

# The Vocal Health Status of Lay Clerks in English Anglican Cathedral Choirs

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## **Abstract**

*Lay Clerks (also known as Lay Vicars, Vicars Choral, or Songmen) are professional adult singers in Anglican cathedral choirs. The vocal health of lay clerks has not been discussed in literature, despite this population demonstrating similarities to other populations such as choristers, school teachers, and operatic singers, all of whom can serve as bases for research in this field. This study seeks to provide an overview of the vocal health of lay clerks in English Anglican cathedral choirs, exploring factors previously noted in literature as impacting vocal health.*

*An online survey was used to collect responses from 141 lay clerks (male = 115, female = 20, other = 1) in the areas of health & lifestyle, vocal experience & hygiene, and job satisfaction. Descriptive comparisons and linear regression analyses suggest that vocal health training correlates with higher than average vocal health scores and perceived importance of such training; higher levels of past vocal training and chorister experience improve average vocal health scores; tenure is indicative of levels of past voice training and vocal health; and that cathedral choirs as workplaces provide alarmingly little support for lay clerks regarding the safeguarding of vocal health. Future research comparing the vocal health of lay clerks with that of the general public is needed to provide a greater depth of understanding of lay clerks' vocal health.*

## **Introduction**

Lay Clerks, Lay Vicars, Vicars Choral, Songmen: all of these are job titles for people (historically all male, with some cathedrals beginning to accept adults of all genders from c.2010) who form the lineup of professional adult singers in a typical Anglican cathedral choir. These roles involve an immense vocal load, time commitment, and professional integrity, all of which contribute to these individuals playing their key role in maintaining the world-class reputation of the English Choral Tradition.

Professional voice users are dependent on their voices, and research into vocal health and how to maintain a healthy voice is not a new area of study. Factors such as diet, exercise, medication, and mental health (Bock, 2019; Boominathan et al., 2008; McPherson et al., 2018; Nerrière et al., 2009; Rothkrantz et al., 2004; Weekly et al., 2018) are all contributors to the health of the voice, as well as elements of voice use such as technique and vocal loading. Until now, studies in these areas have generally focused on teachers, actors, and professional operatic singers (Carrillo-González & Atará-Piraquive, 2020; Nerrière et al., 2009). Lay clerks are expected to meet incredibly high standards of

musicianship nearly every day of the week in some institutions, and therefore the health of their voices ought to be a priority for both the individuals and the institutions in which they work.

Existing literature on musicians in the Church of England is based around child choristers (Williams, 2010), who have an impressive history of support and education on which to build. Lay clerks are often overlooked, as a group expected to meet standards without the same level of support as their younger colleagues, seen as 'part of the furniture', despite often being self-employed. This study seeks to explore this neglected population, looking into elements of health and lifestyle, vocal health, and job satisfaction, to develop an understanding of how healthy lay clerks' voices really are, and to explore the level of safeguarding in place to protect the quality of choral music in English Anglican cathedral choirs

## **Literature review**

### ***Historical context***

Research into the vocal health of cathedral choirs has previously been conducted in relation to child choristers (Williams, 2010), but none exists for lay clerks. There is a large body of research in 'adult professional voice users' (any role where voice use is imperative, like teaching or acting) (McPherson et al., 2018). Lay clerks are affected by heavy vocal loading, the pressures of upholding a tradition, and the Church of England's safeguarding responsibility over their employees. These areas have yet to be examined in any detail.

Literature focusing on classroom teachers as professional voice users primarily references vocal load and stress levels as the impacting factors on the vocal health of the participants (Nerrière et al., 2009), and literature focusing on professional singers and actors reports high levels of tension, hoarseness, fatigue, and pain (Weekly et al., 2018). Lay clerks are similar to these groups, sharing similar levels of vocal load with teachers (heavy voice usage on a near-daily basis), and performing as professional singers at each service and engagement. Indeed, the vocal load of lay clerks is similar only to that of choristers, who receive much more support than their more isolated adult colleagues.

Much like lay clerks, the study of choristers shows that they have a much heavier vocal load to that of their non-chorister age group peers, and therefore it may be surprising that choristers have better vocal health than their non-chorister counterparts (Williams, 2010). This may be attributed to vocal hygiene, stamina, and an element of self-awareness to avoid exceeding their limits. Similarities between choristers and lay clerks as research groups may suggest that the vocal health of lay clerks would show similar trends. However, despite the cathedral's duty of care extending to all members of the choir, a greater number of differences (demographic, lifestyle, training and support) may indicate otherwise. Lay clerks more often than not are in paid positions, suggesting that

their cathedral holds certain employer responsibilities regarding their welfare; however, this is a particularly individualised discussion which ought not to be generalised across all institutions in this study.

### ***Diet & exercise***

Vocal hygiene as influenced by lifestyle (McPherson et al., 2018), and vocal loading (examples include throat clearing and whispering; (Broaddus-Lawrence et al., 2000)) are the main user-controlled drivers of an individual's vocal health. Boominathan et al posit that a vocal teacher's main role is to guide their student toward correction and maintenance of good vocal hygiene (Boominathan et al., 2008). Female schoolteachers are most at risk of being diagnosed with voice disorders due to heavy vocal load and high stress levels (Porcaro et al., 2021), but due care of vocal hygiene reduces the risk of voice users experiencing issues with their voices. Carbonated drinks, alcohol, and smoking contribute to more serious vocal disorders, like nodules and polyps. Alcohol also inhibits the body's ability to reduce the amount of acid in the oesophagus (Vitale, 1987), which may aggravate gastroesophagopharyngeal reflux (GEPR), or "acid reflux" (Kuhn et al., 1998; Lipan et al., 2006), and medication can also induce changes in hydration state, direct laryngeal mucosal irritation, altered laryngeal muscle function, and induction of laryngeal hypersensitivity (Bock, 2019).

### ***Mental & Physical Health***

Stress causes the fundamental frequency (F0) of the voice to rise, demonstrating the communication between the physical and psychological condition of the individual (Rothkrantz et al., 2004). A survey of teachers in France reported twice the prevalence of vocal dysphonia symptoms in comparison to the general population (Nerrière et al., 2009), and more recent world events such as the Covid-19 pandemic may prompt research into the long-term effects of stress factors on the voice (Hamdan et al., 2019). Physical ailments may also interrupt the regular function of the body and cause singers to notice vocal discomfort (Hamdan et al., 2019).

### ***Age & tenure***

While effects of aging on the voice vary between individuals, research into the average effects of aging on the voice suggest that irregularities such as jitter and shimmer both increase with age (Caruso et al., 1995; Deliyski, 2001). These parameters are used within vocal acoustic analysis and are caused by irregular vibration of the vocal folds which may be perceived by the listener as roughness or hoarseness (Teixeira et al., 2013). It is well documented that the male voice F0 (fundamental frequency) may rise with age, whereas the female voice F0 typically falls (Higgins & Saxman, 1991; Hollien & Shipp, 1972; Russell et al., 1995). This change in voice quality may be noticeable and perhaps problematic for

lay clerks with some of the longest tenures, as changes of the voice brought about by aging will impact the singers' ability to continue using their voice in the familiar/necessary way.

### ***Summary***

Vocal health training is becoming more widespread for musicians through music colleges or training providers, but limited research has been conducted on the general public. Students relying on their teachers for support in areas where specialist or even medical attention should be sought is problematic (Williamon & Thompson, 2006); similarly, the responsibility placed on choral directors to support the vocal health of choristers and lay clerks without receiving appropriate training is concerning.

### ***Methodology***

#### ***Epistemological framework***

This project is a quantitative study based on collecting and exploring data provided by lay clerks across the country. Quantitative studies usually take a post-positivist approach (Williamon et al., 2021). This study demonstrates the post-positive framework by measuring pre-determined underlying habits and processes of the target group, and testing existing theories in a top-down approach.

#### ***Research design***

According to the epistemological approach described above, the best fit for this study was a quantitative methodology, collecting data and measuring the relationships between variables set out in the research method.

#### ***Survey methods***

141 lay clerks participated in the survey (table 1) (male, n=118, 83.7%; female, n=22, 15.6%; other, n=1, 0.7%; would rather not say, n=0, 0%), 5 of which were excluded for not meeting the aforementioned participation criteria, and 100% answered all questions. Tenure (time spent singing at present institution) ranged from 3 months to 40 years, and participants were recruited from 39 of the 42 English Anglican cathedrals. Voice parts of alto, tenor, and bass were relatively evenly distributed (36.2%, 32.6%, and 30.5% respectively), with only 1 soprano participant (0.7%), which broadly represents the distribution of the full lay clerk population.

### ***Survey development and distribution***

The anonymised survey was in three sections: health and lifestyle; vocal history; and satisfaction. Questions regarding alcohol consumption, medication, and recreational drug use were based on NHS questionnaires used commonly in clinical settings. Vocal history questions based on the Vocal Handicap Index (VHI) (Hegde et al., 2009) are asked in vocal consultation settings to allow the voice professional to gain a thorough understanding of past experiences which may impact the use of the voice. An opportunity for additional comments was included and was the only part of this study requiring qualitative analysis. This study was approved by the Royal College of Music Research Ethics Committee on 3<sup>rd</sup> May 2022.

### ***Statistical analysis***

The statistical analyses used in this paper all required checks for validity and reliability, as well as checks for normal distribution of data. Linear and binomial logistic regression tests were used to examine the relationship between the variables, and further statistical tests run included independent t-tests, a correlation matrix, and one-way ANOVA tests to compare results.

## **Results**

### ***Does vocal health awareness training improve vocal longevity/performance?***

This hypothesis was chosen to explore whether training in the area of vocal health and pedagogy improves the longevity of the voice. Lay clerks can be in their roles for the multi-decade duration of their singing career, and a well-cared for and conditioned voice is more likely to age better than a poorly-cared for voice (Higgins & Saxman, 1991; Hollien & Shipp, 1972; Russell et al., 1995) – that is to say that lay clerks with a good understanding of vocal health and pedagogy are more likely to have taken better care of their own voices over the duration of their career, thus resulting in a relatively long tenure.

Early career lay clerks showed an average vocal health score of 11.07 out of 15, and late career lay clerks showed an average of 10.86 (Figure i). Broken down further into early and late career lay clerks with vocal health and pedagogy training, and those without, the group with the highest average vocal health score of 11.35 are early career lay clerks with vocal health training (Figure ii).

In all groups, the participants with relevant training exhibit higher average vocal health scores, showing a positive correlation in both groups. A linear regression shows that this relationship is statistically significant within the context of the dataset ( $p = <0.001$ ).

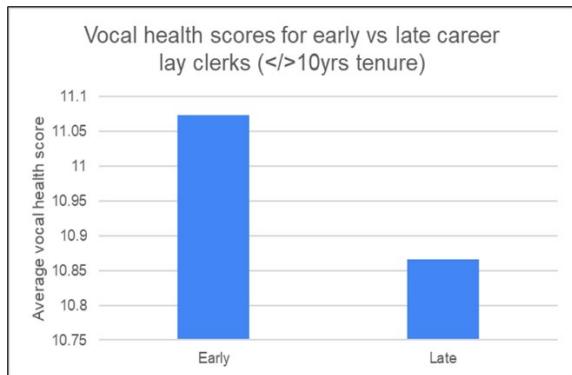


Figure i: early career lay clerks (<10yrs) average vocal health score is approx. 0.15 points higher than late career lay clerks (>10yrs).

Responses to the survey showed that 89 participants (68%) have not received any training in the area of vocal health and pedagogy. 53 of the 142 participants (32%) reported that they have received training, but only 8 participants (5.6%) received this training from their cathedral workplace. Tenure ranged from 3 months in current post, to 40 years, with a mean average of 10.18 years tenure overall. In order to differentiate between early career and late career lay clerks, two groups were formed of those with below and above the mean average tenure (early career <10 years, n = 83; late career ≥10 years, n = 52).

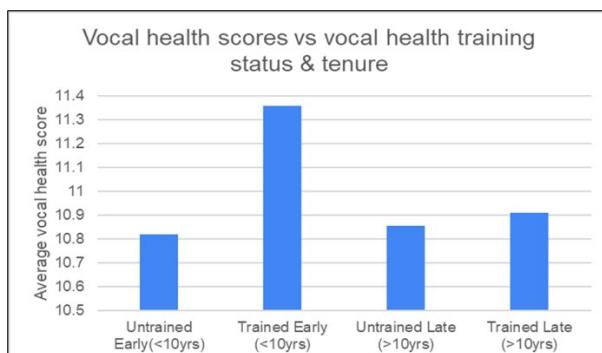


Figure ii: Comparison of average vocal health scores with tenure and vocal health training status. Early career lay clerks with vocal health training show a significantly higher average vocal health score (approx. 0.5 difference) than the other three categories

### ***Do singers who were choristers have better vocal health in adulthood?***

70% of the 142 participants of the survey stated that they had been a chorister at a church or cathedral when they were children. Literature indicates that choristers have high levels of vocal conditioning as a result of the rigorous schedule of singing, as well as good vocal hygiene habits (Williams, 2010). These factors suggest that those lay clerks with previous experience as choristers carry these beneficial habits forward into adulthood, resulting in fewer vocal issues and lower levels of fatigue than their counterparts without this early training.

The average vocal health score of former chorister respondents is 11.02 (Figure iii), whereas the vocal health score of colleagues without chorister experience is 10.93.

However, a binomial logistic regression shows the link between vocal health score and previous chorister experience is not statistically significant ( $R^2 = 4.69$ ,  $p = 0.778$ ). The estimated marginal means diagram supports the correlation first indicated in the histogram, suggesting that the probability of former choristers meeting their vocal health score is also positive.

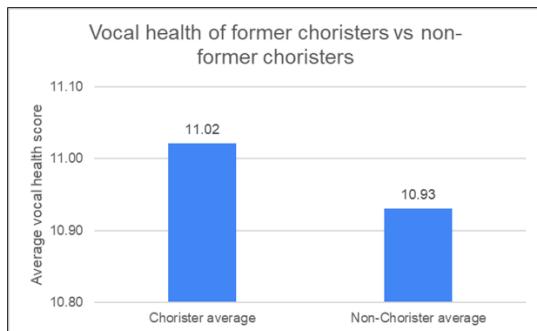


Figure iii: the average vocal health scores of participants with chorister training and those without. There is a difference of approx. 0.11 points.

### ***Are workplaces offering sufficient training?***

53 (37%) of the 142 participants in the study reported that they have received training in the area of vocal health and pedagogy, with only eight participants receiving it directly from their workplace. A linear regression (Appendix 4) shows a statistically significant relationship ( $p = <0.001$ ) between level of training and perceived importance of training, and that this test has good statistical validity ( $R^2 = 0.0970$ , adjusted  $R^2 = 0.0903$ ,  $F(1, 133) = [14.3]$ ,  $p = <0.001$ ). A Shapiro-Wilk test also shows that this data is normally distributed ( $p = <0.001$ ). This shows that participants with high perceived importance scores are more likely to have received such training, however, the raw data shows that very few lay clerks had been offered this training internally.

### ***Participants' impressions of vocal health and training***

An opportunity for participants to voice further thoughts on the subject of vocal health and pedagogy training for lay clerks was available at the end of the survey. 50 responses were recorded, with many fitting into the columns below:

<b>1: Vocal health training should be mandatory in the workplace</b>	<b>2: There is not enough provision for vocal health training in the workplace</b>	<b>3: The Director of Music (DoM) is not suitably equipped / does not provide enough support</b>
"I suspect most cathedrals do not discuss vocal health nearly enough with their lay clerks, so I very much hope this research encourages them to do so."	"I think not having singing lessons at all for someone who sings daily is completely wrong (and even if they do, once a term e.g. is not enough) but this is seen as the norm."	"My DoM expects full volume singing in rehearsals but if he thinks about it consciously will say not to sing full voice. Inconsistent expectations."
"Vocal health is really important and money towards this should,	"[Vocal training is] often promised, seldom delivered."	"Many DoMs I've worked with have had little/no vocal training

I feel, form part of every lay clerk's compensation."		or [have little/no knowledge of] how the voice works."
"I would love to see a cultural shift in the way institutions deal with vocal health."	"Vocal fatigue is often ignored by many in the day to day singing of services. I am, and I know many others are, guilty of pushing through a service even when I should probably be resting my voice. There is a culture of singing through even though health issues are apparent. This is something that is not discouraged because of the general lack of deputy singers. The management would prefer to have a sub-optimal regular than a sub-standard deputy."	"Generally, organists and DoMs are not at all knowledgeable when it comes to vocal health, and often put lay clerks in situations where they are being asked to/have to go beyond what is safe and/or healthy without any awareness that it impacts not just the singers' vocal health, but their mental health and the performance of the wider choir."

Table 1: Written responses to the survey. Quotations are given in quotation marks, and author additions are in square brackets [ ]

## Discussion

Additional training and support such as funded singing lessons and annual vocal reviews were suggested as positive ideas for institutions to adopt. Interest in changing the communal attitude toward vocal health in cathedrals is mentioned by multiple participants, and some express surprise that support is not already in place.

Numerous responses suggested that the lack of support regarding time off and vocal training within each institution is the cause of vocal difficulties these participants face, although these participants do also acknowledge that the financial impact on their workplace may be a defining factor here. Numerous participants refer to the "culture" of lay clerks "singing through", either due to the pressures they feel themselves, or as a result of expectations placed on them. Allowances for singing lessons and for whole choir training in vocal health and related areas such as Alexander Technique are popular requests.

While there are references to Directors of Music being supportive and sympathetic, it is noted elsewhere by participants that this is not the case in their institution. Criticism stems from the DoMs' lack of understanding of the voice, unreasonable expectations of singers, and concern for the younger generation. Many participants are dissatisfied with the level of support they receive, and some responses suggest that instances of inconsistent expectations and poor direction have lead to vocal problems for lay clerks.

The results suggest that the more relevant support a lay clerk receives during their life, the better their vocal health is sustained. However, most of their vocal training is provided outside of their roles as lay clerks. This study also shows that participating lay clerks view knowledge and understanding of vocal health and pedagogy as an important element of their role, expressing dissatisfaction where support in this area is not offered. Overall, training across Anglican cathedrals is limited: only eight participants have been

offered vocal health training by their workplace (room for error must be accounted for, as self-reporting relies on memory, and a small number of participants gave answers which conflicted with colleagues at the same institution).

## Conclusion

Historically, choristers have been shown to exhibit high levels of vocal conditioning and stamina, allowing them to perform at high levels (Williams, 2010). This study shows that lay clerks with former experience of being choristers exhibit higher average vocal health scores than their peers. This suggests that these learned skills and habits are carried through into adulthood, thus having a positive impact on singers' abilities to maintain their voices efficiently.

If elements of this support offered to choristers were also offered to lay clerks, it can be assumed that the vocal health of lay clerks would improve and this gap could be bridged. Choristers would also be inspired to continue their training if the right example were being set by their mentors and adult colleagues, as to the importance of vocal health and hygiene.

As such, this study ought to serve as motivation for institutions to offer more support in the form of singing lessons and vocal health training for lay clerks. Unfortunately, many cathedrals do not or cannot offer this due to financial constraints. It is therefore unlikely that this situation will change without additional funding. It is clear that choristers are offered support to maintain their voices, and lay clerks are neglected, with the blame for this largely attributed to Directors of Music.

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