favorite reality singing shows. Broadcast+Cable. Published March 22, 2019. Accessed March 31, 2022. <https://www.nexttv.com/news/by-the-numbers-americas-favorite-reality-singing-shows>
- ⁵ Cheng W. Staging overcoming: narratives of disability and meritocracy in reality singing competitions. *Journal of the Society for American Music*. 2017;11(2):184-214. doi:[10.1017/S1752196317000062](https://doi.org/10.1017/S1752196317000062)
- ⁶ Allen K. Girls imagining careers in the limelight: social class, gender and fantasies of "success." In: Negra D, Holmes S, eds. *In the Limelight and under the Microscope: Forms and Functions of Female Celebrity*. Bloomsbury; 2011:149-173.
- ⁷ Allen K, Mendick H. Keeping it real? Social class, young people and 'authenticity' in reality TV. *Sociology*. 2013;47(3):460-476. doi:[10.1177/0038038512448563](https://doi.org/10.1177/0038038512448563)
- ⁸ Fairchild C. Building the authentic celebrity: the "Idol" phenomenon in the attention economy. *Popular Music and Society*. 2007;30(3):355-375.
- ⁹ Holmes S. "Reality goes pop!": Reality TV, popular music, and narratives of stardom in Pop Idol. *Television & New Media*. 2004;5(2):147-172. doi:[10.1177/1527476403255833](https://doi.org/10.1177/1527476403255833)
- ¹⁰ Meyer D, Edwards M. The future of collegiate voice pedagogy: SWOT analysis of current practice and implications for the next generation. *Journal of Singing*. 2014;70(4):437-444.
- ¹¹ Robinson DK. TV talent shows: Navigating the minefield. *Journal of Singing*. 2014;70(5):585-590.
- ¹² Hartwig K, Riek R. Choir in the age of "The Voice". *Australian Journal of Music Education*. 2015;(3):37-46. doi:[10.3316/aeipt.215448](https://doi.org/10.3316/aeipt.215448)
- ¹³ Bartlett I. Crossing style borders: New inroads in training teachers of singing. *Voice and Speech Review*. 2020;14(2):184-195. doi:<https://doi.org/10.1080/23268263.2020.1695878>
- ¹⁴ Arditi D. The Voice: popular culture and the perpetuation of ideology. In: Arditi D, ed. *Getting Signed: Record Contracts, Musicians, and Power in Society*. Springer International Publishing; 2020:179-206. doi:[10.1007/978-3-030-44587-4_7](https://doi.org/10.1007/978-3-030-44587-4_7)
- ¹⁵ LeBorgne WD, Rosenberg M. *The Vocal Athlete*. 2nd ed. Plural Publishing; 2021.
- ¹⁶ Edwin R. Belt is legit. *Journal of Singing*. 2007;64(2):213-215.
- ¹⁷ Kochis-Jennings KA, Finnegan EM, Hoffman HT, Jaiswal S. Laryngeal muscle activity and vocal fold adduction during chest, chestmix, headmix, and head registers in females. *Journal of Voice*. 2012;26(2):182-193. doi:[10.1016/j.jvoice.2010.11.002](https://doi.org/10.1016/j.jvoice.2010.11.002)
- ¹⁸ Chong HJ, Choi JH, Lee SS. Does the perception of own voice affect our behavior? *Journal of Voice*. Published online March 13, 2022. doi:[10.1016/j.jvoice.2022.02.003](https://doi.org/10.1016/j.jvoice.2022.02.003)
- ¹⁹ Dalla Bella S, Giguère JF, Peretz I. Singing proficiency in the general population. *The Journal of the Acoustical Society of America*. 2007;121(2):1182-1189. doi:[10.1121/1.2427111](https://doi.org/10.1121/1.2427111)
- ²⁰ Welch GF. We are musical. *International Journal of Music Education*. 2005;23(2):117-120. doi:[10.1177/0255761405052404](https://doi.org/10.1177/0255761405052404)
- ²¹ Hallam S. 21st century conceptions of musical ability. *Psychology of Music*. 2010;38(3):308-330. doi:[10.1177/0305735609351922](https://doi.org/10.1177/0305735609351922)
- ²² Howe MJA, Davidson JW, Sloboda JA. Innate talents: reality or myth? *Behavioral and Brain Sciences*. 1998;21(3):399-407. doi:[10.1017/S0140525X9800123X](https://doi.org/10.1017/S0140525X9800123X)
- ²³ Pfordresher PQ, Demorest SM. The prevalence and correlates of accurate singing. *Journal of Research in Music Education*. 2020;69(1):5-23. doi:[10.1177/0022429420951630](https://doi.org/10.1177/0022429420951630)
- ²⁴ Welch G. *The Misunderstanding of Music*. University of London, Institute of Education; 2001.
- ²⁵ Honing H. *Music Cognition: The Basics*. Routledge; 2022.
- ²⁶ Abril CR. I have a voice but I just can't sing: a narrative investigation of singing and social anxiety. *Music Education Research*. 2007;9(1):1-15. doi:[10.1080/14613800601127494](https://doi.org/10.1080/14613800601127494)
- ²⁷ Sloboda JA, Wise KJ, Peretz I. Quantifying tone deafness in the general population. *Annals of the New York Academy of Sciences*. 2005;1060(1):255-261. doi:<https://doi.org/10.1196/annals.1360.018>
- ²⁸ Peretz I, Vuvan DT. Prevalence of congenital amusia. *Eur J Hum Genet*. 2017;25(5):625-630. doi:[10.1038/ejhg.2017.15](https://doi.org/10.1038/ejhg.2017.15)
- ²⁹ Larrouy-Maestri P, Wang X, Vairo Nunes R, Poeppel D. Are you your own best judge? On the self-evaluation of singing. *Journal of Voice*. Published online May 16, 2021:S0892199721001235. doi:[10.1016/j.jvoice.2021.03.028](https://doi.org/10.1016/j.jvoice.2021.03.028)
- ³⁰ O'Neill S. The self-identity of young musicians. In: Hargreaves D, Miell D, MacDonald R, eds. *Musical Identities*. Oxford University Press; 2002:79-96.

-
- ³¹ Rickard NS, Chin T. Defining the musical identity of “non-musicians.” In: MacDonald R, Hargreaves DJ, Miell D, eds. *Handbook of Musical Identities*. Oxford University Press; 2017. Accessed June 5, 2020. <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199679485.001.0001/acprof-9780199679485-chapter-16>
- ³² Zhang JD, Susino M, McPherson GE, Schubert E. The definition of a musician in music psychology: A literature review and the six-year rule. *Psychology of Music*. 2020;48(3):389-409. doi:[10.1177/0305735618804038](https://doi.org/10.1177/0305735618804038)
- ³³ Hallam S. Musical identity, learning, and teaching. In: MacDonald R, Hargreaves DJ, Miell D, eds. *Handbook of Musical Identities*. Oxford University Press; 2017:475-492. Accessed June 15, 2020. doi:[10.1093/acprof:oso/9780199679485.001.0001](https://doi.org/10.1093/acprof:oso/9780199679485.001.0001)
- ³⁴ Lamont A. Musical identities and the school environment. In: MacDonald R, Hargreaves DJ, Miell D, eds. *Musical Identities*. Oxford University Press; 2002:41-59.
- ³⁵ Krause AE, Kirby ML, Dieckmann S, Davidson JW. From dropping out to dropping in: Exploring why individuals cease participation in musical activities and the support needed to reengage them. *Psychology of Aesthetics, Creativity, and the Arts*. 2020;14(4):401-414. doi:[10.1037/aca0000268](https://doi.org/10.1037/aca0000268)
- ³⁶ Demorest SM, Kelley J, Pfordresher PQ. Singing ability, musical self-concept, and future music participation. *Journal of Research in Music Education*. 2017;64(4):405-420. doi:[10.1177/0022429416680096](https://doi.org/10.1177/0022429416680096)
- ³⁷ Miller C, Poston M. *Exploring Communication in the Real World*. College of DuPage Digital Press.
- ³⁸ Lamont A. Musical identity, interest, and involvement. In: MacDonald R, Hargreaves DJ, Miell D, eds. *The Handbook of Musical Identities*. Oxford University Press; 2017:176-196. Accessed June 8, 2020. doi:[10.1093/acprof:oso/9780199679485.001.0001](https://doi.org/10.1093/acprof:oso/9780199679485.001.0001)
- ³⁹ Oyserman D. Self-concept and identity. In: Tesster A, Schwarz N, eds. *The Blackwell Handbook of Social Psychology*. Blackwell; 2001:499-517.
- ⁴⁰ Markus H, Kunda Z. Stability and malleability of the self-concept. *Journal of Personality and Social Psychology*. 1986;51(858-866). Accessed March 24, 2022. <https://psycnet.apa.org/doiLanding?doi=10.1037%2F0022-3514.51.4.858>
- ⁴¹ Festinger L. A theory of social comparison processes. *Human Relations*. 7(2):117-140.
- ⁴² Dijkstra P, Gibbons FX, Buunk AP. Social comparison theory. In: *Social Psychological Foundations of Clinical Psychology*. The Guilford Press; 2010:195-211.
- ⁴³ Wills TA. Downward comparison principles in social psychology. *Psychological Bulletin*. 1981;90(2):245-271. doi:[10.1037/0033-2909.90.2.245](https://doi.org/10.1037/0033-2909.90.2.245)
- ⁴⁴ Wood JV. Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin*. 1989;106(2):231-248. doi:[10.1037/0033-2909.106.2.231](https://doi.org/10.1037/0033-2909.106.2.231)
- ⁴⁵ Smith RH. Assimilative and contrastive emotional reactions to upward and downward social comparisons. In: *Handbook of Social Comparison*. Springer; 2000:173-200.
- ⁴⁶ Dweck CS. *Mindset: The New Psychology of Success*. Ballantine Books; 2008.
- ⁴⁷ Cogdill S. *The Identification of Factors Contributing to First-Year College Students' Mindset of Singing Ability, and the Relationship of That Mindset to Intent to Participate in Singing Activities*. Doctor of Philosophy. University of Nebraska; 2013. <https://digitalcommons.unl.edu/musicstudent/59>
- ⁴⁸ de Vries DA, Möller AM, Wieringa MS, Eigenraam AW, Hamelink K. Social comparison as the thief of joy: Emotional consequences of viewing strangers' instagram posts. *Media Psychology*. 2018;21(2):222-245. doi:[10.1080/15213269.2016.1267647](https://doi.org/10.1080/15213269.2016.1267647)
- ⁴⁹ Wheeler L, Miyake K. Social comparison in everyday life. *Journal of Personality and Social Psychology*. 1992;62(5):760-773. doi:[10.1037/0022-3514.62.5.760](https://doi.org/10.1037/0022-3514.62.5.760)
- ⁵⁰ Daykin N, Mansfield L, Meads C, et al. What works for wellbeing? A systematic review of wellbeing outcomes for music and singing in adults. *Perspect Public Health*. 2018;138(1):39-46. doi:[10.1177/1757913917740391](https://doi.org/10.1177/1757913917740391)
- ⁵¹ Krause AE, Davidson JW, North AC. Musical activity and well-being: A new quantitative measurement instrument. *Music Perception*. 2018;35(4):454-474. doi:[10.1525/mp.2018.35.4.454](https://doi.org/10.1525/mp.2018.35.4.454)
- ⁵² Second author et al. 2021.
- ⁵³ Kreutz G, Schubert E, Mitchell LA. Cognitive styles of music listening. *Music Perception: An Interdisciplinary Journal*. 2008;26(1):57-73. doi:[10.1525/mp.2008.26.1.57](https://doi.org/10.1525/mp.2008.26.1.57)
- ⁵⁴ Müllensiefen D, Gingras B, Musil J, Stewart L. The musicality of non-musicians: An index for assessing musical sophistication in the general population. *PLOS ONE*. 2014;9(2):e89642. doi:[10.1371/journal.pone.0089642](https://doi.org/10.1371/journal.pone.0089642)
- ⁵⁵ Tierney A, Patel AD, Jasmin K, Breen M. Individual differences in perception of the speech-to-song illusion are linked to musical aptitude but not musical training. *Journal of Experimental Psychology: Human Perception and Performance*. 2021;47(12):1681-1697. doi:<https://doi.org/10.1037/xhp0000968>

-
- ⁵⁶ Ferreri L, Singer N, McPhee M, Ripollés P, Zatorre RJ, Mas-Herrero E. Engagement in music-related activities during the COVID-19 pandemic as a mirror of individual differences in musical reward and coping strategies. *Frontiers in Psychology*. 2021;12. Accessed March 31, 2022. <https://www.frontiersin.org/article/10.3389/fpsyg.2021.673772>
- ⁵⁷ Swaminathan S, Kragness HE, Schellenberg EG. The Musical Ear Test: Norms and correlates from a large sample of Canadian undergraduates. *Behav Res*. 2021;53(5):2007-2024. doi:[10.3758/s13428-020-01528-8](https://doi.org/10.3758/s13428-020-01528-8)
- ⁵⁸ Baker DJ, Ventura J, Calamia M, Shanahan D, Elliott EM. Examining musical sophistication: A replication and theoretical commentary on the Goldsmiths Musical Sophistication Index. *Musicae Scientiae*. 2020;24(4):411-429. doi:[10.1177/1029864918811879](https://doi.org/10.1177/1029864918811879)
- ⁵⁹ Spychiger MB. From musical experience to musical identity: Musical self-concept as a mediating psychological structure. In: MacDonald R, Hargreaves W, Miell D, eds. *Handbook of Musical Identities*. Oxford University Press; 2017:267-287. Accessed June 5, 2020. <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199679485.001.0001/acprof-9780199679485-chapter-15>
- ⁶⁰ Fiedler D, Spychiger MB. Measuring “musical self-concept” throughout the years of adolescence with MUSCI_youth: Validation and adjustment of the Musical Self-Concept Inquiry (MUSCI) by investigating samples of students at secondary education schools. *Psychomusicology: Music, Mind, and Brain*. 2017;27(3):167-179.
- ⁶¹ Forbes M, Bartlett I. “It’s much harder than I thought”: Facilitating a singing group for people with Parkinson’s disease. *International Journal of Community Music*. 2020a;13:29-47. doi:http://dx.doi.org/10.1386/ijcm_00009_1
- ⁶² Goldenberg RB. Singing lessons for respiratory health: A literature review. *Journal of Voice*. 2018;32(1):85-94. doi:[10.1016/j.jvoice.2017.03.021](https://doi.org/10.1016/j.jvoice.2017.03.021)
- ⁶³ Tamplin J, Morris ME, Marigliani C, Baker FA, Vogel AP. ParkinSong: A controlled trial of singing-based therapy for Parkinson’s disease. *Neurorehabil Neural Repair*. 2019;33(6):453-463. doi:[10.1177/1545968319847948](https://doi.org/10.1177/1545968319847948)
- ⁶⁴ Dingle GA, Clift S, Finn S, et al. An agenda for best practice research on group singing, health, and well-being. *Music & Science*. 2019;2:2059204319861719. doi:[10.1177/2059204319861719](https://doi.org/10.1177/2059204319861719)
- ⁶⁵ Forbes M, Bartlett I. ‘This circle of joy’: meaningful musicians’ work and the benefits of facilitating singing groups. *Music Education Research*. 2020;22(5):555-568. doi:[10.1080/14613808.2020.1841131](https://doi.org/10.1080/14613808.2020.1841131)