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Menopausal Voice: A Study of Knowledge, Opinions, and Experiences of Women Who Sing through Menopause

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Project Proposal:

Menopausal Voice: A study of knowledge, opinions, and experiences of women who sing through menopause

Context

During menopause the female body may experience changes that impact the voice, resulting in a loss of vocal range, intensity, and timbre (Abitbol et al., 1999; Zamponi et al., 2021). Symptoms that affect confidence, focus, flexibility, respiration, and stamina can further affect performance (DeMaio, 2013). The study aims to explore existing research on vocal changes a singer may experience in perimenopause and beyond and provide insights on strategies they might embrace to better navigate singing professionally through their 40s and 50s (Fiuza, Sevillano and Lã, 2023). Singer experiences, menopausal changes, symptoms that occur, and community or industry support received by the performer will all be investigated.

Justification

Research shows that during menopause, changes in hormone levels occur resulting in estrogen depletion that can cause a variety of vocal, physical, and mental symptoms (Fiuza, Sevillano and Lã, 2023). The larynx, integral to vocal production, is influenced throughout the lifespan by these sex-hormones (Zamponi *et al.*, 2021). For professionals whose livelihood is dependent upon singing, the voice can define their very identity and play a role in their success and confidence (Fiuza, Sevillano and Lã, 2023).

DeMaio (2013) documented the experiences of elite professional singers to assess their strategies for maintaining their voices through the menopausal years. This seminal work focused on 14 professional performers. Bos, Bozeman, and Frazier-Neely (2020) interviewed a larger number of singers at all levels and brought attention to the singer's experience with menopause the voice in their book focusing on women who sing for passion and pleasure (2020). These impressive works document symptoms, experiences, and resulting vocal and health practices of women who sing through menopause (DeMaio, 2013; Bos, Bozeman and Frazier-Neely, 2020). However, researchers agree that further research is needed to better understand the range of

female-vocalist experiences and bring additional attention to the issues (DeMaio, 2013; LeBorgne and Rosenberg, 2014; Fiuza, Sevillano and Lã, 2023).

Not all women in their menopausal years develop the same symptoms or experience vocal changes (D'haeseleer *et al.*, 2009, 2011). However, for women who rely on their voice professionally, the potential for vocal change may cause fear and embarrassment, stymieing the vocalist from seeking help or support (Dahlgren *et al.*, 2023; Fiuza, Sevillano and Lã, 2023; Stewart, 2023).

Vocal exercises are noted as one possible strategy to benefit women experiencing vocal changes due to menopause (D'haeseleer *et al.*, 2009; D'Haeseleer *et al.*, 2012). However, Fiuza *et al.* (2023) discuss that pedagogy practices that are designed to help a woman navigate periods of hormonal change remain elusive, and relevant specific exercise regimens are not presented in this context or easily accessible by singers. The most detailed discussions about vocal exercises often appear in voice rehabilitation treatises which are targeted towards therapists rather than performers (Scearce, 2016). Many popular singing guides or pedagogy books contain only a cursory mention of menopause, or omit it entirely (LeBorgne and Rosenberg, 2014; Byrne, 2020; Ragan, 2020). Few short-term studies exist that assess the impact of specific exercises or therapeutic strategies on the menopausal voice, but more research is needed (Price, 2013; Ouyoung *et al.*, 2018). Vocal training strategies presented in conjunction with any discussion of potential menopausal changes, are insufficient and not standardized. An assessment of existing resources would identify gaps in pedological protocols and guide future research.

A discussion of support vocal performers receive through menopause from their industry and medical providers is even more sparse. Due to the stigma of menopause, vocalists may be hesitant to voice their experiences publicly. DeMaio (2013) mentions difficulty finding research participants willing to discuss their experiences. Newly documented experiences of professional vocalists will supplement existing information, highlighting the health-related needs of the performer.

Intended Impact

Professional vocalists are in a unique position to guide singers, physicians, therapists, coaches, directors, and industry leaders on the experience of singing through menopause. This project aims to examine what is known about menopause and the voice and lay the groundwork for a strategic guide to help singers navigate the menopausal years and beyond (D'haeseleer *et al.*, 2009, 2011; DeMaio, 2013; Fiuza, Sevillano and Lã, 2023). Discussion about and acknowledgement of the relationship between menopause and the singing voice would better prepare performers for challenges they may experience. While this information will not stop the natural physical changes of menopause, it may improve a woman's overall physical and mental well-being (Brower, 2006; Merino *et al.*, 2024), increasing knowledge and understanding about the issue.

Outlined Intention

This study will review research on menopause and the voice and explore vocal practices to help singers prepare their voices for hormonal change. It will also review mechanisms available to professional vocalists offering occupational support. A survey will provide insights into a singer's knowledge regarding menopause and voice, and interviews will help to elucidate lived experiences of elite singers who rely on their voice professionally through climacterium. Documenting present practices, reflections, and experiences of women will guide and enhance experiences for future generations of female singers. Collected data will identify gaps, needs and additional areas of research to be developed.

This study will be conducted in four phases: 1. literature review, 2. survey 3. interviews and 4. journal. My own personal experience and opinions about this research topic and reactions to data collected will be reflected in the journal. The survey will provide insights into the knowledge and experience of singers at all levels. Interviews will delve more deeply into personal experiences of professional singers, eliciting broader commentary.

Ethics & Insider Research

This project has received approval from the Ethics Review Board at University of Wales Trinity St David. As an insider researcher and singer in menopause, I am invested in the subject matter and the vocal community. A journal will help me maintain checks on my own potential bias (Costley, Elliot and Gibbs, 2012). Informed consent will be required. Survey participants will be solicited from the public. Interview subjects will be professional, elite-singers of a certain age and experience with menopause. Participants will be identified and solicited through personal and professional contacts as well as from survey responses. A risk cherry-picking subjects is evident (Morse, 2010), however this will be mitigated as all subject experiences and research results will be presented no matter the outcome. Responses to surveys and interviews will be anonymized and decoupled from personal information provided during analysis (Easterby-Smith, Thorpe and Jackson, 2012).

Personal Learning Outcomes

1. Improve interviewing skills by learning to conduct, assess and code semi-structured research interviews.
2. Learn to design a short survey aimed at assessing baseline levels of knowledge on a topic.
3. Gain an understanding of the impact of menopausal symptoms on the professional vocalist.
4. Gain an understanding of support structures in place that support the professional vocalist through menopause.
5. Identify gaps in the research literature on menopause and voice.
6. Learn to systematically record my thoughts and impressions in a research journal.

Project Timeline:

Tasks	August	September	October	November
1	Ethical review			
2	Project Proposal			
3		Define literature review	Read literature	Write literature review
4		Identify Interview subjects, write consent form	Finalize interview scripts	Conduct interviews
5		Write survey and consent form	Distribute survey	Clean and assess data
6				
7		Identify journal format	Journal regularly	Journal regularly
8				

Tasks	December	January	February	March
1				
2				
3	Refine literature review			
4	Transcribe, assess, clean and write up data	Finalized data report		
5	Write up data			

6	Write introduction and ethics sections of report	Finalize data sections, write additional report sections, hand in draft 1	Finalize report	Submit report
7	Journal regularly			
8			Develop oral presentation	Present oral presentation

Introduction

The human voice is influenced by changes in sex-hormone levels that become more variable in perimenopause, and drop permanently in menopause (D'haeseleer *et al.*, 2011; Sheren and Sataloff, 2026). Researchers have observed changes to laryngeal tissues that can cause muscular atrophy, vocal fold swelling, and alteration of the laryngeal mucosa, which in-turn can affect voice characteristics and vocal performance (D'haeseleer *et al.*, 2009). Sex-hormones also play a key role in maintaining the function of organ systems that house additional muscles and neural pathways essential for vocal production (JHU, 2022; Cirino, 2025).

Impaired vocal characteristics can be devastating for singers, particularly for those who rely on their voice for their occupation and livelihood (DeMaio, 2013; Fiuza, Sevillano and Lã, 2023) Having performed and sung though every stage of hormonal fluctuation from puberty to pregnancy, through perimenopause to menopause, the researcher was at times intuitively aware of challenges and sporadic changes to her voice that ebbed and flowed with her menstrual cycle or pregnancy. The researcher also aligns with Bos *et al*. (2020) who posit that headaches, edema, weight gain, anxiety, and exhaustion are all common menopausal symptoms that may affect performance persona. Such symptoms, coupled with vocal symptoms, particularly a loss of high notes and breaks in her passaggio, challenged the researcher's confidence as a performer.

Despite having a basic understanding of hormones and more in-depth knowledge of vocal health, the researcher long remained unaware of any potential causal relationship between menopause and the voice until a personal communication with one of her vocal pedagogy advisors caused her to reflect upon her own perimenopausal journey (Obert, 2023). While seminal research exists on the influence of hormones on the voice (Abitbol *et al.*, 1989; Abitbol, Abitbol and Abitbol, 1999), information may not be reaching singers or their vocal and healthcare communities. Notwithstanding years of personal vocal study, the researcher was herself not exposed to relevant information. The present study was crafted to fill the gap in her own education while remaining mindful of the issues raised with "me-search" when a researcher designs a study influenced by their own experiences (Altenmüller, Lange and Gollwitzer, 2021).

The purpose of this study was to determine what singers knew about menopause and the voice. The study explored which menopausal voice symptoms were reaching amateur and professional singers and how that information was being conveyed. In addition, the study aimed to capture the lived experiences, navigational strategies, and stories of challenges and support that professional singers experienced within their communities and work environments.

Through an online survey, participant knowledge of and access to information about the voice and menopause was reviewed. In-depth narrative on the subject was further explored in one-on-one interviews with professional singers. Results showed that while some singers were aware of a potential connection between hormones, menopause, and the voice, they were not receiving this information from their health care providers (HCP). Instead, information was often gathered from their own research or in conversations with colleagues, friends, and voice specialists. Perceived impact of menopause on the voices of professional singers varied. Additional concerns were raised about non-vocal menopause symptoms and their impact on performing and practice. The impact of non-vocal menopausal symptoms on the voice and one's ability to perform has not been thoroughly explored. The outcome of this study will benefit singers, identify gaps in knowledge, and guide voice teachers, specialists, and physicians to best support singers and professional performers.

Literature Review

To better understand the menopausal voice, a literature review was conducted. Abitbol *et al.* (1999) first described *menopausal voice syndrome* after observing similarities in the cellular makeup of laryngeal and cervical tissue. By showing that laryngeal tissue, like cervical tissue, responded to varying levels of sex-hormones, they determined that hormones also influence vocal quality, function, production, and tone throughout climacterium. Menopausal voice syndrome is characterized by decreased vocal intensity, range, a loss of higher notes, and increased vocal fatigue (Abitbol, P. Abitbol and Abitbol, 1999; Abitbol, 2006; Waters, 2023). Vocal symptoms may include hoarseness, altered range, lower fundamental frequency (F_0), cracks, and instability (D'haeseleer *et al.*, 2011; Price, 2022). One's voice is as unique as a fingerprint, ever recognizable and intricately entangled with self-identity and character. For the professional singer, vocal changes can threaten livelihood, income, and confidence (DeMaio, 2013; Fiuza, Sevillano and Lã, 2023).

Since the seminal work of Abitbol *et al.* (1999) little original research has been undertaken and the topic of *menopausal voice syndrome* is routinely omitted from medical texts and industry publications such as those by the American College of Obstetricians & Gynecologists and the Menopause Society (Crandall, 2019; ACOG, 2026). Nor are menopausal voice changes included in discussions about symptoms by mainstream healthcare organizations or on publicly accessible websites (see Appendix E). The Vocal Athlete, a popular vocal pedagogy book by LeBorgne and Rosenberg (2014), is slightly more inclusive, briefly mentioning the topic of hormones and voice. Recent practitioner-facing resources on menopause have begun to address this gap as well with vocal issues receiving mention in mainstream media coverage (Astor and Bagnarelli, 2025).

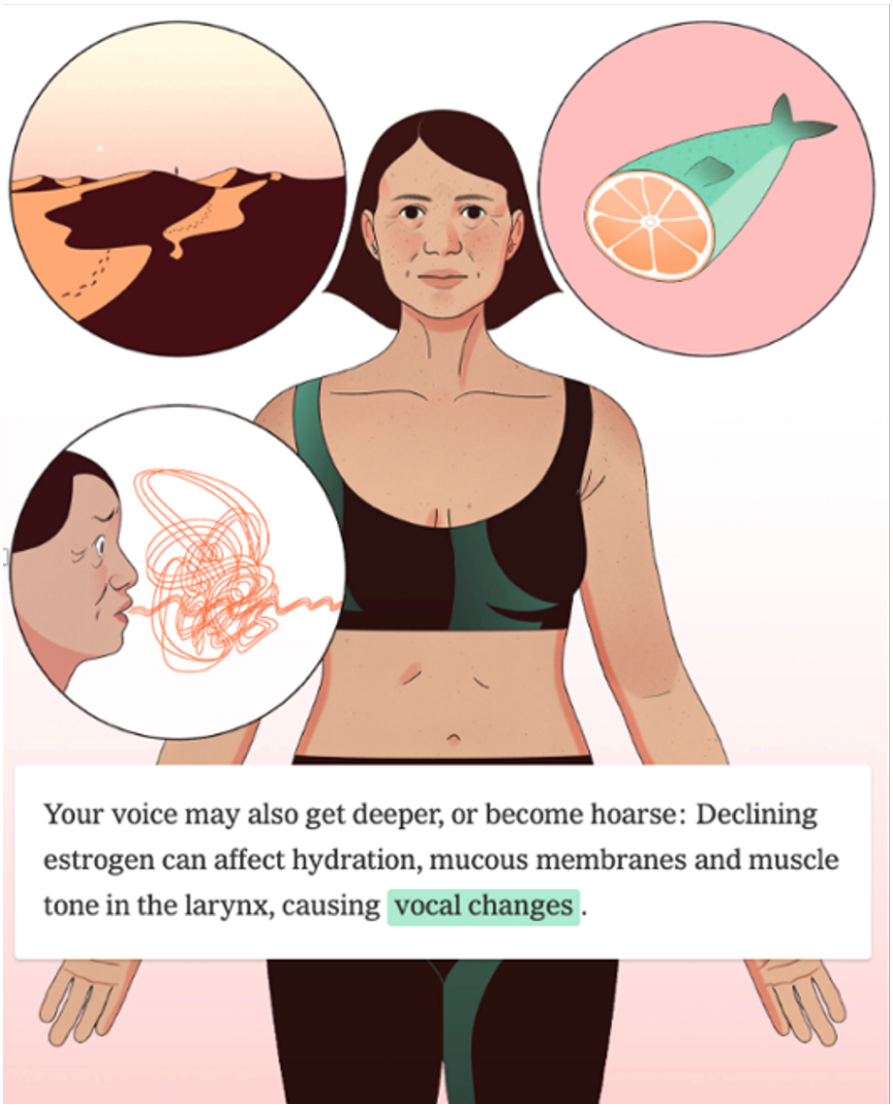


FIGURE A: Estrogen and Vocal Change

Reprinted from the New York Times article, What Menopause Does to the Body (Astor and Bagnarelli, 2025).

Singing Though Change, a book by three esteemed vocal pedagogues, Bos, Bozeman and Frazier-Neeley (2020), is the only published work solely focused on the singer's experience with menopausal voice. Recently, the use of hormone therapy (HT) as a treatment for menopausal symptoms, also referred to as hormone replacement therapy (HRT) and menopausal hormone therapy (MHT), has increased (NAMS, 2022; FDA, 2026). The medical profession is now embracing a broader understanding that sex-

hormones impact the larynx and menopausal voice symptoms respond to hormone therapy (D'haeseleer *et al.*, 2009; D'Haeseleer *et al.*, 2012). (See, Appendix H).

Most general menopausal research studies fail to include vocal symptoms, often basing their overall menopause symptom lists on the Menopause Rating Scale (Heinemann *et al.*, 2004) or additional perimenopause literature which excludes vocal symptoms (Crandall, 2019; Hedges *et al.*, 2026). Such omission can represent unintended bias, challenging growth in issue awareness and making appropriate care harder to obtain (Garattini and Liberati, 2000; Pannucci and Wilkins, 2010).

Sustained vocal health is not only of concern to singers, but also to many in education and other professions where loud, sustained, and projected vocals are required (Williams, 2003; Hazlett, Duffy and Moorhead, 2011). Singers often perceive their voices more acutely than other occupational voice users, with their voice intrinsically linked to occupational success and financial security, therefore even slight vocal change can be a concern for singers who experience unexplained vocal issues (Cohen, 2023; Bensoussan *et al.*, 2026).

Vocal Production

Vocal production is a complex process involving respiratory, phonatory and diaphragmatic muscle activation (Johnson and Sandage, 2021). The voice is produced as air moves through the lungs, vocal folds, and vocal tract, causing vibration, resonance, and resulting sound (Zamponi *et al.*, 2021). This multifaceted interaction results in a voice defined by frequency, intensity, timbre, tone, harmonics, and emotion (Abitbol, Abitbol and Abitbol, 1999). While laryngeal components have long been identified and studied in relation to the voice (Tracicaru *et al.*, 2024), over 100 muscles are activated in voice production and coordinate with areas in the brain and the neural system (Blindu, 2025).

Perimenopause and Menopause Onset

Perimenopause typically begins for women between the ages of 40-50 and marks a period of hormonal irregularity that can initiate new health symptoms and alter the menstrual cycle, sometimes causing excessive menstrual bleeding (ACOG, 2026). For this study, individuals born with ovaries are referred to as women.

During menopause, hormone levels decline and stabilize and reproductive ability ceases (Peacock, Carlson and Ketvertis, 2023). Average age of menopause onset is 51, with most experiencing the transition between ages 45-56 (Dog, 2005; Crandall, 2019; Wright *et al.*, 2024). With women potentially living a third of their lives post-menopause, and singers working to an older age, understanding the health implications of a menopausal voice is essential (Williams, 2003; Lã and Ardura, 2022; Peacock, Carlson and Ketvertis, 2023; Gatenby and Simpson, 2024). (See Appendix F)

Sex-Hormone Fluctuations and the Voice Prior to Perimenopause

Studies highlight the influence of sex-hormones on vocal production and quality and the development and decline of the vocal mechanism at different stages of a woman's life, offering insights into the relationship between sex-hormones and the voice (Raj *et al.*, 2010; Zamponi *et al.*, 2021; Bensoussan *et al.*, 2026). From childhood through puberty, sex-hormones influence the growth, shape, and length of the larynx, vocal tract and vocal cords (Zamponi *et al.*, 2021). At puberty the larynx, vocal tract, and vocal folds grow and elongate and vocal pitch drops 3-4 semitones on average in females, one-third lower than the voice of a child (Raj *et al.*, 2010; Zamponi *et al.*, 2021). In a study of menstruating women, researchers found that just before menses, when estrogen levels are at their lowest, women experience a decrease in speech fluency and self-esteem and an increase in anxiety (Silverman and Zimmer, 1975). *Pre-menstrual vocal syndrome* affects approximately one-third of women and is caused by hormonal fluctuations during the menstrual cycle (Abitbol, Abitbol and Abitbol, 1999). The syndrome is characterized by decreased vocal range and power, vocal fatigue, a loss of harmonics, and a change in physiological characteristics of the larynx, pharyngeal

space, and vocal folds, even at the cellular level (Abitbol, Abitbol and Abitbol, 1999; Raj *et al.*, 2010).

Menopausal Symptoms and the Voice

Jean Abitbol concisely states “menopause could be an earthquake in a singer's career” (2019 at p. 10). From a medical perspective, this statement hints at the multitude of physical and mental symptoms that could impact a performer. The singer’s perspective, however, is more personal, with one’s voice serving as a unique and identifying human trait, intrinsically tied to one’s character and identity (Tracicaru *et al.*, 2024). Changes in vocal intensity, frequency, range, high notes achieved, function, roughness, hoarseness, huskiness, timbre, and fluctuating levels of vocal fatigue, discomfort, and dryness have all been reported (Raj *et al.*, 2010; Lã and Ardura, 2022). For the professional vocalist who relies on their voice for their livelihood, unexplained vocal change can be an unnerving experience (DeMaio, 2013). As women live and work longer post-menopause, the potential connections between voice quality and sex-hormones deserve increased attention (Abitbol, 2019).

Cohen *et al.* (2008) found that singers face an enhanced risk of developing voice problems. Singers are more aware of vocal change, more sensitive to vocal impairment, and have a heightened intuitive awareness of their voice gained through training and performance experience (Phyland, Oates and Greenwood, 1999; Cohen *et al.*, 2008). As such, they can be informed subjects, able to offer researchers insights into minor changes to vocal abilities influenced by hormonal variances, leading to greater understanding of potential vocal impairments during menopause.

Physical and emotional symptoms of menopause can last upwards of 15 years (Crandall, 2019; Peacock, Carlson and Ketvertis, 2023; Gatenby and Simpson, 2024). Symptoms such as irregular periods, hot flashes (or flushes), insomnia, exhaustion, dryness, joint aches, mood swings, anxiety, and brain fog are frequently mentioned in medical texts (Crandall, 2019). Twenty-five percent of women describe these symptoms as debilitating,

greatly influencing quality of life (QOL), while others experience minimal or no symptoms (Gatenby and Simpson, 2024).

Vocal Symptoms

Reduced levels of estrogen and progesterone influence associated laryngeal changes (Bensoussan *et al.*, 2026). Forty-six percent of women experience some vocal change during their menopausal years including lowered F_0, instances of vocal instability, and phonatory challenge (Bensoussan *et al.*, 2026). Altered sex-hormone levels can impair nerve transmission speed, thicken vocal folds, and reduce collagen and cellular glands thereby reducing laryngeal pliability, hydration, and lubrication (Abitbol, 2019). A trained singer may note decreased staccato speed at the extremes of their range, altered vibrato, a narrowed range, and loss of formants (Abitbol, 2019).

Such vocal issues are particularly relevant for professional singers who may be more aware of and vulnerable to vocal change (Bensoussan *et al.*, 2026). Fiuza *et al.* (2023) reviewed 10 voice and menopause studies to determine trends in menopausal symptoms reported to influence the voice and vocal characteristics. The report highlighted the challenges of limited data on the vocal response to menopause, the reliance in these studies on subjective self-reported measures, and variations in study designs, methods, and analysis (Fiuza, Sevillano and Lã, 2023). Authors categorized the studies based on the data collected, with self-reported symptoms appearing in all 10 studies representing voice function, physical and mental symptoms, and practice and performance observations. Voice function descriptors related to pitch, timbre, endurance, flexibility, breath, hydration, stability, register transitions, vibrato, tone, and amplitude. Some singers also noted an impact to their performance ability due to lack of confidence and compromised memory. Fewer studies collected acoustic characteristics (3), laryngeal observations (3), perceptual evaluations (2), ELG/waveform analysis (1) and sex-hormone concentrations (1). Fiuza *et al.* (2023) concluded that menopause can impact vocal performance; however, the variables influencing extent of vocal change during climacterium, when singers experience it, and why some singers are affected and others are not, remain unknown. Additional research is also needed on the effects of certain exercises or vocal training practices on menopausal voices.

While much of the menopausal conversation revolves around hormonal change, a movement has also begun to study neurological factors that may drive menopause and be connected to mood changes, brain fog, hot flashes, and other symptoms (Ledford, 2023). A study exploring hormonal change in menopause and the potential impact on speech and singing centers of the brain might prove elucidating.

Other structures and systems in the body that are integral to voice production are also influenced by sex-hormone levels (Abitbol, Abitbol and Abitbol, 1999; Lenell, Sandage and Johnson, 2019). Lack of knowledge about what might be happening to the body during menopause can trigger insecurity and fear, ultimately impacting one's voice. Additional symptoms may challenge the voice such as dehydration, joint and ligament deterioration, anxiety, depression, insomnia and brain fog (Abitbol, 2019). A wider understanding of vocal issues and their potential connection to health issues exacerbated by menopausal-related change may help to improve diagnosis and treatment and lessen patient frustration. Examples of physical conditions influenced by reduced sex-hormone levels and their potential effect on the voice are explored below.

Depression and Anxiety

Due to decreased of sex-hormone levels, menopause is considered a time of increased vulnerability for women to develop depression and experience anxiety and stress (Crandall, 2019; Alblooshi, Taylor and Gill, 2023). Performers may experience performance anxiety which impairs highly trained motor and coping skills as performers internalize the pressure to perform at their best and find they are unable to do so (Niering *et al.*, 2023). Mental health challenges can increase reported feelings of low self-esteem, self-confidence, and motivation (Monti, 2025). At the same time, singing has been shown to enhance mood, improve cognitive resilience, executive function and memory, and potentially stimulate neuroplasticity, implying that singing itself may help to alleviate some of the same symptoms hormonal imbalance is triggering (Tragantzopoulou and Giannouli, 2025).

Many medications prescribed for anxiety, depression, or mood enhancement have a drying effect and can cause feelings of fatigue and sedation (Gates, Forrest and Obert, 2013). Studies on speech and anxiety indicate that anxiety can influence jitter and alter

F_0 of the voice (Wang *et al.*, 2025). Stress also increases muscle tension and alters breathing patterns affecting formant characteristics (Sigmund, 2012; Wang *et al.*, 2025). In extreme cases, stress may lead to functional dysphonia, where laryngeal muscles are tense and squeezed, inhibiting all vocal production (Gates, Forrest and Obert, 2013).

Arthritis and the Larynx

Arthritic symptoms brought on by menopause can affect the voice. Osteoarthritis (OA) is a common musculoskeletal disorder presenting with some level of swelling, joint movement restriction, and joint-area pain, often impacting QOL (Crandall, 2019). Reduced levels of estrogen and progesterone typical of menopause increase cartilage degeneration and joint inflammation, and decreased estrogen increases one's risk of developing OA (Dennison, 2022; Zhao, Yu and Wu, 2025). Age, sex, and weight are all contributing factors in OA development with post-menopausal women being most at risk of developing the condition (Mahajan and Patni, 2018; Atasoy-Zeybek *et al.*, 2025). How the many biological effects of aging and reduced estrogen levels experienced in menopause relate to each other and their relative influence on OA development is not completely understood (Atasoy-Zeybek *et al.*, 2025). Similar arthritic degeneration has been observed in a study of laryngeal joints in individuals over 40 (Paulsen and Tillmann, 1999). The cricoarytenoid (CA) joints at the rear of the larynx are responsible for stretching, opening, and closing the vocal cords during singing, speech and breathing. A singer with OA in the CA joint may experience compromised vocal quality and reduced vocal intensity (Paulsen and Tillmann, 1999).

Unlike OA, rheumatoid arthritis (RA) is a chronic autoimmune disease primarily affecting small joints, characterized by symptoms of inflammation, joint pain, and stiffness. Post-menopausal women have a 35% higher risk of developing RA than pre-menopausal women and women who experience early menopause are three times more likely to develop RA than those who reach menopause at an average age (Namavari *et al.*, 2024). Because women experience autoimmune diseases like RA more frequently than men, Namavari (2024) suggests that estrogen-decline may play a critical role in disease development. Arthritis in the CA can be a complication of RA, and while rare, resulting symptoms may include hoarseness, swelling, myositis related muscle weakness,

nodules, pain when phonating, breathing difficulties, and a feeling that something is stuck in the throat (Hyland *et al.*, 2024; Eustice and Chandrasekaran, 2025).

Estrogen supplementation shows promise for improving joint pain and reducing inflammation (Dennison, 2022; Atasoy-Zeybek *et al.*, 2025). However, additional research is needed to determine if HT is beneficial in overall OA management, accounting for different dosages, modes, and timing of supplementation, and individual risk factors (Mahajan and Patni, 2018; Atasoy-Zeybek *et al.*, 2025).

Oral Health

Decreased estrogen levels can impact overall oral health, influencing salivary glands and the oral microbiome (Yu *et al.*, 2025). Lower estrogen levels can cause thinning in the epithelium, a layer of tissue linin the oral and laryngeal cavities (Yu *et al.*, 2025). When estrogen levels are higher, molecules within the tissues are larger; when estrogen decreases, the diameter of oral cells decreases (Brodnitz, 1971; Yu *et al.*, 2025), as does vascular permeability (Leszko, 2014). Brodnitz (1971) suggests that this combination of smaller molecules within tissues in conjunction with more permeable blood vessels results in vocal cords with a larger vibrating mass, thereby lowering pitch and increasing husky qualities in the voice.

Interestingly, singing may help to counter certain menopause related symptoms. Dry mouth, caused by reduced salivary flow rate, is a menopausal symptom (Yu *et al.*, 2025). Sakano *et al.* (2014, 2018) found that men and women who sang regularly experienced increased salivary flow, improved oral muscle strength, and reduced psychological stress, measured using self-assessment surveys and blood levels of cortisol and adrenaline. Therefore, continued and regular vocalization may help to optimize oral health in menopause.

Lung Function

In a prior research module, this researcher reviewed the intricate relationship between lung health and singing, noting the importance of lung health and breath control on overall vocal health and power (Harris, 2023). Studies have shown an increase in respiratory symptoms and lung function decline during menopausal and post-

menopausal years, especially for women with a BMI under 23 (Real *et al.*, 2008; Triebner *et al.*, 2017). Individuals with insufficient airflow may also be at risk of developing muscle tension dysphonia, a voice disorder resulting in a strained, weak, and breathy voice (Gates, Forrest and Obert, 2013).

Reflux

Post menopausal women have a higher risk of developing gastroesophageal reflux disease (GERD) than pre-menopausal women (Shibli *et al.*, 2021), possibly due to declining estrogen levels (Kang *et al.*, 2020). GERD occurs when stomach acid rises into the esophagus causing heartburn, irritation, and swelling in the throat, larynx, and mouth (Kang *et al.*, 2020). However, studies also indicate that women on estrogen replacement therapy have a similar, if not higher, risk of developing GERD of (Kang et al., 2020; Shibli et al., 2021). The relationship between estrogen, GERD, and HT is not fully understood. GERD and laryngopharyngeal reflux or silent reflux, where acid rises past the esophagus into the laryngopharynx, can affect vocal function, causing hoarseness, vocal fatigue, cough, and throat irritation (Groenewald *et al.*, 2022; Brown *et al.*, 2025).

Thyroid Imbalance

Thyroid hormone production decreases with age, and more women experience thyroid dysfunction after the age of 40 (Crandall, 2019; Frank-Raue and Raue, 2023). Thyroid symptoms can occur concurrently, present similarly, and often be mistaken for menopausal symptoms. Thyroid hormones can impact vocal fold functionality, altering vocal register and timbre, increasing vocal fatigue, and causing hoarseness due to vocal mucosa swelling and vocal muscle congestion (Abitbol, Abitbol and Abitbol, 1999; Abitbol, 2019).

The Voice as a Harbinger of Menopause

Brodnitz (1971) suggests that voice disorders may be the first symptom of an endocrine issue or hormonal imbalance; thus understanding the relationship between hormones and the voice can help women identify the start of their own perimenopausal journey,

self-advocate when they encounter health issues, and navigate vocal symptoms they may experience (Sheren and Sataloff, 2026).

Looking to the future, Benssoussan *et al.* (2026) suggest artificial intelligence (AI) driven vocal analysis could be developed to identify menopausal vocal issues, differentiating them from age-related changes, and supporting earlier diagnosis of perimenopausal change. Voice quality measures assessed by AI focus on markers such as F_0, prosody, jitter, and shimmer - vocal traits shown to be influenced by menopause (Lã and Ardura, 2022). AI-driven tools that capture the voice for disease diagnosis and treatment have already been developed for COVID symptom resolution (Fagherazzi *et al.*, 2022), neurologic and respiratory impairment (Chen *et al.*, 2024; Landry *et al.*, 2025), fatigue (Elbéji *et al.*, 2022) and cognitive function (Mahon and Lachman, 2022). As these systems develop, concerns about privacy and ownership of voice samples may arise, particularly for professional vocalists; however, if such systems are developed ethically, they could be a valuable tool in guiding effective menopause treatment and appropriate vocal training.

Menopause Stigma

Stigma can attach to symptoms associated with aging, reproductive health, and intercourse, causing women to feel shame and embarrassment, negatively impacting health, and further hindering women from sharing experiences about menopause (Ledford, 2023; Peters *et al.*, 2025). Additionally, menopausal vocal symptoms are poorly understood, creating challenges for singers seeking associated health care (Ledford, 2023; Sheren and Sataloff, 2026). When biological changes challenge a person's core understanding of their own body, self-confidence can suffer (Ziegler and Johns, 2012). Multiple studies, from those with a global audience, to those with a focus on one population, race or culture, have found that women experience negative feelings, perceive judgement, and desire additional levels of societal understanding regarding menopausal issues (Astellas, 2025; Wegrzynowicz *et al.*, 2025; Krohe *et al.*, 2026). The Krohe (2026) study focused on the African American menopausal experience, laying the foundation for broader, more culturally comparative and inclusive studies on the

menopausal voice in the future. Studies of menopause stigma and professional singers were not identified; however, Broadway singers have reported stigma and fear of ramifications related to vocal injury (Bradshaw and Cooper, 2018). Future studies on stigma in the performance industry might focus on menopausal health specifically and consider potential perceptual variations among individuals of different races. (See Appendix G regarding stigma).

Hormone Therapy

One treatment option for women experiencing menopausal voice issues is HT, and several publications focus on the topic (D'Haeseleer *et al.*, 2012; Abitbol, 2019; Bensoussan *et al.*, 2026; Sheren and Sataloff, 2026). In certain cases, increased health risks may exist for women taking HT who are over 65 or have been post-menopausal for more than 10 years (Santoro *et al.*, 2021). However, for the postmenopausal professional vocalist with vocal symptoms, a decision regarding tolerable risk of HT should be had with healthcare providers to reach individualized decisions. One's personal health history and goals should always be discussed when considering HT (Abitbol, 2019). Dosage and routes of application vary and should be addressed with a healthcare provider. Some women may opt against HT for personal reasons or due to contraindication (Crandall, 2019; Sheren and Sataloff, 2026). (See Appendix H).

Methodology & Methods

That any woman gifted with a long life, who retains her ovaries, will go through periods of hormonal change and ultimately experience menopause, is a biological truth (Crandall, 2019; Gatenby and Simpson, 2024). When considering this study design's ontology, this one fundamental truth is ever present (Gray, 2004; Easterby-Smith, Thorpe and Jackson, 2012). Evidence exists regarding hormonal changes and their effects on the voice at each stage of development (Zamponi *et al.*, 2021). However, how a person experiences this truth is subjective, and how menopausal change manifests and is navigated varies between individuals.

This study seeks to document the individual journeys and opinions of vocalists who sing through menopause. A study that seeks to collect and understand experiences lends itself to a constructivist paradigm design (Creswell and Creswell, 2018). Constructivism assists the researcher in understanding human experiences and presumes that more than one outcome is possible (Mackensie and Knipe, 2006; Creswell and Creswell, 2018). This study also explores experiences with menopausal symptoms, which can be experienced differently by each singer. The information collected here will help the researcher to identify patterns in the experiences and opinions expressed. By relying on these viewpoints and allowing for complex answers to open-ended questions and semi-structured interviews, the researcher can capture broad perspectives on the topic at hand (Creswell and Creswell, 2018). Conclusions drawn will be constructed from these interactions and interpretations and will help the researcher facilitate strategies for future change (Gray, 2004; O'Leary, 2004).

Constructivism allows the researcher to view interview data through a cultural lens, sensitive to the differences between the industries of each performance genre, such as musical theater, classical, and commercial music (Creswell and Creswell, 2018). The focus on the experiences of women, traditionally a marginalized group, will result in an assessment of their needs and suggestions on how to best support women in the future, drawing design components from a transformative paradigm (Creswell and Creswell, 2018). Lastly, constructivism also supports the exploration of differences between racial and socio-economic groups (Creswell and Creswell, 2018). This is a foundational study

however, which seeks to explore the experiences of all women to provide a baseline of information, therefore all ages, races, and gender identities are included. This identity-neutral approach provides a demographically unadjusted body of data. While this method is implemented to avoid bias, it also can hide inequities, and future studies might focus on understanding how different demographic groups experience singing through menopause, thereby facilitating an understanding of potential differences between population sub-groups (Esteban-Gonzalo *et al.*, 2021; Dillard *et al.*, 2024).

Literature Review

To inform this narrative review, a search was conducted using the University of Wales Trinity St David library system, Google Scholar, and PubMed. Preliminary search terms included menopause, perimenopause, hormone, voice, singing, vocal change, and fundamental frequency. Additional searches were done to further understand vocal conditions arising from menopausal symptoms such as osteoporosis, acid reflux, and vasomotor symptoms. These topics were first identified within the preliminary search results. Due to the dearth of articles directly discussing menopause and the voice, no year restrictions were used as an exclusion criterion, however articles on other medical issues were limited to publication after 2000 and textbooks on menopause and physiology were limited to the last five years or the most recently published edition.

Survey

A survey was distributed that explored knowledge of menopause and the voice, menopause symptoms, sources of participant information, and support systems available. Foundational information gathered was then used to develop questions that guided interviews. (Walliman, 2001). The survey was shared primarily via Facebook in discussion groups for singers and voice teachers. It was also emailed to contacts of the researcher, forwarded by those contacts to others, and shared privately by third parties. While the primary audience was singers, being a performer was not a requirement for participation. The only two requirements for participation were self-identifying as female

and being over 18 years of age. Collected data was stored on a password protected server in a locked office and accessed through a password protected computer. All responses were de-identified and anonymized. Respondents could withdraw at any time or skip individual questions.

While originally conceived as a mixed-methods study, upon reflection, the researcher noted that data collected was primarily qualitative in nature. In a mixed-method study, numbers are used to quantify variables being studied, often defining their relationship to each other (Sandelowski, Voils and Knafl, 2009; Maxwell, 2010). Numbers can also give “precision to statements about the frequency, amount, or typicality of particular phenomena” rather than be evidence of a causal relationship (Maxwell, 2010 at p. 478). As such, numerical quantities can highlight trends. In this study, numbers were used to define the frequency of occurrences experienced by participants, rate the perceived accuracy of a claim made, or determine the weight given to one belief over another (Bryan and Graham, 2024). Numbers collected and presented helped to define patterns and characteristics of the research participants (Neale, Miller and West, 2014). The survey incorporated open-ended questions, rather than capturing data that was statistically analyzed to prove or disprove a hypothesis (John Schnobrich, 2019). These questions were included to allow the participant to comment on closed-ended questions to provide insights into responses (LaDonna, Taylor and Lingard, 2018). Delve Tools, an online qualitative analysis tool, was used to code open-ended survey responses and interview text, guiding response analysis and theme identification (Delvetool, 2023). As a foundational study, the study did not collect racial or ethnic data, however future studies are needed to highlight cultural differences in attitudes towards menopause. (See Appendices K, L & M)

Interviews

Interview participants were recruited through the survey itself, or through personal and professional channels. Semi-structured interviews allowed the participant to elaborate upon relevant experiences and helped the researcher explore personal perceptions (DiCicco-Bloom and Crabtree, 2006). Scripted questions guided the interviews and kept

the participants as close to the stated purpose of the study design as possible, (see Appendix I & J). However, when unexpected or insightful answers were shared, flexibility was required to adapt questions to allow for exploration of the participant's experiences (DiCicco-Bloom and Crabtree, 2006; Lal, 2025). Trends emerging from interviews reflect patterns within the data itself (Neale, Miller and West, 2014). Personal opinions and experiences may serve to guide future studies, inquiries, and practice. With consent, interviews were recorded for reference purposes only. Videos and transcripts are stored in password protected accounts. Participants were ensured confidentiality and transcripts were anonymized and are presented with identifiable commentary redacted (see Appendix C). Consent to pull de-identified quotations for written and presentation purposes was obtained, preserving the richness of the commentary.

Ethical Considerations

Informed consent was required for study participation (see Appendices C & D). Respondents were told that the survey included questions about their health and performance history. Identities of respondents were kept confidential, and responses shared were anonymized and de-identified. Interviewees were assigned numbers to protect participant identity. (see Appendices, G, I & K).

Insider research concerns and potential positionality issues were considered. When research is done within one's community, acknowledgement of the potential for bias and subjectivity is essential for honest reflection (Bourke, 2014). Insider researchers often have an easier time gaining access to communities and institutions being studied, as they are perceived to have insights into the inner workings of an industry or institution (Teusner, 2016). As a singer of a certain age and a performer, the researcher has a personal understanding of singing through menopause which has allowed her to use foundational knowledge to develop this study. The researcher acknowledges that her experience may impact her neutrality, but it also informs her baseline understanding of the research subject and its potential importance to female singers and voice practitioners (Winter, 2020). While interview subjects were unknown to the researcher, many were referred to the study by mutual colleagues in the vocal and performing

industries. This form of networking strengthened the researcher's credibility as a singer and researcher sensitive to the intricacies of performing (Teusner, 2016).

The constructivist design of this study allowed the researcher to draw on her personal perspectives and experiences with the subject matter and guided her interpretation of the data collected, encouraging theories to develop from the data itself (Crotty, 1998). A weekly journal was kept with entries made throughout the research process to help the researcher identify trends in responses, her own reactions to experiences conveyed, and additional avenues of research to explore (see Appendix O).

Due to the personal nature of the subject matter, the study's healthcare focus, and the common frustration by women seeking answers to menopausal related experiences, the likelihood of participants asking for advice and the desire to provide information to participants cannot be over-stated. Merritt (2011) defines ancillary-care in medical research as care that research participants need but that falls outside the scope of a study or obligation to the participants. Richardson (2012) suggests that facilitating access to care should be considered by medical researchers. This researcher is not a licensed healthcare provider. However, the researcher-participant relationship may invoke ethical dilemmas like those seen in medical research, particularly if the researcher feels a participant is engaging in potentially harmful practices. The ethical implications of answering versus not responding to questions must be considered thoughtfully and weighed against risks of harm. Insights offered must be handled with sensitivity and stated with a disclaimer that the researcher is not a health expert nor a licensed medical provider. To encourage safe and responsible care, the researcher will encourage conversations with appropriate licensed healthcare providers and share published resources about menopause and the voice.

Findings

Part 1: Survey Results

Eighty-five individuals consented to participate in a short survey regarding their knowledge and familiarity with menopausal voice issues. Survey participants were asked to rely on their present knowledge and not research answers on the internet or elsewhere. Unless otherwise indicated, all 85 participants responded to each question. In this study, all respondents indicated they were assigned female at birth. The researcher acknowledges that not all people who identify as women experience menopause, and not all people who go through menopause identify as women. In this report, the term *woman* or *female* is used to describe individuals born with ovaries who experience menopause, which may include individuals who are cisgender, trans, non-binary or gender non-conforming (Laker and Rowson, 2025).

Stage of life as defined in questionnaire	Number of respondents	Age range of respondents
Perimenopause (I believe I am experiencing some pre-menopause related symptoms)	29	32-55
Menopause (I have ceased to have a regular-menstrual cycle)	6	38-59
Post-menopause (I have not had a menstrual cycle in 12 months or longer)	42	50-80
None of the above (none of the descriptions above apply to me)	6	23-49
I do not know	2	46-50

Table 1: Age and Menopausal Status of Participants

Respondents were between the ages of 23-80. Seventy-seven were experiencing a stage of climacterium, while 6 had not started perimenopause and 2 were unsure of their status. While the average age of menopause is 51, with perimenopause beginning in the 10 years prior (Crandall, 2019), results reflected in Table 1 serve as a reminder that there is no definitive age for the onset of perimenopause or menopause. Most respondents were performing singers. Additionally, 3 described themselves as performers who used their voices for acting, voice over acting, or radio, and 6 participants did not identify as performers of any kind. Participants identified their professional status based on the percentage of income they received from performing. Some professional performers were recruited for more in-depth interviews.

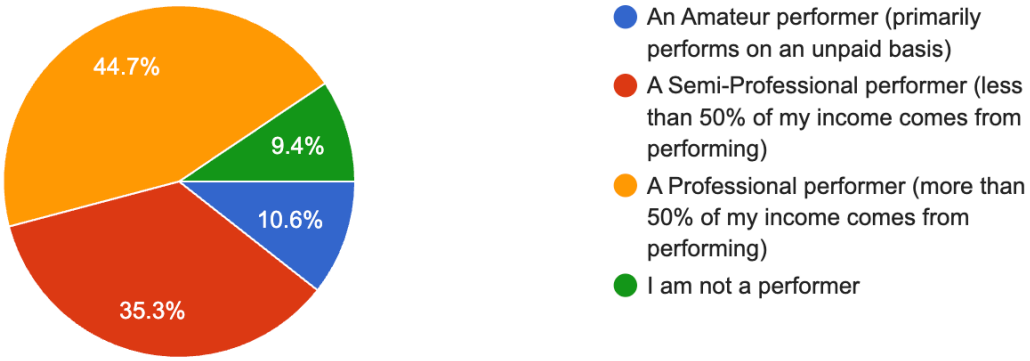


Figure B: Professional Level of Respondent

A definition of the term *menopausal voice* was not offered at the start of the survey as the study intended to capture a woman's knowledge of potential vocal symptoms experienced in menopause without offering definitional cues. Most respondents (69%) reported they had never discussed menopause as a potential contributing factor of vocal issues or traits. Of those who had discussed it, only 4 respondents discussed the topic with a HCP, 15 with a vocal care advisor, singing teacher or voice therapist, 15 with other performers, and 2 with other sources. A similar number of respondents reporting having

discussed hormones or the menstrual cycle (HMC) as a potential contributing factor of their vocal issues or traits. Of this group, 6 individuals discussed the topic with a HCP, 17 with a vocal care advisor, singing teacher or voice therapist, 13 with other performers, and 1 with other sources. In both instances, many more singers discussed the topic with their vocal advisors or other performers than with HCPs.

Results suggest that the topics of hormones, the menstrual cycle, and menopause were not consistently discussed together. Eleven individuals had conversations about HMC and voice, but did not have conversations about menopause and voice, while 6 individuals had conversations about menopause and voice, but did not have conversations about HMC and voice. An additional 6 respondents reported having had both conversations, but with different individuals. The age range for respondents having these piecemeal conversations was 23-76. One might posit that younger people were more likely to discuss HMS while older individuals would discuss menopause. The number of survey respondents having piecemeal discussions was too small to predict such trends. However, it is worth considering if awareness of menopausal voice issues would increase if formal conversations about hormonal change and vocal output occurring between HCP, vocal specialists, and clients actively included both premenstrual symptoms and menopausal symptoms.

Bensoussan *et al.* (2026) report that 46% of women experience some kind of vocal issue during menopause. However, vocal symptoms are infrequently listed as a symptom of menopause in published literature (see Appendix E). More respondents said they had read about menopause and the voice than had discussed it, indicating that they may be seeking out information on their own through the literature, media, or elsewhere. This trend is further reflected in interviews, where respondents cited Doctor Google and the internet as sources they would use to research information on menopause and the voice if needed, further indicating the importance for discussion of vocal symptoms to be included in the literature.

Respondents were asked to estimate what percent of women they thought experienced vocal symptoms during menopause. This question was included to offer insights into how the omission of vocal symptoms in menopausal literature might be reflected in a singer's

awareness of vocal symptoms, and to develop a baseline for comparison to a future query at a time when discussion of vocal symptoms becomes more frequent. More than half of survey participants responded that over 45% of women experience vocal symptoms in menopause, while 25 individuals said fewer experience the symptom, and 14 respondents selected 45%, correctly. The assumption that a high number of women experience vocal symptoms in menopause may be indicative of bias within a sample comprised primarily of singers who chose to participate in the survey on the topic, indicating a potential preexisting interest (Smith and Noble, 2025). One participant, however, comment that they did not believe menopause had anything to do with the voice, stating, “I will not say menopause affects the voice in any way,” and embracing her bias against the existence of such symptoms.

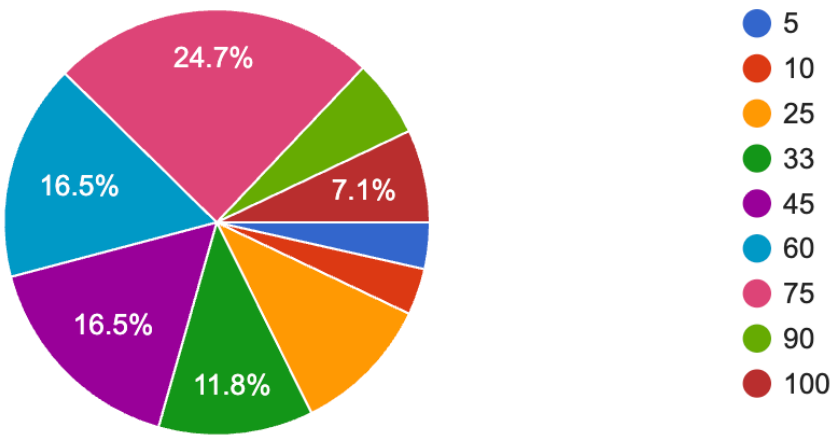


Figure C: Respondent Prediction as to What Percentage of Women Experience Vocal Changes During Their Perimenopausal to Post-Menopausal Years

Thirteen of the 73 respondents who worked with a vocal coach or voice therapist reported discussing potential characteristics of a menopausal voice with them. However, 29 of the 60 respondents who worked as voice specialists reported discussing potential characteristics of a menopausal voice with a client. How, when and by whom the subject

is raised may be worthy of consideration. Kessels (2003) discusses the challenges posed when remembering medical information, highlighting that repetition and multiple modes of communication may be necessary. Hearing information from various sources may also help to increase awareness and understanding as up to 80% of information received from a HCP is immediately forgotten (Kessels, 2003).

Thirty-seven of the 79 participants who were between perimenopause and post-menopause stated that their menopausal transition had an impact on their vocal performance. Twenty-four individuals said Maybe, and 18 said No. To capture the perceived impact of a menopausal voice on one's workload, participants were asked to rate on a Likert scale whether their voice restricted work activities (blue bars) or reduced the chances of getting professional opportunities (orange bars). One signified no restriction or limitation, while 7 signified the most restriction or limitation.

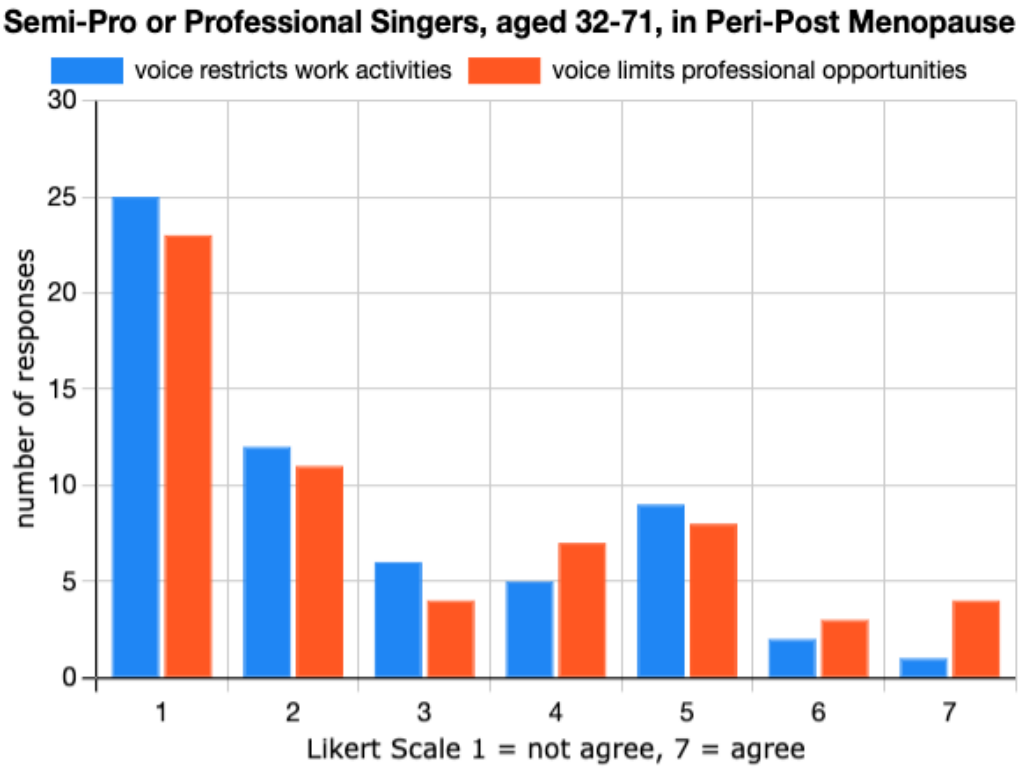


Figure D: The Impact of Experienced Vocal Issues on Work And Opportunities in a Targeted Sample

Data included in Figure D is taken from a smaller sample of 63 participants who were over 32, had at minimum started perimenopause, and were semiprofessional or professional singers. In rating the level to which respondents felt restrictions or limitations, most survey respondents answered questions within a 0-2 point range of each other, staying either below or above 4, the middle option, indicating that singers either felt that the voice tended to both restrict work activities and limit professional opportunities or it did neither, with approximately one out of four respondents reporting more severe vocal experiences.

Forty-six percent of survey respondents said they were aware of the potential characteristics of a menopausal voice. At the end of the survey, participants were asked to identify symptoms from a list that they recognized to be potential menopause symptoms. A definition of the term *menopausal voice* was not offered at the beginning of the survey so that a respondent's knowledge of potential vocal symptoms experienced in menopause could be assessed without offering definitional cues. While some symptoms on the list are specifically related to vocal output, others such as anxiety, depression, mobility, strength, fatigue, brain fog, hydration, and confidence may also impact voice production and quality (Sheren and Sataloff, 2026).

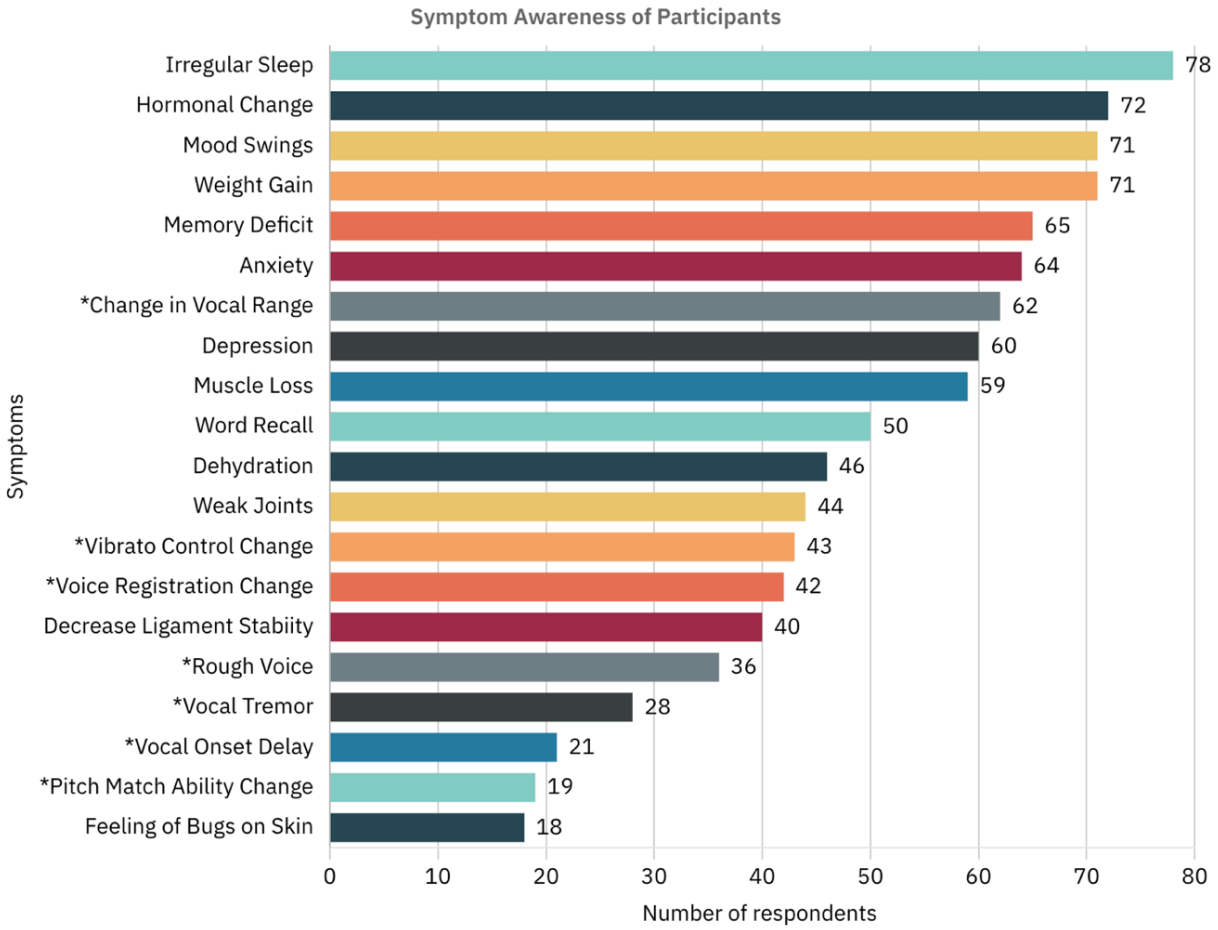


Figure E: Symptom Awareness of Participants

Figure E shows the number of respondents who identified each listed condition as a potential symptom of menopause. Voice related symptoms are indicated with a star (*). Except for change in vocal range, responses indicate that voice related symptoms are not widely recognized menopausal symptoms, even by singers.

Abitbol *et al.* (2019) states a voice indicative of *menopause voice syndrome* may show lack of intensity, fatigue, and a narrowed register. However, the term *menopausal voice* has no clear definition in the published literature. The researcher suggests that using a term to describe the voice itself rather than a vocal syndrome might lend itself to broader discussion among singers. To better understand how the term might be perceived, respondents were asked to list defining characteristics of the term using an open-ended question. This word cloud below shows the breadth of descriptors chosen to define the

term and the following themes emerged: decreased vocal quality and range; instability; impaired tone, timbre, and flexibility; appearing with thickened vocal folds, loss of stamina, and hoarseness; and, causing breaks at the passaggio, lower overall voice and loss of high notes.

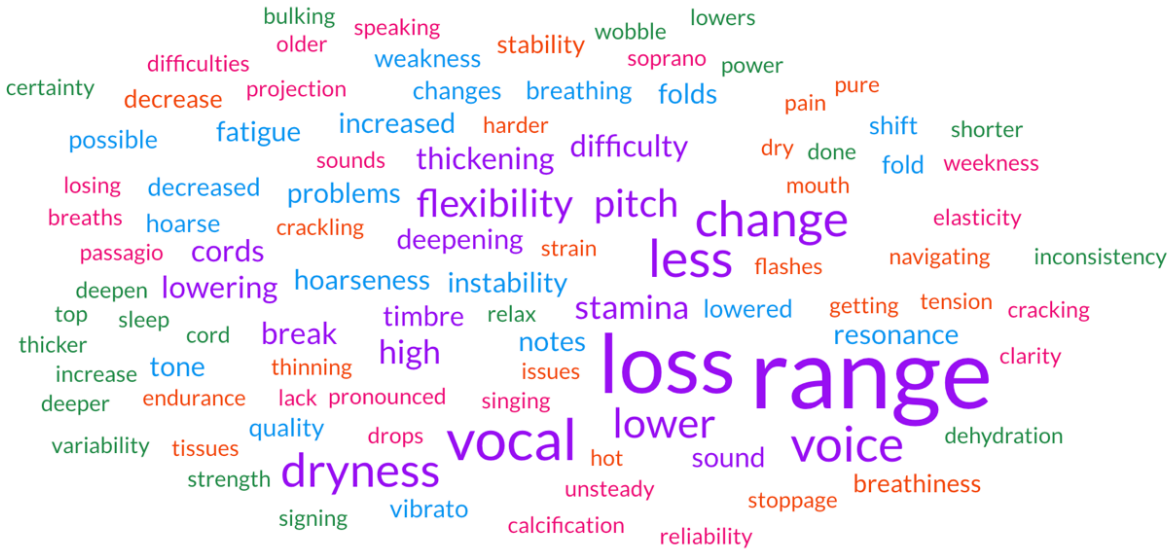


Figure F: Word Cloud Showing Words Used to Describe the Term Menopausal Voice

To gain insight into what respondents would like to better understand regarding menopause and the voice, they were asked to list any topics or keywords they might research independently based on what they read in this survey. Topics noted most frequently included: menopause and voice, perimenopause and voice, hormones and voice, aging voice, vocal exercises for menopause, tremor and vibrato, hydration, vocal stability and onset. Individual symptoms mentioned were anxiety, bugs crawling on skin, cognitive function, ligament stability, memory impairment, muscle loss, range, roughness, vocal health and weight gain.

Part 2: Interviews

Twelve one-on-one interviews were conducted with singers working in musical theater, classical, and pop industries who had performed professionally for 20-50 years (See Appendix J). Interview participants were randomly assigned numbers and referred to below as P1 to P12. Guided by the themes from the survey, interviews examined the professional singer's understanding and attitudes about menopause and its possible impact on the voice, and their lived experiences performing during climacterium.

All interviewees began singing as children. Many considered themselves natural singers and studied privately as teens, often learning classical technique due to the lessons available in their area rather than an affinity for the genre. All participants went to University or Conservatory programs at 17-18 years of age, or began performing professionally in their early 20s, developing their skills through practice. Many felt that their training from a young age greatly influenced the strength of their voices in later life and their ability to recover from vocal stress or overwork, but some developed vocal symptoms at perimenopause and menopause despite their training.

> *P4: I was trained properly when I was young and that is really the biggest reason why I am still performing. It matters who trains you when you're young and I mean from like 15 to 25.*

Symptoms Influencing Vocal Performance

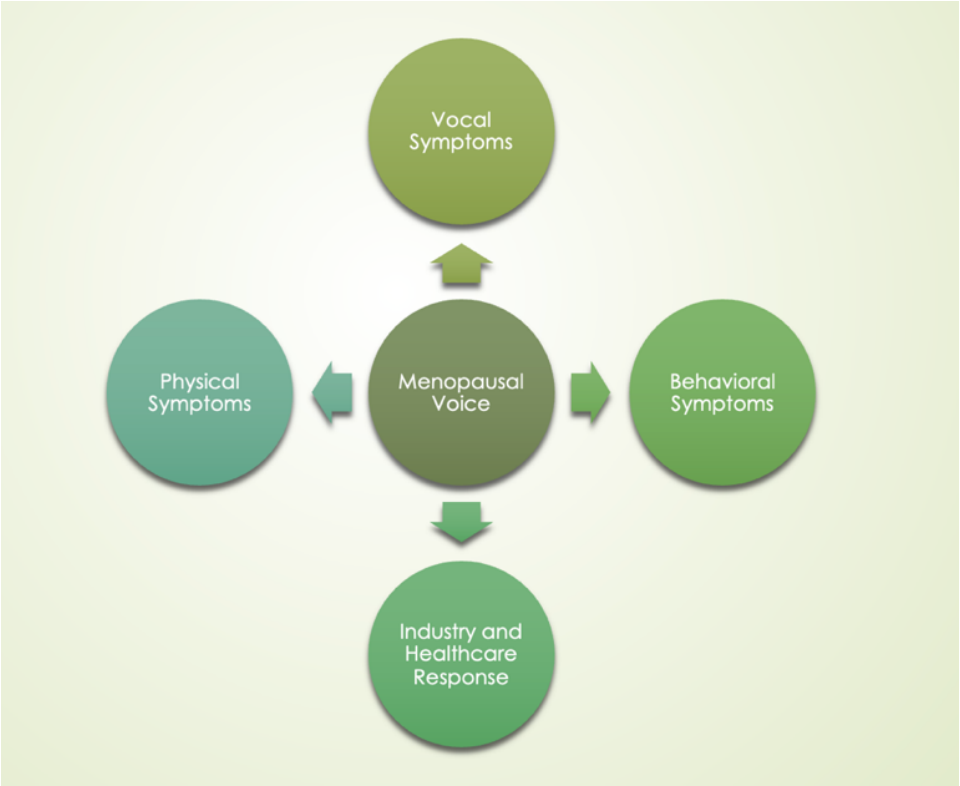


Figure G: Contribution factors and stressors of the menopausal voice

When sharing experiences that impacted performance, survey and interview participants discussed vocal and non-vocal menopause symptoms, as well as societal attitudes.

Vocal characteristics influenced by hormonal change, and non-vocal symptoms that have the potential to influence performance by aggravating physical health, mental stability, and confidence, are discussed below (DeMaio, 2013; Bensoussan *et al.*, 2026; Sheren and Sataloff, 2026). Many of these symptoms were referenced in personal reflections of both survey respondents and interviewees.

Vocal Symptoms

Four interview participants experienced direct vocal symptoms consistent with those described in Figure 5 and in the literature review, from slight vocal changes to classic menopausal voice syndrome, which is characterized by loss of high notes, range shifts,

cracks, breaks, and instability. Others noted vocal change but were either unconcerned by it or experienced other menopausal symptoms that they felt had a greater impact on performance. Those with debilitating vocal symptoms decreased vocal performances and were more motivated to understand the potential impact of menopause on the voice, however they struggled to find physicians familiar with related issues.

P4, a classically trained Broadway singer, recalled that her overall voice quality declined around menopause, along with her breath capacity. She lost her all her notes above C6 and her self-confidence suffered. Fiuza, Sevillano and Lã (2023) emphasize the connection between vocal abilities and a singer's feelings of self-worth and confidence. P4's high notes lost clarity and were less attractive than they once were. While recalling that her vocal muscles knew what to do when she was singing, she noted:

> *The muscles aren't what they were. The best analogy I give people, because there's all this mystery around singing and it's a physical process; what I tell people for a baseball analogy is, this year's Cy Young Award winner pitches a fastball very consistently at 98 miles an hour. So, how fast is that fastball going be when he's 35, 45, 55? Still really good, but it ain't what it was.*

P10, a classically trained professional chorister and voice teacher, experienced vocal issues so extreme that by age 48 she stepped back from performing. She described her voice as becoming cloudy, with lack of clarity, resonance, with an unstable vibrato. She felt her voice did not "authentically represent" her traditional sound. Her experiences decreased her confidence in her voice and led to a heightened level of performance anxiety.

> *There's so much inconsistency in my singing right now that I don't trust my voice, I don't trust myself.*

A stroboscopic exam showed no physical abnormalities and she received a muscle tension dysphonia diagnosis. She reported lowered stamina, being tired, and that singing took more effort than it used to.

> *I feel as though I need a longer warm-up, but if I warm up too much, then I can only sing for 20 minutes after that, and I need to be done. And I'm just like, I can't push this, or I'm going to be hoarse.*

She also contemplated lightening her teaching load, despite the financial hardship that would cause. Teaching required her to sing daily, and she had difficulty demonstrating technique to her students, which caused her to feel like an imposter. P5, who also maintained a private voice teaching practice, reported similar vocal challenges while teaching. She limited herself to no more than 4 lessons in a row due to potential vocal exhaustion.

P9 was a lifelong singer who worked solely as a recording artist and gigging musician from the ages of 16-46, performing multiple genres, often 6 nights a week. However, at age 45 she noticed changes in her voice.

> *For most of your life, you're able to just open-up your mouth and sing. But it was weird, suddenly my voice decided to do something totally different than what I was hoping would come out… I felt like every time I went for a high note, I was hitting a physical wall, I just couldn't fly up into those notes. It was difficult to get that feeling up into my soft palate and up into my mask, and getting regular stuff to happen.*

These challenges, decreased performance opportunities due to COVID, and a job offer outside of the singing industry, led her to change careers. She noted that her voice got deeper, lower, and hoarser. Her speaking register changed and her fatigue escalated. A doctor determined she was menopausal and took her a long-standing hormone all birth control prescription which she felt immediately escalated her symptoms. An ear, nose, and throat doctor (ENT) noted acid reflux, edema and minor varices on her vocal folds and suggested either complete vocal rest for 30 days or a surgical laser treatment to remove the varices. Instead, she completed three months of acid reflux medication and a series of voice therapy session which she felt helped in the short term. However, she still struggles with vocal hoarseness and gruffness at her present job which requires 6-8 hours of continual talking each day. When possible, she takes daily vocal naps. She has not returned to singing.

P5 was an opera singer and professional chorister. In menopause her voice got tighter, and she lost her higher notes. Having received ENT care throughout her career, she had observed her own stroboscopes and noted her vocal cords had become thicker, more sluggish at vocal onset, and less moist, elastic, and vibrant over time. She noted vocal instability and vocal onset issues and had difficulty controlling vibrato and straight tone.

> *I don't even feel it happening … but I get a lack of stability of the pitch, or a lack of control. Particularly on my passaggio. Like, if I have to sustain an E… if that comes up in the repertoire, I'm like pour me a drink, because I don't want to do that, because I know it's going to sound terrible.*

While she still performs in the ensemble, she no longer auditions for operatic solo roles due to a lack of stamina and diminished vocal quality. She noted that the effort required to maintain operatic audition repertoire no longer seemed worth it.

Physical and vocal exhaustion in perimenopause and menopause was mentioned both as an overall health issue that required change in behavior, and a symptom impacting the voice. P3, whose resume included numerous emotionally charged and vocally difficult roles on and off Broadway noted the following about singing.

> *My body's just cranky, and so my body doesn't feel as free and comfortable when I'm singing as it used to.*
>
> *When you're older, it definitely takes a lot more care, recovery, and focus on self and health to stay well enough to be doing it.*

P1, a Broadway performer, described her voice at menopause as richer and lower with more depth. Her ability to hit high-C decreased and generally she felt she had to work harder to sing.

> *I think with menopause there was occasionally little cracks where you felt your voice wasn't quite as supported as it was. You don't feel as free. You don't feel as confident.*

However, because she usually sang in a lower range, she did not feel her professional opportunities were greatly impacted.

P7, also a lifelong Broadway performer, stated that her voice lost some range at the top and felt it required a bit more effort to sustain however, she still felt she could depend on her voice as she always had.

Strikingly, P8 retained a *c'est la vie* attitude consistently throughout the interview. She was hesitant to learn more about menopause because she feared she would notice potentially debilitating things in herself that she might fixate upon.

> *I have always embraced every decade. What is the alternative? We can't go back. So you have to age gracefully … And I'm not belittling anyone who has had severe issues. I am just going on my experience with menopause. Or maybe it was severe for me and I just ignored it because I just simply did what I needed to do to work. And I got through it without too many fires.*

Performance Related Symptoms

> *P10: I think the issues I'm having [with my voice] are not just hormonal. I think there are other symptoms that are contributing.*

While women who participated in interviews were interested in the topic of menopause and the voice and frequently expressed gratitude that the topic was getting attention, they were more hesitant to assume that menopause had impacted their voice in any way unless confounding symptoms remained unexplained or the impact was severe enough to significantly restrict their vocal abilities. Some, upon reflection, acknowledged vocal changes, but were unconcerned. Instead, many interviewees spoke at length about non-vocal symptoms of menopause that impacted their performances in other ways. As each interview developed, an understanding emerged that many additional, commonly reported symptoms, such as excessive bleeding, hot flashes, exhaustion, and brain fog led to unique challenges and were of equal or greater concern to some performers than vocal symptoms. Sheren and Sataloff (2026) confirm that estrogen decline may cause changes to many systems discussed below.

Menstruation

Women in perimenopause often experience irregular menstrual cycles and heavy menstrual bleeding, or menorrhagia (ACOG, 2026). One performer described the anxiety of expecting her period during a concert.

> *P2: [We] call it dragon blood…and in this situation I was like, is it going to happen when I'm out there?*

Another was prescribed tranexamic acid to slow her bleeding; however, the dosage is limited to 5 days each monthly cycle (Mayo Clinic, 2026). Her bleeding was so constant, that she finally opted to have a hysterectomy.

> *P3: [My character] was on stage the whole time… I would be standing there in this emotional scene, and then feel a huge gush, and be like, am I standing in a pool of blood and clots? They were the size of my hand. It was insane. So it became time. … I was trying to avoid it with everything I could, but it just became the obvious choice.*

Recovery from her surgery took longer than expected, causing her to reconsider potential upcoming roles.

Vasomotor Symptoms

Vasomotor symptoms, such as hot flashes and night sweats were a common complaint. In the evening they disrupted sleep, exacerbating exhaustion. But of greater concern was when they occurred during performances causing anxiety, stress and embarrassment.

> *P6: I remember the young ensemble gals, … I would start sweating and they would freak out. They had no idea, you know, that I was having hot flashes … nobody really talked about it.*

P9: I had hot flashes, like waterfalls, down my head, and I remember… I was sitting there singing in my gown and all my makeup, and it was just like someone took a hose on my head…And I'm like, don't look at anybody, just keep singing.

Pain

Pain was a recurring theme in interviews, however its potential connection to perimenopause and menopause was not consistently recognized, and aging itself was suggested as an additional contributing factor. Diagnoses of conditions such as muscle aches, plantar fasciitis, bone spurs can challenge seasoned performers to conform to costume requirements.

P3: The [last] shows I've done … I'm just wearing easy breezy shoes. If I got cast in a show where I had to wear real heels again. I'm not sure what would happen …because now, with all my concerts I'm wearing these platform boots and platform heels, and even then … I can hardly walk as soon as I get off.

Arthritic conditions, chronic joint and muscle pain, and bone spurs were commonly discussed. P11 noted that even after x-rays and MRIs, the cause of her pain remained unidentified.

It got to the point where I couldn't walk up the stairs at night, I couldn't sleep at night, no painkillers would touch it.

Living with recurrent discomfort and chronic pain can cause depression and anxiety, particularly when treatments do not offer relief (Sheren and Sataloff, 2026).

Respiration

Several participants mentioned decreased breath control. Respiratory decline often appears with aging and manifests vocally as a decrease in the amount of air that can be exhaled after a full breath or how long a vowel can be sustained (Awan, 2006). Estrogen decline in menopause and age-related respiratory decline may combine to result in vocal

change observed during menopause (Lenell, Sandage and Johnson, 2019). However, singing has been shown to improve respiratory pressure, which supports a “use it or lose it” attitude expressed by many participants regarding vocal pracice (Stegemöller *et al.*, 2017; Desjardins and Bonilha, 2020; Brown and Stegemöller, 2024) .

> *P1: You have to keep singing, you can't stop. It is an instrument it is something that needs to be constantly visited, even if it's just going around your home or apartment just singing … the times that I didn't sing I felt it because it took me a while to get back to where I felt comfortable you know.*

The topic of breath control also arose in conversations regarding new allergies, sleep apnea, waking up during the night, and excessive snoring. Stress can also trigger shortness of breath and respiratory control issues (ACOG, 2026). Industry-specific related concerns such as stage fog used during performances and poor air quality in hotel rooms that house touring artists were noted as exacerbating respiratory concerns.

Skin Conditions

One participant experienced ferociously itchy skin for a decade in her 40s-50s that could not be identified. Formication, uncomfortable sensations in the skin, can occur during menopause (Bos, Bozeman and Frazier-Neely, 2020). A similar skin sensation was the most unrecognized symptom appearing in Figure 5. After unproductive discussions with her general practitioner, she finally self-diagnosed her condition as brachioradial peritus, which the internet told her could be related to menopause.

> *P7: It was so extreme and I could understand like killing myself just to just to make this ferocious itching stop because nothing helped. I knew that it was like not actually a skin thing because I tried all whatever. It was the worst it was just the worst.*

Mental Health and Cognitive Function

Being out of control, anxiety, panic attacks, emotional surges, focus, and mood swings both on and off the stage were mentioned repeatedly and recognized by most survey respondents as potential menopause symptoms.

> *P2: My main menopausal things so far have more been performance anxiety related, and brain fog related.*

The combination of multiple new and often unexplained physical and psychological symptoms led multiple participants to comment that they felt like they were "going crazy." Two participants were prescribed antidepressants for symptoms including hot flashes, mood swings, and feeling overwhelmed. In both cases, physicians recommended antidepressants over HT. An unfamiliarity with menopausal-related mood swings and emotional rollercoasters by younger actors or male actors led to awkward moments.

> *P7: I was doing a quick change backstage with [a co-star] and we were laughing about something … and then I just started sobbing. And [she] got so nervous that she ran to get my understudy and said "[I was] flipping out. I don't know what's happening! You better get ready." … I mean listen I've been doing this for many, many years and I know how to do what I need to do to get the job done. So you know that was a little bit over the top … she didn't need to go to that extreme. But I do remember my hormones and my emotions were just so crazy at that time.*

Participants mentioned an inability to stay on task or complete projects, similar to what one might expect with ADHD. Estrogen plays a role in regulating neurotransmitters and dopamine dysregulation can intensify ADHD symptoms (Sheren and Sataloff, 2026). While hormonal fluctuations do not cause ADHD, they can heighten ADHD-like symptoms in women who may or may not have a pre-existing diagnosis (Chapman *et al.*, 2025).

> *P3: [Learning lyrics] is a slower process now. It feels like it takes more energy and focus… I can't finish tasks anymore… that's something that's weird for me, because I don't recall being like that… I'm scattered in a way that I don't remember being.*

Thyroid Conditions

One third of menopausal women develop hypothyroid disorders and irregularities in thyroid-hormone production is routinely tested in women over 40. While not necessarily due to menopause, symptoms of the two conditions are similar, including vocal roughness (Crandall, 2019). Daily fluctuations in sex-hormone levels can complicate testing for menopause status and is often not ordered by physicians (Crandall, 2019; ACOG, 2026). However, thyroid levels are more easily monitored and many interviewees reported being tested for thyroid disorders, with one receiving a hypothyroid diagnosis. When testing of any type was done and came back normal, symptoms were often dismissed, and frustration and fear of the unknown worsened.

Brain Fog, Memory and Malaise

Memory lapses are commonly reported in menopause (Crandall, 2019; ACOG, 2026) and can require longer periods of time needed for show preparation. While thrilled to be hired or cast, participants also mentioned a lack of motivation and general emotional malaise impeding their desire to sing for fun.

> *P9: I can remember being younger, and there was a true motivation to sing, and I don't mean perform. I mean, like, driving in the car, in the shower, and you just burst into song… now I just don't feel it.*

A deep frustration and anxiety stemming from trying to understand what was happening to the voice and body and what one could do about it was also repeatedly mentioned

Access to Information

Concerns about access to information came up in multiple interviews. Participants discussed challenges faced in finding and affording care. For those in the Broadway union, Actor's Equity Association (AEA), obtaining health insurance coverage requires employment in an AEA-contracted show for a certain number of weeks, which do not carryover from year to year. With the fewer number of roles available for older women,

these requirements added additional stress to the already competitive audition process for postmenopausal women. Even when roles were available, the structure of these policies were challenging. One participant recounted headlining a show for 5 years, only to stop and lose her insurance within 6 months because she wasn't presently working. Others highlighted the inability to make time for care while they were working, while lacking coverage when they were not working and had time to take care of themselves.

> *P3: I think a lot of women, when it comes to … any health issue while performing; you work longer, or you go back to work faster than you want to, because you're trying to maintain your weeks so that you can keep your insurance.*

Only four survey respondents reported they had spoken with doctors about the potential connection between menopause and voice and most interview participants also noted they had never talked to a HCP about the issue. The few who did, found that the doctors were not knowledgeable about the issue, if willing to entertain it at all. More generally, doctors were perceived as not recognizing the unique impact menopausal issues caused professional singers and how these issues affected a singer's ability to work and perform. At the same time, some participants admitted their doctors might be unaware of their occupation. Without this knowledge, a doctor's ability to ask probative questions is also constrained.

One singer voiced frustration about visiting her gynecologist specifically to ask about HT after experiencing insomnia, vocal issues, and intense hot flashes that she felt were impacting her career. Her doctor denied her request for HT saying she didn't believe in it. An ENT dismissed any connection between her vocal symptoms and menopause, He showed little interest in her vocal training or understanding that her cords were her livelihood, solely blaming her hoarseness on overuse, stress and tension.

The high costs of seeing doctors in the US who specialize in menopause or hormone treatment, or vocal coaches with knowledge of alternative treatments or strategies for the menopausal voice were cited as limiting factors in accessing information.

> *P3: Some of these high-end teachers that cost a gazillion dollars talk about it … but only, like, star people go to them, because they can afford it.*

Conversation and Stigma

As more women age and remain in the working world, conversation about menopause is increasing, however, the historical practice of staying silent about one's menopausal journey "shapes the lived experiences of women going through menopause and influences the broader societal understanding of this life stage" (Laker and Rowson, 2025 at p. 67).

> *P8: You can't talk about menopause because … it says you're old as an actress. Again, that's me. That is that's my experience. That may not be everybody, you know, there may be other actresses you talked to that they're wide open about it all - like oh yeah, I had to put a fan on the stage.*

Walters (2023) interviewed professional opera singers about singing through menopause and noted concerns expressed regarding the potential repercussions of talking about vocal difficulties. Lack of openness and a feeling of safety and support in discussing one's menopausal and health issues perpetuates a culture of isolation for women; one in which they must take care of themselves, grin and bear it, or search for their own health related responses rather than seek out medical care (Laker and Rowson, 2025). When individuals do not discuss issues with physicians, the level of understanding of an issue fails to grow, leading to a slow uptake of relevant information by the medical community, a reliance on community for care advice, and calling on individuals to self-diagnose (Sheren and Sataloff, 2026).

P9 asked a voice teacher she had worked with years before about her vocal issues in menopause and wondered if she should cancel an upcoming concert. Her teacher advised her to not tell anyone.

> *Don't you tell a soul. That was her advice to me…. I remember taking her advice really seriously. So I told no one, but then when you don't say anything, you get no help. I understand that she was trying to protect me. And trying to protect my career… But it was an emphatic, do not tell anyone.*

Participants were asked if there was any camaraderie felt amongst women going through menopause. Did younger generations ask older actors about it? Did older singers feel understood as they were going through it? The overwhelming response was no.

> *P3: I feel like I didn't know about any of this, or no one talked about any of this until I was in it.*

This response was markedly different than responses in the survey where a vast majorty of singers who reported discussing menopause, talked with friends, colleagues, and family. Professional singers reported conversations between close friends, friends who were not co-workers, or mom groups, but usually among people of similar age or menopausal status. This might be attributed to the competitive nature of the performance industry, and further study is warranted. Younger singers were reported to more commonly ask for mentorship and advice regarding how to best manage a family or when to have children, topics deemed more immediate and relevant to pre-menopausal women. But overall, a disconnect between generations was discussed by several post-menopausal women. P7, a woman in her 60s reflected the following.

> *It's changed now because it feels to me with very few exceptions that younger people have no interest in what the old folks have to say … and that's a shame too because that just feels like such a lost opportunity. It's one of the beautiful things about theater that it's so multi-generational … every once in a while I'll meet a young person in a show who is open and it's such a pleasure because it's so often now not the case.*

Participants also commented on their comfort level discussing menopausal issues or constraints with producers, directors or hiring personnel. Two participants said they might, if the individual in question was female and older than them. Most had not tried specifically, and their attitudes varied on the topic. Some participants reported feeling more empowered to self-advocate at their present age than they had when they were younger, while others were more guarded.

> *P9: You can't ask for help, because you're being hired to do a job, and if you ask for help, it means you can't do the job.*

Hormone Therapy

In 2002, a widely publicized Women's Health Initiative study led to serious concerns about the health risks of HT. While the study focused on the potential use of HT to prevent heart disease in postmenopausal women, the results were extrapolated for menopausal symptom control and prescriptions plummeted (Crandall, 2019; ACOG, 2026; Sheren and Sataloff, 2026). Recently, HT has received heightened attention in publications and the media as doctors re-analyze its efficacy for treatment of menopausal symptoms (Sheren and Sataloff, 2026). Some consider the hesitancy to prescribe HT unjustified (Cagnacci and Venier, 2019).

While access is improving in many countries, HT use is not standardized across the US or internationally. Interview participants report that finding doctors who are up to date on hormone treatment, particularly as a benefit for the singing voice, is challenging. Sheren and Sataloff (2026) call on voice teachers to educate themselves on the use of HT while the medical community catches up.

Overall, interview participants under 60 years of age reported few conversations with HCPs about hormones, menopause, and voice. When conversations did occur, they were often patient initiated and met with dismissal.

> *P9: I asked the big, big voice expert that I'd waited a year for: do you think that this could possibly be menopause related? And he said, no. No, no, not at all. And I said, are you sure? … He said, no, generally, that doesn't affect the voice and my gut was like, I don't think he's right.*

HT may be counter indicated for women with a higher risk of certain cancers, unexplained vaginal bleeding, fibroids, blood clots, stroke, heart attack or other diseases, as well as women over a certain age (Bensoussan *et al.*, 2026). For those who decline to use HT, do not have access, or have counterindications, navigating health concerns remains challenging, particularly when symptom causation is not clearly understood. (See Appendix H).

Discussion

Learning Objectives

Personal learning objectives were achieved regarding developing interviewing, survey design, and journal entry skills, and gaining a better understanding of the interplay between menopause and the voice, existing support mechanisms for vocalists experiencing symptoms, and gaps in the literature. The literature review increased the researcher's understanding and revealed that while menopausal symptoms and vocal changes during climacterium are documented, this information is not widely shared. Therefore, additional research is warranted. Consideration of the vocal implications of seemingly unrelated menopausal symptoms is needed to support wholistic healthcare strategies for singers. A better understanding of the potential risks and benefits of HT for the singer compared to other treatments prescribed for menopausal symptoms would also be beneficial.

The researcher developed her interview skills and was reminded of the deeply personal nature of singing as participants shared their experiences. While interviews remained semi-structured, adhering to outlined questions (see Appendix I), flexibility in design was necessary as interviews grew in length. Respondent initiated discussions helped the researcher to develop a shared safe space for personal reflection (Bourke, 2014) uncovering topics for future research and next steps in the researcher's professional practice. The value of this safe space became apparent when encouraging open and honest conversation (Miller, 2017). Assured confidentiality also allowed complete candor and emotional honesty, expressed by many interviewees.

> *P9: Your voice is the one thing you can do, it's always there for you, you know? That's where the heartbreak comes.*

Survey design led to a re-evaluation of the study's methodology. Recognizing that one of the purposes of the survey was to inform interview design, rather than provide quantitative data, the researcher leaned into the qualitative themes that emerged. In future studies, reconsideration of a mixed-method design for documenting individual experiences is warranted. The researcher kept a journal to document interactions with

research participants, lessons learned, and implications for future research (see Appendix O). Numerous ethical implications were also considered as singers reflected on vocal changes and challenges faced when performing.

Survey Sample Reflection

Walliman (2001, pp. 275-281), discusses various types of sampling used in research design. This study sought to collect opinions and experiences of singers and assess their knowledge base. The survey was distributed to any woman over 18. Upon reflection, this did not best align with the study's purpose. The small number of respondents who were not singers, or were premenopausal, did not have the same background and familiarity with singing through climacterium as older women who sang regularly. Further, because respondents were recruited primarily from the singing community, there was a smaller chance that non-singers would participate, a requirement for simple random sampling (Walliman, 2001).

Instead, a stratified sample of semi-professional and professional singers would have streamlined comparison between survey results and interview commentary. Recruitment also embraced convenience sampling, through the researcher's membership in discussion groups within the singing community that were contacted for study participation (Walliman, 2001). While convenience sampling often only reflects the experiences of the group surveyed, it aligns with the qualitative analysis used, and provides foundation for further studies (Walliman, 2001).

With this reflection in mind, the researcher scrutinized responses and reanalyzed data from questions presented in Figure D on page 34. The modified sample included only women over 30, who had at minimum started perimenopause, and who were semiprofessional or professional singers. Considering only these 63 individuals who met the new inclusion criteria better ensured both a minimal amount of time spent on singing each week and therefore a certain level of vocal activity, and at least a cursory understanding of the term menopause.

Despite the widespread distribution of this survey through Facebooks lists, only a small number of premenopausal women participated. This aligns with the contention of some

interview participants that one is more likely to be interested in this topic after one experiences perimenopausal symptoms. It also causes one to reflect upon the question of how young is too young to begin talking about menopause? Additionally, if future training programs were developed that better strengthened the voice to accommodate hormonal change, would such programs be embraced by premenopausal singers?

Bias Reflection

Many individuals may have been drawn to the survey because of an existing vocal issue or a pre-existing interest in the topic, resulting in the potential for inclusion bias (Smith and Noble, 2025). In this case bias would not alter the parties reported experiences, but the researcher must remain aware of potential issues in assessing trends in data and proposing study conclusions (Smith and Noble, 2025). For example, when survey participants were asked to rate the level to which they felt their voice either restricted their work activities or reduced the chance of obtaining professional opportunities (see Figure D), results showed that all 23 respondents who rated either question as 4 or higher also reported that they felt perimenopause or menopause impacted their voice. A pre-existing awareness of the relationship between menopause and voice might have influenced the result. However, only 13 of these 23 individuals answered that they had at some point been made aware of the potential characteristics of a menopausal voice, leading the researcher to ponder from where participants were getting their information and how they arrived at their conclusion.

In contrast, interview subjects who were recruited through professional and personal channels were asked to participate due to their professional status in the performing industry, regardless of their familiarity with the research topic. This allowed the researcher access to elite vocal performers with over 20 years of fulltime experience. Cherry-picking research subjects can evoke concerns of bias, and such concerns were mitigated by including all experiences no matter the opinions presented (Morse, 2010).

Lastly, the researcher noted the tendency of menopausal researchers to exclude vocal symptoms from lists of symptoms in menopause related publications and research

studies (see Appendix E). However, in reviewing interview responses, the researcher noted that she had fallen victim to the same strategy and excluded common symptoms reported in interviews such as irregular and excessive bleeding, hot flashes and reflux. Such omissions in research can be indicative of researcher bias, thereby potentially influencing outcomes and responses (Garattini and Liberati, 2000; Pannucci and Wilkins, 2010). Future studies might include a longer list of symptoms for comparison, allow participants to name their own symptoms, or randomly generate included symptoms to avoid researcher bias.

Positionality Reflection

Issues of positionality arose when respondents assigned expertise to the researcher's identity and requested guidance, explanation, and advice regarding menopause and vocal health related issues (Bourke, 2014). Such ancillary-care conundrums were anticipated and were particularly challenging when singers reported difficulty finding reliable information about menopausal voice issues or obtaining compassionate care. The researcher was acutely aware of her own subjectivity and ethical responsibility to provide support but not advise interviewees outside of her area of expertise or licensing. Relevant publications and websites were sent to follow-up on answers to questions that were outside the researcher's expertise. Some participants offered commentary that contradicted published research and were adamant in their beliefs about singing and menopause. For example. one survey respondent implied it was irresponsible to author a study on this topic because menopause had absolutely no impact on her voice or any voice. Other discussion raised healthcare concerns such as a belief that testosterone therapy did not influence vocal tone or quality. In such cases, a balance was struck between offering advice, supporting personal healthcare decisions, suggesting additional health care strategies, and passively listening.

Conclusion

Over 50 years ago Brodnitz (1971) noted that published information on the topic of hormones and the human voice was failing to reach specialists and general practitioners whose patients might benefit from their knowledge of the issue. Most recently, Sheren and Sataloff (2026) echoed Brodnitz' concern calling on voice teachers and practitioners to stay on top of the issue to best benefit their singing clients and help them recognize out of date medical guidance.

A similar theme emerged in this study. Few singers, no matter their expertise, discussed menopause and voice with their HCPs. While many singers were aware of vocal health implications of menopause, some were more concerned with additional symptoms affecting performance and confidence. Singers were more likely to discuss menopause and vocal symptoms with voice instructors or friends. This is possibly due to comfort level and trust; however, cost and challenges to physician access also played a role. Educational campaigns regarding HT, voice, menopause, treatment strategies, and specific performer concerns would benefit the singer, voice specialist, and physician.

Individuals from both parts 1 and 2 of this study tended to fall into one of three narratives:

1) Singers with debilitating vocal issues in perimenopause or menopause that led to a restriction of professional singing activity,

2) Singers with general menopausal symptoms that negatively impacted performing, either physically or emotionally, or

3) Singers with no recognized symptoms or symptoms deemed insignificant to singing and performance ability.

While up to 46% of women experience voice related menopausal symptoms, the topic remains underexplored, symptoms underrecognized, and support mechanisms insufficient (Bensoussan *et al.*, 2026; Sheren and Sataloff, 2026). Encouragingly, in 2025 major news organizations published articles on the impact of menopause generally, with the New York Times listing impact on the voice among possible symptoms (Astor and

Bagnarelli, 2025). In popular culture women are beginning to share and celebrate their own journeys through menopause, with celebrities such as Oprah Winfrey, Halle Berry, Tracee Ellis Ross, Brooke Shields, Stacey London, and Drew Barrymore leading the way. Media has embraced women singing and performing in later life with shows such as BBC's Riot Women. Multiple menopause-related documentaries are anticipated soon including *The M Factor 2: Before the Pause*, focused on peri-menopause, and *Menopunks* diving into the history and impact of the WHI study on hormone replacement therapy options for women in climacterium. Advocacy campaigns encouraging the inclusion of menopausal voice issues in vocal pedagogy and health materials, medical texts, books written for the non-medical reader, hospital and healthcare websites, and news media books would increase issue awareness. Additionally, inclusion of the topic in medical school, speech pathology, and vocal pedagogy curriculums would create a new generation of voice and healthcare providers sensitive to the issue.

Menopausal stigma and judgement regarding vocal health issues are real and impact the professional singer. While many women report vocal changes along with little level of concern, those with more extreme vocal symptoms and significant impact on livelihood are not receiving the care they need. Additional researcher is warranted on vocal quality issues and a singer's QOL. Omission or mischaracterization of QOL measures cloud the importance of menopausal voice issues to populations of women who use their voices professionally, curtailing potential attention to the issue. For example, Yalim *et al.* (2026) finds that changes to vocal characteristics during menopause are unrelated to QOL using measures taken with the subjective VHI-10 questionnaire. Future researchers might consider topically specific measures such as the Menopausal Voice-Related Work Limitation Scale (MenoVWL) which focuses specifically on measuring self-perceived menopausal voice-related limitations in female professional voice users (Lã *et al.*, 2025).

Despite vocal and performance related symptoms, study participants also reported feeling newly empowered around the age of 50 to take care of themselves and self-advocate in ways in which they were uncomfortable doing in the past. Others reported that their voice felt more grounded, comfortable, and attached to their emotions, reiterating that even with certain vocal quality changes, their voices were still serving

them quite well. These attitudes cause the researcher to reflect upon positive-themed outcomes that may be experienced in menopause and suggest that the term *menopause* be reclaimed and redefined as the beginning of a period of life focused on self, rather than an ending to the ability to reproduce life.

Experiences of professional singers can guide others through menopausal vocal change, helping all individuals to sing well past their 50s (DeMaio, 2013). At the same time professional singers may require more than average care as their work often demands repetitive vocal output with intensive pitch, range, duration, and volume requirements (Ryan and Kenny, 2009; Waters, 2023). In this study professional vocalists overwhelmingly advocated for regular singing throughout the entire vocal range to keep the voice in top condition and ready for work. While a consistent strategic regime to maintain vocal strength and quality was not identified, this author echoes the call made by Fiuza, Sevillano and Lã (2023) for the development of evidence-based exercise programs and voice habilitation strategies focused on menopause-related vocal change. Rodney and Sataloff (2019) note that the ability of a singer to sing through vocal challenges despite physical compromise, is what differentiates a good singer from a great one. For singers with debilitating vocal issues, singing through the menopausal storm is often not possible. Collaborative studies designed by physicians and voice specialists would elevate these issues among professionals in both occupations, improving care and increasing trust, cooperation, and communication between specialists. Bos, Bozeman and Fraizer-Neely (2022) highlight the benefit of working with collaborative voice care teams including a laryngologist, speech language pathologist, and singing teacher. The development of these and broader health networks who work with singers throughout menopause is long overdue.

Singers would also benefit from future studies that examine the attitudes of medical providers who treat singers as they navigate climacterium. The development of a network of physicians and healthcare providers who are familiar with performer specific issues in menopause would ease the burden of obtaining referrals and accessing supportive healthcare. In addition, advocacy for such caregivers to consider the often-sporadic income levels, insurance status, and time restraints of performers would

improve care accessibility. Numerous participants suggested that facilitated learning, roundtables, and discussion opportunities led for women, by women, on the topics of menopause, performance, and voice would be most welcome. As singers age and remain active performers, continued investment in developing a robust understanding of the body, the voice, and menopause would support the maintenance of a strong and functional voice later in life.

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Appendix A - Research Permission Letter from Karen Harris

Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

PG2 / E1 FORM

Letter of Permission

Karen Harris
Karen Harris Vocal Studio
4621 46th ST NW
Washington DC 20016 USA

7 July 2025

Dear UWTSD,

RE: An Assessment of the Professional Vocalist's Experience of Singing and Speaking through Menopause: Strategies, Adjustments and Support Available.

I confirm that I approve of the research proposed into: *An assessment of the professional vocalist's experience of singing and speaking through menopause: strategies, adjustments and support available* to be carried out by Karen Harris of Karen Harris Vocal Studio through online communication, focus groups, interviews and observations which may be carried out virtually via Zoom or online, or in-person between August 2025 and May 2026.

Kind Regards,



Karen Harris

Appendix B - UWTSD Approved Ethics Form

Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

RESEARCH STUDENTS This form is to be completed by the student within **SIX** months for full-time students and **TWELVE** months for part time students, after the commencement of the research degree or following progression to Part Two of your course. Once complete, submit this form via the ***MyTSD Doctoral College Portal*** at (https://mytsd.uwtsd.ac.uk). This document is also available in Welsh.
RESEARCH STAFF ONLY All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.
STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

1	Full Name:		Karen Harris			
2	Tick all boxes that apply:		Member of staff:	☐	Honorary research fellow:	☐
	Undergraduate Student	☐	Taught Postgraduate Student	☐	Postgraduate Research Student	☒

3	Institute/Academic Discipline/Centre:	WAPPAR The Voice Study Centre - UWTSD
4	Campus:	Carmarthen/Online
5	E-mail address:	Karenh@gmail.com
6	Contact Telephone Number:	1-202-841-5626

	For students:	
7	Student Number:	226054
8	Programme of Study:	MA in Professional Practice (Voice Pedagogy)
9	Director of Studies/Supervisor:	Julie Crossman/Debbie Winter

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)		**YES**	☒	**NO**	☐
					Date	
2	If Yes, please indicate source of approval (and date where known): ***Approval in principle must be obtained from the relevant source prior to seeking ethical approval***	Research Degrees Committee		☐		
		Institute Research Committee		☐		
		Other (write in) WAPPAR Ethics Board		☐		

SECTION C: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.	
1	**UWTSD Research Ethics & Integrity Code of Practice**	☒
2	**UWTSD Research Data Management Policy**	☒
3	*Review of USA and Washington DC guidelines do not add additional requirements (See discussion of Belmont Report below). No covert research will be done, and participants will be asked to consent before participating.*	☐

SECTION D: External Collaborative Research Activity
If there are external collaborators then you should gain consent from the contact persons to share their personal data with the university. If there are no external collaborators then leave this section blank and continue to section E.

1	Institution					
2	Contact person name					
3	Contact person e-mail address					
4	Is your research externally funded?		**YES**	☐	**NO**	☐
5	Are you in receipt of a KESS scholarship?		**YES**	☐	**NO**	☐
6	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	**YES**	☐	**NO**	☐
7		Employed	**YES**	☐	**NO**	☐

8	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)?	If YES then the permission question below does not need to be answered.	**YES**	☐	**NO**	☐
9	Has permission to undertake the research has been provided by the partner organisation?	(If YES attach copy) If NO the application cannot continue	**YES**	☐	**NO**	☐

Where research activity is carried out in collaboration with an external organisation

10	Does this organisation have its own ethics approval system?	**YES**	☐	**NO**	☐
	If Yes, please attach a copy of any final approval (or interim approval) from the organisation (this may be a copy of an email if appropriate).				

SECTION E: Details of Research Activity

1	Indicative title:	An assessment of the professional vocalist's experience of singing and speaking through menopause: strategies, adjustments and support available.		
2	Proposed start date:	15 July 2025	Proposed end date:	30 May 2026
	Introduction to the Research (maximum 300 words per section) **Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the points below:** *Purpose of Research Activity* *Proposed Research Question* *Aims of Research Activity* *Objectives of Research Activity* Demonstrate, briefly, how **<u>Existing Research</u>** has informed the proposed activity and explain *What the research activity will add to the body of knowledge* *How it addresses an area of importance.*			
3	**Purpose of Research Activity** Research has shown that hormones can impact the voice. However, permanent changes in hormone production inherent during menopause (and the peri-menopausal and post-menopausal years) and the impact these changes have on the professional vocalist have not been addressed in depth in the literature. Women's health issues and their impact on professional success and earning potential also have not received robust attention in the performance industry. Physiological changes inherent with menopause can impact vocal range, timbre and agility. For a professional singer, these changes may be addressed with modifications in vocal routine or vocal healthcare, be ignored, or go undiagnosed. The purpose of this study is to research the professional performer's practice and use of their singing and/or speaking voice through menopause, reflecting on physical changes, personal habits and experiences, psychological response, professional satisfaction, vocal self-assessment, preparedness, and industry response. If enough participants cannot be found from the performance industry, subjects may be recruited from other professions in which individuals rely on the voice such as teaching, litigation or public speaking.			
4	**Research Question** How are professional female performers supported and prepared to navigate changes that may occur to the voice before, after and during menopause?			

5	**Aims of Research Activity** To determine what protocols, practices and materials are available to women who rely professional on their voice to help them navigate vocal changes during the menopausal years? (this box should expand as you type)
6	**Objectives of Research Activity** 1. To examine individual vocal and singing practices before, during and after menopause. 2. To assess the perception of support received by vocal coaches and music directors to women experiencing potential menopausal-related vocal change. 3. To assess the level of support received by vocalists from doctors familiar with the relationship between voice and menopause. 4. To determine industry response to voice, menopause and aging. 5. To assess attitudes of vocalists (professional singers or speakers) to voice and menopause. 6. To gain insight into whether perception and use of the voice is altered based on experiences with menopause. 7. To document examples of personal industry experiences of women during the menopausal years. 8. To evaluate women's self-assessments of their voice at their present age and perceived changes from their prior vocal ability. 9. To assess vocal care practices before, during and after experiencing menopause. 10. To assess the vocalist's level of knowledge and insight into physical changes caused by menopause and its impact of the voice. 11. Develop suggested guidelines for vocal care for women in perimenopause and menopause.
	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that **may** be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods here, but should instead describe how you intend to collect the data necessary for you to complete your project.
7	• Mixed Method Research Design • Literature review – with the purpose of assessing existing literature and research on menopause, it's potential impact on the voice, hormonal influences on the voice, historical and present industry response to menopausal, aging or menstrual issues, attitudes towards and perceptions of female voice changes that may be medically influenced, best practices for vocal care, and identification of gaps in the literature and research to date. • Surveys/Questionnaires – with the purpose of assessing: knowledge of the relationship of hormones, menopause and voice, vocal self-assessment, vocal care practices, singing practices, and extent of or gaps in knowledge of research subjects on the research topic. • Interviews – to develop in-depth discussions with professional vocalists (singers and/or speakers) about the experiences of working through the menopausal years. • Diary/ Reflective Journal – A researcher's diary will be kept to document impressions and reflections during the research process. It will also help to preserve impressions of participants who may withdraw from the research project. • Video/Audio recording – recording will allow the researcher to review interviews and better represent what has been shared. Recording will require explicit consent from the participant. • Focus Group – Sessions are envisioned with vocalists to discuss in a group setting the attitudes towards, understanding of, experiences with and practices before during and after menopause.
	Location of research activity Identify all locations where research activity will take place.

8	Independent data collection will be carried out under a mixed-method research design. Participant recruitment may reach an international audience. The majority of participants is expected from the USA and the UK, due to the researcher's location and personal contacts. Data will be collected using online recruitment through social media, professional discussion groups, and online and in-person outreach to colleagues and friends. All participants will be required to consent before participating in any method of research. Online questionnaire surveys will be distributed.
	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants. If you live in the country where you will do the research then please state this.
9	Researcher is based in Washington DC in the United States and all communications will be initiated from there. In-person interviews will take place in the USA. Online interviews will take place via Zoom at mutually convenient times for the participant and researcher. Principles laid out in the Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research developed by the USA Department of Health, Education, and Welfare will be followed. These ethical principles are: maintain respect for individual autonomy and protect those with a limited capacity for self-determination, determine to minimize harm and maximize benefits, and treat all individuals equally. (https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html) No local guidelines exist that raise ethical stipulations beyond those usual in the UK.

10	Use of documentation not in the public domain: Are any documents **NOT** publicly available?	**NO**	☒
		YES	☐
11	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with the current data protection law of the country in question and that of England and Wales. *(this box should expand as you type)*		

	Does your research relate to one or more of the seven aims of the Well-being of Future Generations (Wales) Act 2015?	**YES**	**NO**
12	A prosperous Wales	☐	☒
13	A resilient Wales	☐	☒
14	A healthier Wales	☐	☒
15	A more equal Wales	☐	☒
16	A Wales of cohesive communities	☐	☒
17	A Wales of vibrant culture and thriving Welsh language	☐	☒

18	A globally responsible Wales	☐	☒
19	If YES to any of the above, please give details:		
	(this box should expand as you type)		

SECTION F: Scope of Research Activity

	Will the research activity include:	**YES**	**NO**
1	Use of a questionnaire or similar research instrument?	☒	☐
2	Use of interviews?	☒	☐
3	Use of focus groups?	☒	☐
4	Use of participant diaries?	☒	☐
5	Use of video or audio recording?	☒	☐
6	Use of computer-generated log files?	☒	☐
7	Participant observation with their knowledge?	☒	☐
8	Participant observation without their knowledge?	☐	☒
9	Access to personal or confidential information without the participants' specific consent?	☐	☒
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
12	Investigation of participants involved in illegal activities?	☐	☒
13	Use of procedures that involve deception?	☐	☒
14	Administration of any substance, agent or placebo?	☐	☒
15	Working with live vertebrate animals?	☐	☒
16	Procedures that may have a negative impact on the environment?	☐	☒
17	Other primary data collection methods. Please indicate the type of data collection method(s) below.		
	Details of any other primary data collection method: (this box should expand as you type)	☐	☐

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

If there are no participants then do not complete this section, but go directly to section H.

	Who are the intended participants:		

		YES	NO
1	Students or staff at the University?	☐	☒
2	Adults (over the age of 18 and competent to give consent)?	☒	☐
3	Vulnerable adults?	☐	☒
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
5	Prisoners?	☐	☒
6	Young offenders?	☐	☒
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
8	People engaged in illegal activities?	☐	☒
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent.	☐	☒
	Details of any other participant groups: (this box should expand as you type)		

	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
10	How many participants are expected?	100 surveys 5-25 interviews
11	Who will the participants be?	Participants will be women who have used their voices professionally as singers and/or actors before, during and/or after menopause. Participants may be strangers or individuals known to me. If enough participants cannot be found from the performance industry, subjects may be recruited from other professions in which individuals rely on the voice such as teaching, litigation or public speaking.
12	How will you identify the participants?	Participants will be identified through targeted requests of individuals via email or in-person contact, outreach through professional contacts who know people who may qualify for the study, and via solicitations on social media platforms and professional discussion groups.

	Information for participants:	YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
14	Will you tell participants that their participation is voluntary?	☒	☐	☐
15	Will you obtain written consent for participation?	☒	☐	☐

16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
17	If the research is observational, will you ask participants for their consent to being observed?	☒	☐	☐
18	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
22	If NO to any of above questions, please give an explanation			
	Q 20, participants will be told that their data will be kept confidential, and if any publication occurs, data will only be identifiable with the express written consent of the participant. If no consent is given, data will remain fully confidential. *(this box should expand as you type)*			

	Information for participants:	**YES**	**NO**	**N/A**
24	Will participants be paid?	☐	☒	☐
25	Is specialist electrical or other equipment to be used with participants?	☒	☐	☐
26	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
28	If YES to any question, please provide full details			
	Q 25 Video cameras and voice recorders may be used.			

SECTION H: Anticipated Risks

	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.		
1	**Full risk assessment completed and appended?**	**Yes**	☐
		No	☒
2	**Risks to participants** For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
	Risk to participants: Risk to Participant: 1. Data breach 2. Emotional Distress *(this box should expand as you type)*	*How you will mitigate the risk to participants:* 1. All participants will be assigned a number and personal information will be separated from files. All survey data will be anonymized. All data will be destroyed at the completion of the study unless permission is granted to retain individual recordings. Data will be kept	

		on researcher's computer which is password protected and in a locked office. Any research shared with researcher's advisor tutor will be anonymized. 2. Singing and performing are often very personal endeavours. Menopause and aging may trigger emotional responses. Research participants will share practices and open themselves to fear of judgement and analysis. Vocalists or performers may feel self-conscious as they discuss their experiences, or feel anger or embarrassment or additional emotions. These feelings of self-consciousness will be mitigated by reviewing the consent process and the purpose of study and reaffirming that all interviews will be anonymized. Participants will be given the opportunity to withdraw consent at any time. *(this box should expand as you type)*
3	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	As stated in 4, women may feel some embarrassment when discussing their experiences with their voice, aging, menopause and professional industry response. Research by nature implies some sort of judgement will be made. To mitigate feelings of discomfort, a verbal check-in will be done before and after any in person or virtual interviews or sessions. When interviewing, the purpose of the study will be reviewed with all participants. In the case of insecurity or anxiety, resources such as the book Singing Through Change will be recommended. In extreme cases, participants may be referred to a mental health hotline such as https://mentalhealthhotline.org/anxiety-hotline/ in the USA. Vocal or medical follow-up will be recommended if any health concerns are uncovered.	
4	**Risks to the investigator** For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to the investigator: 1. Data exposure 2. Video release 3. Accusation of emotional distress 4. All participants withdraw or smaller number of participants than expected *(this box should expand as you type)*	*How you will mitigate the risk to the investigator:* 1. All data will be kept on my personal computer which is password protected in my locked office. Records will be deleted at the publication of this study. Any data shared with advisors will be anonymized. 2. All video taken will be stored on a password protected google file. 3. Survey participants may opt out at any time. Individuals may withdraw consent to participate at any time. Participants will be reminded of their rights before and after participation. Subjects interviewed may opt to not answer

		questions with which they are uncomfortable. 4. All research is worthwhile for its reflective properties. I will keep a reflective journal to draw upon for ideas regarding future research and lessons learned. I will keep in touch with my tutor for guidance on how to handle and mitigate low participation if it arises. *(this box should expand as you type)*
5	**University/institutional risks** For example: adverse publicity, financial loss, data protection	
	Risk to University: 1. Data breach 2. Adverse publicity 3. Mistakes made	*How you will mitigate the risk to the University:* 1. All data will be kept on my personal computer which is password protected in my locked office. Records will be deleted at the publication of this study. Any data shared with advisors will be anonymized. Raw data will not be shared. 2. As this is an exploratory study of opinions, experiences and practices in the field, any reporting done will be based on industry practice, and not reflective of the researcher's personal opinions which will mitigate any potentially skewed or biased findings. 3. Risk of mistakes and their reflection on the University will be mitigated by a clear statement that I am the sole researcher on this project. *(this box should expand as you type)*
6	**Environmental risks** For example: accidental spillage of pollutants, damage to local ecosystems	
	Risk to the environment: As this is a research project taking place through surveys and interviews, no risks to the environment are anticipated beyond the accumulation of paper resources.	*How you will mitigate the risk to environment:* All paper resources used will be disposed of in a recyclable manner in accordance with local regulation and practices. Any materials with identifying information will be shredded before they are disgarded.

	Disclosure and Barring Service			
	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	**YES**	**NO**	**N/A**
7	Does your research require you to hold a current DBS Certificate?	☐	☒	☐
8	If YES, please give the certificate number. If the certificate number is not available please write "Pending"; in this case any ethical approval will be subject to providing the appropriate certificate number.			

SECTION I: Feedback, Consent and Confidentiality

1	**Feedback** What de-briefing and feedback will be provided to participants, how will this be done and when?
	A project specific email address that forwards to me will be set up as a contact method during and after the project.
2	**Informed consent** Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	For consent to online questionnaires or surveys, the purpose of the research project, summary of topics covered and mandatory click box confirming consent will be provided before participant can access survey. Language similar to "By clicking this box and going to the next section, you are providing your consent to be part of this study." At the completion of the survey, a statement similar to "Thank you for your participation. You may withdraw your data from this study by emailing the researcher directly at xxx@email.com" For interviews or focus groups an oral explanation of the project, its purpose, what is to come in the live session, definition of consent and ability to withdraw consent will be given followed by both a required verbal and signed written consent document. Consent will be required before participation continues. For any video or audio recording, participant will be informed of such recording and asked to provide verbal on camera or video recording. Consent may be withdrawn at any time. *(this box should expand as you type)*
3	**Confidentiality / Anonymity** Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.
	Names and contact information will not be generally requested or required on surveys. An option to provide contact information will be given if the participant is willing to take part in a focus group or interview. Participants will have an option to provide contact information if they would like to receive a summary of findings or final publication. In the latter case, such contact information will be disassociated from survey data to anonymize data. Individuals taking part in focus groups or interviews and videos will not be identified in recorded data collection by name or affiliation, however records will be kept that identifies them in writing and these records will be kept confidential for the purposes of the study. Participants in this research will not be named or identified in publications without their explicit permission.

SECTION J: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	**YES**	**NO**
1	***"Personal data"*** *means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.*	X	☐
	If YES, provide a description of the data and explain why this data needs to be collected:		
2	Consent forms are required for the protection of the study participants and the researcher. Audio/Video recording is required to assist in the analysis interview discussions.		

	IP addresses/user names. If the survey tool used collects IP addresses or user names, they will be disaggregated from answers. If participants opt to provide their name and email address to receive a summary of findings or announcement of publication, this information will be disaggregated from their survey answers. If name and email is offered in conjunction with participating in additional research methods, this information will be disaggregated at the completion of the research study. Data will be housed on a password protected private computer in a locked office and under the sole control of the researcher. Data will not be shared. Videos or recordings will not be shared without the consent of those in the recording. *(this box should expand as you type)*		
	Does it involve special category data (as defined by the GDPR)?	**YES**	**NO**
3	***"Special category data"*** *means sensitive personal data consisting of information as to the data subjects' –* *(a) racial or ethnic origin,* *(b) political opinions,* *(c) religious beliefs or other beliefs of a similar nature,* *(d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992),* *(e) physical or mental health or condition,* *(f) sexual life,* *(g) genetics,* *(h) biometric data (as used for ID purposes),*	X	☐
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	(e) This study specifically focuses on women of a certain age bracket and their physical experiences during menopausal years, as well as their emotional and professional well-being. Information collected may include age, gender, medical experiences, and emotional well-being, (d) Because this study anticipates interviewing individuals who make a living as vocalists, singers, actors, professional speakers, etc, they may be members of unions such as Actor's Equity or the Screen Actor's Guild, etc. (a) While not a focus of the research, individuals of all ethnic groups will be welcomed as research participants and interviews may reveal or suggest difference in experiences between individuals of different ethnic or racial backgrounds.		

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	**YES**	**NO**
5	Manual files (i.e. in paper form)?	☒	☐
6	University computers?	☐	☒
7	Private company computers?	☐	☒
8	Home or other personal computers?	☒	☐
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
10	"Cloud" storage or websites?	☒	☐
11	Other – specify:	☐	☒
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation:		
	All data will be kept on a password protected personal computer (laptop) in the researcher's locked office. Research permission forms and survey data will be collected through Google Forms and data downloaded to the researcher's computer. All files created in Forms, or uploaded to Google		

	Drive are encrypted in transit and at rest. Audio/visual data will be stored on a password protected personal computer in the researcher's office. Larger files will be kept on a private back up disk that is also password protected and kept in the researcher's office. If necessary additional files may be stored on a password protected google-drive. Any USB sticks used to store or transfer data will be password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. A diary/reflective journal will be kept by the researcher which may be a combination of thoughts in both paper and electronic file form. Manual files will be shredded following completion of the research project. Virtual interviews will be completed over Zoom and recorded. Sessions will require a password for participation. Zoom sessions are encrypted. Their storage on the Zoom cloud storage system is also encrypted, and content is protected during transit by a secure HTTPS connection. Any in-person interviews will be recorded on the researcher's password protected device. *(this box should expand as you type)*

	Data Protection		
	Will the research activity involve any of the following activities:	**YES**	**NO**
13	Electronic transfer of data in any form?	☒	☐
14	Sharing of data with others at the University outside of the immediate research team?	☐	☒
15	Sharing of data with other organisations?	☐	☒
16	Export of data outside the UK or importing of data from outside the UK?	☒	☐
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☒	☐
18	Publication of data that might allow identification of individuals?	☒	☐
19	Use of data management system?	☐	☒
20	Data archiving?	☐	☒
21	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and any international equivalents, where appropriate):		
	All survey data will be collected using an online service such as Google Surveys or Survey Monkey. Access to data will be password protected and viewed by the researcher only. Data will be kept on a password protected computer in the researcher's locked office and backed up on an external drive which is also password protected and housed in the researcher's office. Data will not be shared. Any USB sticks used to store or transfer data will be password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. The data will be stored until the completion of the project and then deleted. Audio and video recordings will only be kept and used with written consent after the completion of this project. In accordance with the DPA2018, participants will have the right to ask to see what data is held relating to them, and this data will be deleted immediately upon request. The researcher is in the USA, and data will be collected online, in person and via zoom Therefore, collection will occur outside of the UK and the European Union and it will be stored within the United States. Participants will have the voluntary option of providing personal names and email addresses. If participants opt to provide their name and email address to receive a summary of findings or announcement of publication, personal identifiers and information will be disaggregated from their survey answers. If name and email is offered in conjunction with participating in additional research		

	methods, such interviews, this information will be disaggregated at the completion of the research study. Identity of interview subjects will remain confidential unless written permission is given to break this confidence. *(this box should expand as you type)*		
22	List all who will have access to the data generated by the research activity:		
	Karen Harris (Researcher) *(this box should expand as you type)*		
23	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Karen Harris (Researcher) *(this box should expand as you type)*		
24	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	All data will kept in a password protected personal computer and backed up in a password protected external drive in the locked office of the researcher. It will not be shared. Any data transfer methods or devices will be password protected. All video and audio recordings will be kept in password protected systems and not shared without written consent.		
25	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. (*Most relevant to academic staff)*		
	It will not. *(this box should expand as you type)*		
26	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	**YES**	☒
27	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	**YES**	☒

SECTION K: Declaration

	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
1	**Signature of applicant:**	Karen Harris	**Date:** **7/7/2025**

For STUDENT Submissions:

2	Director of Studies/Supervisor:	Laura James	**Date:** 10.7.25
3	Signature:	Laura James	

For STAFF Submissions:

4	Academic Director/ Assistant Dean:		**Date:**
5	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed **ALL RELEVANT** sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (**where appropriate**)
☐	I have attached a full risk assessment (where appropriate) *ONLY TICK IF YOU HAVE **ATTACHED A FULL RISK ASSESSMENT***
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.

RESEARCH STUDENTS ONLY
Once complete, submit this form via the **MyTSD Doctoral College Portal** at (https://mytsd.uwtsd.ac.uk).

RESEARCH STAFF ONLY
All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

Appendix C - Interview Consent Documents

Below is the consent form for interview participation for this research project on singing through menopause. The earliest participants signed a similar document, however edits were made for following participants based on suggestions recommended by Joshua Lee-Cummins from the Voice Study Centre. All signed forms are included below with names redacted for confidentiality purposes.

Full unsigned version:

I, _____(name), voluntarily agree to participate in this research study.

- I understand this interview is being conducted for research purposes as part of a master's dissertation in vocal pedagogy through a program at the University of Wales Trinity St David (UWTSD) and the Voice Study Centre. This study has been reviewed and received ethical approval by the UWTSD Institutional Review Board.
- I understand that study aims to document the personal experiences of individuals who rely on their voice for singing through their peri-menopausal and menopausal years and beyond. The intent of this research is to collect and learn from professional performers to guide future conversation, voice training protocols, practices, strategies and studies to help all women be lifelong singers.
- I understand that participation involves taking part in an interview that will explore personal journeys, vocal practices, vocal changes, challenges, or lack thereof, and the levels of medical, industry, and social support I have experienced.

- I confirm that I have had the purpose of this study explained to me in writing and that I am free to ask questions at any time.
- I understand that even if I agree to participate now, I can withdraw at any time
- I understand that I can refuse to answer any question involved during the research process without any consequences of any kind.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being video recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report or publication on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in my dissertation, additional research papers, teaching materials, presentations, and publications.
- I understand that signed consent forms and original recordings will be retained in the researcher's office in Washington DC, USA, on a password protected server until the exam board at UWTSD confirms the results of my dissertation.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained by the researcher for up to 2 years or longer if needed for publications.
- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

_____ _____

Subject's Signature Date

I believe the participant is giving informed consent to participate in this study

_____ _____

Researcher's Signature Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com. Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

I, [redacted] ame) , voluntarily agree to participate in this research st[redacted]

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- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Dec 8 2025
Date

I believe the participant is giving informed consent to participate in this study

12-8-25

[redacted] _____(name) , voluntarily agree to participate in this research

- I understand this interview is being conducted for research purposes as part of a master's dissertation in vocal pedagogy through a program at the University of Wales Trinity St David (UWTSD) and the Voice Study Centre. This study has been reviewed and received ethical approval by the UWTSD Institutional Review Board.
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[redacted] e to contact any of the people involved in the research to seek further clarification

_____ Dec. 10, 2025
Date

[redacted] nformed consent to participate in this study

_____ 12-10-25
Researcher's Signature Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com, Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

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- I understand that I am free to contact any of the people involved in the research to seek further clarification

[redacted]

12/12/25
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12-12-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com, Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

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[redacted]

12.14.25
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12.14.25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com
Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

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- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

1/8/25
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

1-8-26
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com. Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

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- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Dec 8, 2025
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12-8-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com. Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

I, [redacted] (name) , voluntarily agree to participate in this research study.

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- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Subject's Signature

December 5, 2025
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12-5-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com. Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

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- I understand that disguised extracts from my interview may be quoted in my dissertation, additional research papers, teaching materials, presentations, and publications.
- I understand that signed consent forms and original recordings will be retained in the researcher's office in Washington DC, USA, on a password protected server until the exam board at UWTSD confirms the results of my dissertation.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained by the researcher for up to 2 years or longer if needed for publications.
- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Subject's Signature

11/25/2025
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

11-25-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com. Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

I, [redacted] (name) , voluntarily agree to participate in this research study.

- I understand this interview is being conducted for research purposes as part of a master's dissertation in vocal pedagogy through a program at the University of Wales Trinity St David (UWTSD) and the Voice Study Centre. This study has been reviewed and received ethical approval by the UWTSD Institutional Review Board.
- I understand that study aims to document the personal experiences of individuals who rely on their voice for singing through their peri-menopausal and menopausal years and beyond. The intent of this research is to collect and learn from professional performers to guide future conversation, voice training protocols, practices, strategies and studies to help all women be lifelong singers.
- I understand that participation involves taking part in an interview that will explore personal journeys, vocal practices, vocal changes, challenges, or lack thereof, and the levels of medical, industry, and social support I have experienced.
- I confirm that I have had the purpose of this study explained to me in writing and that I am free to ask questions at any time.
- I understand that even if I agree to participate now, I can withdraw at any time
- I understand that I can refuse to answer any question involved during the research process without any consequences of any kind.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being video recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report or publication on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in my dissertation, additional research papers, teaching materials, presentations, and publications.
- I understand that signed consent forms and original recordings will be retained in the researcher's office in Washington DC, USA, on a password protected server until the exam board at UWTSD confirms the results of my dissertation.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained by the researcher for up to 2 years or longer if needed for publications.
- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Subject's Signature

12/17/25
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12-17-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com.
Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

I, [redacted] (name) , voluntarily agree to participate in this research study.

- I understand this interview is being conducted for research purposes as part of a master's dissertation in vocal pedagogy through a program at the University of Wales Trinity St David (UWTSD) and the Voice Study Centre. This study has been reviewed and received ethical approval by the UWTSD Institutional Review Board.
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- I understand that participation involves taking part in an interview that will explore personal journeys, vocal practices, vocal changes, challenges, or lack thereof, and the levels of medical, industry, and social support I have experienced.
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- I understand that even if I agree to participate now, I can withdraw at any time
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- I understand that I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

[redacted]

Subject's Signature

12/14/2025
Date

I believe the participant is giving informed consent to participate in this study

Researcher's Signature

12-14-25
Date

For questions or concerns, please contact researcher, Karen Harris at 1-202-841-5626, voicemenopause@gmail.com.
Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

This is to certify that I, [redacted]

volunteer in a scientific [redacted] Professional Practice Framework of the University of Wales Trinity St David and the Voice Study Centre under the supervision of Karen Harris, MA Candidate. This study has been reviewed and received ethical approval by the University of Wales Trinity Saint David Institutional Review Board and supports a master's dissertation in vocal pedagogy and health.

This study aims to document the personal experiences of individuals who rely on their voice for singing through their peri-menopausal and menopausal years and beyond. Interviews will explore personal journeys, vocal practices, vocal changes, challenges, or lack thereof, and the levels of medical, industry, and social support experienced. The intent of this research is to collect and learn from professional performers to guide future conversation, training protocols, practices, strategies and studies to help all women be lifelong singers. No risks or harm to the interview participant are anticipated.

I understand that any data or answers to questions will remain confidential regarding my identity.

I understand that I am free to refrain from answering specific questions in interviews if I so choose.

I give permission to record this interview which will take place through Zoom. I understand that all recordings and responses to questions will remain strictly confidential regarding my name and identity. I understand that quotations from interviews may be used for research, teaching, presentations, or publication in professional journals, articles, and books unless specified otherwise. I understand that I am free to withdraw my consent for recording at any time prior to completion of the interview. After the interview, I may request that any individually recognizable recording not be shared anyone but the investigator.

I have been given an opportunity to ask whatever questions I may have had, and all such questions and inquiries have been answered to my satisfaction. A copy of this form has been

11-20-25
Date

I, the undersigned, have fully explained the study to the above subject.

Karen Harris,
Researcher's Name

Researcher's Signature

11-20-25
Date

For questions or concerns, please contact Karen Harris at 1-202-841-5626, or voicemenopause@gmail.com.

This is to certify that I [redacted]
volunteer in a scientific investigation as an authorized part of the Professional Practice Framework of the University of Wales Trinity St David (UWTSD)and the Voice Study Centre under the supervision of Karen Harris, MA Candidate. This study has been reviewed and received ethical approval by the University of Wales Trinity Saint David Institutional Review Board and supports a master's dissertation in vocal pedagogy and health.

This study aims to document the personal experiences of individuals who rely on their voice for singing through their peri-menopausal and menopausal years and beyond. Interviews will explore personal journeys, vocal practices, vocal changes, challenges, or lack thereof, and the levels of medical, industry, and social support experienced. The intent of this research is to collect and learn from professional performers to guide future conversation, training protocols, practices, strategies and studies to help all women be lifelong singers. No risks or harm to the interview participant are anticipated.

I understand that any data or answers to questions will remain confidential regarding my identity.

I understand that I am free to refrain from answering specific questions in interviews if I so choose.

I give permission to record this interview which will take place through Zoom. I understand that all recordings and responses to questions will remain strictly confidential regarding my name and identity. I understand that quotations from interviews may be used for research, teaching, presentations, or publication in professional journals, articles, and books unless specified otherwise. I understand that I am free to withdraw my consent for recording at any time prior to completion of the interview. After the interview, I may request that any individually recognizable recording not be shared anyone but the investigator. Video recordings will be stored on a password protected server in the researcher's office in Washington DC and all videos will be destroyed after the research has been marked by the UWTSD and publications completed.

I have been given an opportunity to ask whatever questions I may have had, and all such questions and inquiries have been answered to my satisfaction. A copy of this form has been provided to me and has been discussed in detail with me.

[redacted]

11/17/25
Date

I, the undersigned, have fully explained the study to the above subject.

[redacted], [redacted]
Researcher's Name Researcher's Signature

11-17-25
Date

For questions or concerns, please contact Karen Harris at 1-202-841-5626, voicemenopause@gmail.com.
Academic Advisor, Voice Study Centre: Joshua Lee-Cummins at joshua@voicestudycentre.com.

Appendix D – Survey Consent Form and Signatures

Consent was required before participants could take the research survey. See text of consent form below. All survey participants gave consent through a Google Form. Consent is recorded and timestamped on a data spreadsheet which is available at:

https://docs.google.com/spreadsheets/d/1aGwC_2us-LaulWTNLsl73_Qw00PCtoaEZNwNlj7vWAU/edit?usp=sharing

This data will remain available for review until 1 June 2026 or the date the researcher receives her marks from UWTSD, whichever is sooner.

Consent Form for Participation

Study: Exploring the Singer's Experience with Menopause

Thank you for your participation in this survey which will serve as one part of my final dissertation research for a Masters Degree (MA) in Vocal Pedagogy & Health from the University of Wales Trinity Saint David (UWTSD) in conjunction with the Voice Study Centre.

This survey seeks to capture the experiences and opinions of women on the voice and menopause.

The survey has 26 questions and is anticipated to take 10 minutes to complete.

This study has been reviewed and received ethical approval by the University of Wales Trinity Saint David Institutional Review Board.

This study will remain open until December 5, 2025.

By clicking the box below, I understand that:

· I must be 18 years of age or older to participate in this research.

· I must click through to the end of the survey and hit the "submit" button to record my data and complete the survey.

· My identity and individual responses collected in this study will be kept confidential.

· Responses will be anonymized in any reports based on this research.

· Quotes from my survey MAY be used in presentations, interviews, or publications about this research, however the identity of the speaker will be kept confidential.

· This research has no known risks.

· I can withdraw from this study at any time.

· I can refuse to answer any questions in this survey without any consequences of any kind.

· Participation involves taking a survey about my voice, performance and/or health experiences.

· Participation is voluntary and unpaid.

· Consent forms and survey forms will be retained in the offices of Karen Harris and will be stored in a password-protected file on a private computer that is password protected. These surveys will be deleted upon receipt of confirmation of completing the MA with UWTSD and/or research publication. At this time, all files will be deleted from back-up storage systems as well.

· I may contact the researcher with any questions at the email: voicemenopause@gmail.com. Use the subject line: Study.

· To receive copies of journal articles or research summaries that result from this survey, email: voicemenopause@gmail.com.

· Phase 2 of this research will involve interviews with female performers who use their voices professionally and are between their peri-menopausal and post-menopausal years. Participants may elect to be contacted at the end of the survey to participate in an interview, or decline to be contacted again without any consequences of any kind.

Understanding the bulleted points above, I consent to participate in the following research survey on the voice and menopause.

Researcher
Karen Harris, *BA, JD*
MA Candidate in Vocal Pedagogy & Health
Voice Study Centre, UWTSD
voicemenopause@gmail.com

Academic Advisor: Joshua Lee-Cummins joshua@voicestudycentre.com.

Mark only one oval.

- ◯ I consent to participate
- ◯ I do not consent to participate

Appendix E -

Omission of Vocal Symptoms from Overall Menopause Symptom Lists and Resources

Many websites listing menopausal symptoms run by health agencies, hospitals, and patient interest groups are published on the Internet; however it is rare to find vocal symptoms included. Other symptoms that also can impact the voice are also frequently absent such as acid reflux (Groenewald *et al.*, 2022; Brown *et al.*, 2025) or lung function decline (Triebner *et al.*, 2017; Imai *et al.*, 2025). Table 2 below documents symptoms mentioned on health and menopause related websites. All websites began the discussion of symptoms by mentioning irregular periods, flow or menstrual cycles. Hot flashes, night sweats, mood swings, insomnia, urinary urgency and vaginal dryness were listed and discussed on all websites, with pain during sex and joint and muscles aches receiving more notice.

Targeted internet searches mentioning menopause and these specific omitted symptoms did produce relevant webpages, however the researcher needed to know to search for a symptom specifically to find the information. The most robust listing of symptoms, 79 in total, appeared on the Menopause Charity website, including breathlessness; however, no mention of the voice was apparent (Menopause Charity, 2024). Notably, the New York Times did include the voice as a potential menopausal symptom in a heavily illustrated article detailing what menopause can do to the body (see Figure A).

Table 2 below indicates the menopausal symptoms listed on the following websites that came up through a Google search for the term “menopause symptoms.” Listings were taken from the websites of the World Health Organization (WHO, 2025), UK National Health Service (NHS, 2025), the US Centers for Disease Control and Prevention and the National Institute of Health (NIH, 2025), the Cleveland Hospital Clinic (Cleveland Clinic, 2025), the Menopause Society (Menopause Society, 2025), the National Menopause Foundation (Menopause Foundation, 2025), and the International Menopause Society (Intl Meno Soc, 2024).

	WHO	NHS	CDC/NIH	Cleveland Hospital Clinic	Menopause Society	National Menopause Foundation	International Menopause Society
anxiety/irritability	x	x	x	x			x
brain fog/ concentration difficulty		x	x	x			
breast tenderness				x			
breast tenderness				x			
cardiovasular issues	x	x	x	x			
decreased self confidence		x					
depression	x		x	x			
dry eyes				x			
dry mouth				x			
feelings of loss of self		x					
hair loss/changes		x	x	x			
headaches		x		x			
heart palpitations	x	x		x	x		
hot flashes/night sweats/hot flushes	x	x	x	x	x	x	x
increased facial hair		x					
insomnia	x	x	x	x	x	x	x
irregular menstruation	x	x	x	x	x	x	x
joint/muscle aches & stiffness		x	x	x	x		x
libido reduction		x	x	x	x		
memory lapses		x	x	x	x		
mood swings	x	x	x	x	x	x	x
organ prolapse	x			x			
osteoporosis	x	x	x	x			
pain during sex	x	x	x	x	x		x
skin changes (drier or more oily)		x	x	x			
tinnitus		x					
urinary urgency	x	x	x	x	x	x	x
UTIs		x	x		x		
vaginal dryness	x	x	x	x	x	x	x
weight gain			x	x	x	x	

Table 2: Menopausal Symptoms Listed on Leading Public Websites

A recent study of 17,494 women analyzed global knowledge about perimenopause symptoms through a survey offered on the Flo health application (Hedges *et al.*, 2026). Twenty-six symptoms were listed and respondents were asked questions pertaining to both their knowledge of the subject and symptoms they were experiencing. This study is noteworthy for several reasons. Researchers curated the list of symptoms based on the Menopause Rating Scale (MRS), a QOL self-reporting tool (Heinemann *et al.*, 2004), and additional unnamed perimenopause literature (Hedges *et al.*, 2026). Other studies adopt

this same format, suggesting menopausal related symptoms from which to choose (Aras, Grant and Konhilas, 2025; Cunningham *et al.*, 2025). Neither the survey symptom list nor the MRS includes voice-related symptoms. While important, such mainstream studies play a role in limiting recognition of potential hormone-related symptoms that have not risen to the level of notoriety as other more frequently discussed symptoms, such as hot flashes. This kind of bias by omission can be particularly damaging when a symptom affects a particular population of individuals, such as the professional vocalists seeking help for hormone-related vocal issues (Garattini and Liberati, 2000). Hedges *et al.* (2026) found that while hot flashes were the most recognized symptom, they were not the symptom most often experienced, further exemplifying how one's perception of a health condition may unwittingly differ from one's experience of it. Wright *et al.* make a similar argument when discussing under-recognized musculoskeletal symptoms of menopause, stating "given the significant effects of these processes on quality of life and the associated personal and financial costs, it is important for clinicians and the women they care for to be aware [of these conditions]" (2024 at p. 466).

Appendix F - Hormone Levels During Menstruation and Climacterium

During a woman's reproductive years their daily sex-hormone levels vary cyclically to prepare the body to ovulate and support childbirth (Zamponi *et al.*, 2021). There are 4 phases of the menstrual cycle beginning at the first day of a woman's period: menses, follicular, ovulation and luteal (Cleveland Clinic, 2022). Estrogen levels increase during the mid-follicular phase and peak during ovulation. Progesterone levels peak after ovulation. Unless a woman becomes pregnant, both estrogen and progesterone levels decrease before menses (Zamponi *et al.*, 2021; Cleveland Clinic, 2022). During pregnancy, higher levels of both estrogen and progesterone are produced and remain at more stable levels throughout the pregnancy (Zamponi *et al.*, 2021).

Climacterium is a term that encompasses the perimenopausal, menopausal and post-menopausal stages of life (Dog, 2005; Polo-Kantola, 2008).

Perimenopause is the period of transition between a woman's reproductive years and menopause; it usually begins between the ages of 40-50 and lasts up to ten years before the final menstrual period (Crandall, 2019). During perimenopause, hormone levels and menstrual patterns fluctuate widely (Santoro *et al.*, 2021). Unlike in menopause, women in perimenopause experience hormonal ups and downs, with varying levels of estrogen and progesterone throughout the cycle causing irregular menstrual bleeding, challenging fertility, and marking the start of often unexplained symptoms such as mood swings, hot flashes, brain fog and sleep disorders (Verrilli and Berga, 2020). Unexplained health symptoms or a change in one's menstrual cycle may inform a woman that she is entering perimenopause, but often women do not know perimenopause has begun (ACOG, 2026).

Once a woman ceases to have a period for 12 months, they are in menopause (Roman Lay *et al.*, 2020; Peacock, Carlson and Ketvertis, 2023). Menopause occurs when a woman's hormonal production declines and reproductive abilities cease (Peacock, Carlson and Ketvertis, 2023). Menopausal transition often occurs between the ages of 45-56, with average onset at 51, with symptoms lasting 2-10 years (Dog, 2005; Crandall,

2019; Wright *et al.*, 2024). The average woman today may live a third of her life post-menopause (Peacock, Carlson and Ketvertis, 2023; Gatenby and Simpson, 2024).

Approximately, 51% of individuals are born with ovaries (Wright *et al.*, 2024). An estimated 5% of women begin perimenopause by age 40, with some experiencing onset earlier due to specific health conditions or surgical procedures (Roman Lay *et al.*, 2020; Peacock, Carlson and Ketvertis, 2023). Premature menopause occurs before the age of 40, early menopause between 40-44, and late menopause after the age of 55 (Roman Lay *et al.*, 2020; Lã and Ardura, 2022).

Appendix G - Menopausal Stigma, Special Interests, and Cultural Considerations

Even without menopausal considerations, singers are highly susceptible to vocal injuries during their professional lifetime and can face stigma when seeking help for vocal illness (Glick *et al.*, 2024). Aging itself can also cause vocal symptoms and these may be difficult to distinguish from menopausal vocal symptoms (Abitbol, 2019). With aging, muscles related to phonation may weaken or atrophy, vocal fold mucosa thin, vocal fold dehydration may increase, and lung power diminishes (Abitbol, 2019). Because many menopausal symptoms are poorly understood or minimally recognized, such as voice related symptoms, singers may face challenges to receiving proper care from physicians even when they seek it out (Ledford, 2023; Sheren and Sataloff, 2026). Singers in the performance industry exist in a field characterized by judgement, comparison, competition, and insecurity; therefore, admitting one is struggling with a health issue can carry serious ramifications (Bradshaw and Cooper, 2018). When biological changes occur that challenge a person's core understanding of their own body, self-confidence also can suffer (Ziegler and Johns, 2012).

Silence and stigma have been found to negatively impact the health and well-being of menopausal women (Peters *et al.*, 2025). Age of perimenopause and menopause onset and severity and type of symptoms have been shown to influence intensity of perceived stigma (Dahlgren *et al.*, 2023). Astellas, (2025), a pharmaceutical company, surveyed approximately 14,000 women in Australia, Brazil, Canada, Germany, Mexico and the USA on menopause attitudes and found that over half of respondents reported negative feelings due to menopause, considered it a taboo topic for discussion, felt unsupported at work, and that symptoms were not taken seriously. Perception of stigma was further found by Krohe (2026) in a study on menopause stigma perception in the African American community. In this study, 75% of participants believed women in menopause were viewed not to be in control of their emotions and to be less attractive. Participants suggested the following strategies to help reduce stigma and discrimination against women in menopause: seeing peers share their experiences, educating younger women and men on the topic, hearing influencers share their experiences, and increased menopause education and awareness in the workplace (Krohe *et al.*, 2026). Participants

reported not feeling understood and desiring more support from healthcare providers (Krohe *et al.*, 2026). This contrasts results from a 2025 study of women in the UK where almost half of those surveyed reported feeling satisfied with the communication and support they received from their healthcare providers, and another 41 percent felt neutral on the subject (Wegrzynowicz *et al.*, 2025). However, in this same study fewer than half of the women reported obtaining information on the topic from healthcare professionals and instead relied on friends (Wegrzynowicz *et al.*, 2025).

Comparison of the Krohe (2026) study with others is valuable as it both highlights menopausal concerns in a particular ethnic community, and elucidates potential concerns of women generally, laying the foundation for broader more culturally inclusive studies in the future. In addition to cultural differences, future studies might include assessment of educational, economic, and age differences in populations studied. Also noteworthy would be how these differences alter stigma experienced, and individual navigation of the menopausal cycles (Dahlgren *et al.*, 2023) However, as women live and work longer, and traditional topical taboos transition, women are slowly not only sharing their own experiences about menopause, but also gratefully supporting others who do (Ledford, 2023).

Multiple stigmas may influence a singer. As one interview participant said, “ageism is real," and with it comes stigma and self-reflection. Researchers have noted the difficulty in separating age-related vocal change from menopause related change, or simply failed to distinguish the two. For example, Cohen *et al.* (2008) missed an opportunity in their study assessing factors associated with the Singing Voice Handicap Index (SVHI). In the study of 171 individuals, those over 50 reported a higher SVHI score, however results were not reported by gender, and potential perimenopausal influence was not noted (Cohen *et al.*, 2008).

Studies of menopausal stigma experienced by professional singers were not identified, however, in a study of Broadway singers and vocal injury, many singers reported avoiding disclosure of their condition due to stigma (Bradshaw and Cooper, 2018). Another study highlighted that a singer’s fear of injury in and of itself negatively impacted their mental health (Ziegler and Johns, 2012). Broadway singers have reported negative

professional consequences after using illness or injury leave, with 100% believing injuries could cause reputational damage and affect their perception of their work longevity (Bradshaw and Cooper, 2018). Vocal injuries were perceived to have greater ramifications than physical injuries (Bradshaw and Cooper, 2018). While these studies mentioned were not limited to female participants or focused on menopause, they do convey a story of stigma and stress associated with injury or discussion about injury within the professional performer workforce. Future studies on stigma in the performance industry might focus on menopausal health specifically and consider potential perceptual variations among individuals of different races.

Appendix H – Hormone Therapy for Singers

Hormone access is not standardized across the US or internationally. One participant from the UK recounted that HRT became so popular there, that supply ran out. Another participant reported that health care in Canada was a patient-led. All she needed to do was walk in and ask for HRT. Once cleared by a blood test, she was given estrogen, progesterone, and testosterone, however, she was not advised on how these hormones might affect her voice. She ended up relying on her own research and intuition. While estrogen and progesterone therapy may be beneficial to the menopausal voice and have been shown to be protective of fundamental frequency, testosterone is infrequently prescribed for menopausal voice related issues (Bensoussan *et al.*, 2026). Testosterone, an androgen steroid, has been shown to irreversibly thicken vocal folds and decrease fundamental frequency, lowering the vocal range (Bensoussan *et al.*, 2026).

Experiences recounted by study participants paint a picture of the current landscape for HT treatment for menopausal symptoms in the USA. Participants talked about the ability to obtain HT from online services without much oversight, not knowing about the option until they were too old, physicians refusing to prescribe HT at all or individuals being prescribed other medications such as anti-depressants without further discussion of the pros and cons of HRT. Only one participant was on HT, however some who were in perimenopause were researching or considering it.

In 2002, a widely publicized Women's Health Initiative (WHI) study led to serious concerns regarding potential health risks of HT. While the study focused on the potential use of HT to prevent heart disease in postmenopausal women, the results were extrapolated to perimenopausal use for menopausal symptom control (Crandall, 2019; ACOG, 2026; Sheren and Sataloff, 2026). While getting updated information and finding doctors who are up to date on treatment recommendations and options may remain a struggle, interviews with women in menopause who are over 60 about access to HT and their related experiences must be viewed with the history of HT and the impact of the WHI study in mind.

Overall, interview participants under 60 years of age reported few conversations with health care providers about hormones, menopause and voice. When conversations did

occur, they were patient initiated and often met with dismissal from both the ENT and GYN perspective.

> *I even specifically asked [my ENT] … do you think that any of what's going on in my voice could be hormone-based, either because I'm not having enough hormones, or because I'm taking too many hormones? Her response to me was, you'll have to talk to your family doctor about that.*
>
> *I've just been trying to find things related to using HRT when you are a singer and you're going through this time of life…my biggest symptoms are a cloudiness to my voice, a lack of clarity and resonance that I'm used to. [My doctor] said, at this time in your life, you know, muscles just atrophy. I hate that word. It's terrifying.*
>
> *I asked the big, big voice expert that I'd waited a year for: do you think that this could possibly be menopause related? And he said, no. No, no, not at all. And I said, are you sure? … He said, no, generally, that doesn't affect the voice and my gut was like, I don't think he's right.*

Hormone therapy (HT) has received heightened attention recently in publications and the media as doctors and scientists re-analyze HT as a treatment for menopausal symptoms (Sheren and Sataloff, 2026). Some consider the hesitancy to prescribe HT unjustified (Cagnacci and Venier, 2019). In 2026, the US Food and Drug Administration removed risk warnings from HT for menopause medication labels concerning cardiovascular disease, breast cancer and dementia concerns.

The adjusted attitude of the medical community about HT can been seen in the official positions on HT released by the North American Menopause Society (NAMS) in 2022 compared to 2012. In 2022 NAMS described HT as the most effective treatment for vasomotor and genitourinary symptoms of menopause and a treatment that can help to prevent bone loss and fracture (NAMS, 2022). However, “treatment should be individualized using the best available evidence to maximize benefits and minimize risks, with periodic reevaluation of the benefits and risks of continuing therapy“ (NAMS, 2022). In 2012 NAMS official stance on HT included multiple disclaimers about specific conditions such as mental decline and osteoporosis. The statement concluded,

“evidence supports the use of HT for perimenopausal and postmenopausal women when the balance of potential benefits and risks is favorable for the individual woman” (NAMS, 2012 at p1).

Studies have shown that the decline HT after 2002 did not correlate with an expected decrease in cancer rates based on the concerns identified in the WHI study (Cagnacci and Venier, 2019) The women interviewed for this study who were older than 66 and therefore experiencing perimenopause when the study was released, were not privy to HT as an option for menopausal symptoms. One expressed deep anger at having “missed the window” as she feels as it would have significantly helped her osteoporosis.

HT is not for everyone however. It may be counter indicated for women with a higher risk of certain cancers, unexplained vaginal bleeding, fibroids, blood clots, stroke, heart attack or other diseases, as well as women over(Bensoussan *et al.*, 2026)pause (Bensoussan *et al.*, 2026). For those who either decline to use HT or have counterindications for HT, finding relief from symptoms remains a challenge, particularly when symptom causes are not fully understood.

Appendix I – Semi-Structured Interview Script

Interview Script for Professional Singers

Date and time:
Participant's name:

Contact email:

Thank you and introductions:

Review consent form.

1. Explain aims, methods, and potential benefits of study.
2. This study aims to document the personal experiences of individuals who rely on their voice for singing through their peri-menopausal and menopausal years and beyond. The intent of this research is to collect and learn from professional performers to guide future conversation, voice training protocols, practices, strategies and studies to help all women be lifelong singers.
3. Reiterate that no risks or harm to you are anticipated.
4. Ensure confidentiality and anonymity.
5. State that results will be used for research purposes, in scholarly publications, in lectures, and to inform my teaching, lessons and consultations.
6. State that participant is free to withdraw it at any time and participants can refuse to answer individual questions if uncomfortable.
7. Do you have questions before we begin?

Interview Questions

Background questions:

1. What is your age and menopause status?

2. Can you please talk a bit about your Singing Experience? (your vocal classification, preferred genres, the length of time you have performed, that kind of thing?)
3. Are you still singing professionally? If not, why and when did you stop?

Voice specific questions:

4. How, if at all, is your voice different today than it was before the age of 40? (Describe afterwards)
    a. I picked 40 because in much of the literature perimenopause is described as starting between 38-45. While there is no definitive date for the onset of menopause, and often people don't know that they have started it or are in it.
5. Is there an age at which you felt you started to feel more stress on your voice or notice it was changing or aging?
6. Can you describe your vocal exercise regimen today?
7. Was your approach to vocal training different when you were younger, before peri-menopause and/or menopause?
8. Are there any exercises you do not do any more that you used to include?
9. Are their specific exercises that you find essential in your warm-up? (Ask for examples)
10. Have you changed your physical regime to accommodate your voice?

Work/Singing career questions:

11. Have menopausal changes affected your singing career, if at all? How so?
12. Have you had to communicate with music directors or directors about vocal challenges if you have experience them?
13. Have menopausal changes affected your confidence or self-impressions as a singer, if at all?

14. Has there been specific advice you received about menopause or menopause and the voice that was helpful or memorable? (Details)

Health questions:

15. Have you sought medical advice for any menopausal issues?
    1. Was voice discussed as potentially influenced by hormones or menopause?
16. Have you sought medical care for vocal issues?
    1. Can you elaborate on these experiences?
    2. Has anyone discussed menopausal/hormone changes with you regarding vocal issues?
17. Have you tried HRT or other interventions?
    1. If so, please elaborate on the experience?
18. Have you experienced challenges seeking medical advice or support?
19. What information do you wish was more accessible for a singer in their peri- or postmenopausal years?
20. If you were to look for information about menopause, or menopause and the voice, where would you look or hope to find it?
21. Is there any advice would you give to your younger self about self-care, singing and menopausal change?
22. Is there anything that you would like to add or that I might have forgotten?

After the first 2 interviews, participants began talking about casting issues, therefore to be consistent and prepared, I developed the following strategy:

If commentary is made about performing opportunities or casting, follow up with additional inquiry. For example:

- You mentioned that there are not as many opportunities in musical theater. Do you think that is because of what's written, the material out there, or the expectations of the voice, or some other reasons?
- Do you find with the parts that do exist, that they are cast with people who are the age of the character written?
- Do you think musicals are written with the realities of the ages of the voices they are writing for in mind?

Appendix J – Interview Participant Recruitment Details and Redacted Transcripts

Interview Participant Details

Age and performance genre of each Interviewee is listed below. How interviewees were solicited is also documented below.

Twelve singers were interviewed for the study: nine elite Broadway singers, four of whom also regularly sang in concerts, two Choral singers, one of whom also sang Opera, and one CCM singer. All had sung professionally for 25 years or more as full-time performers.

Four of the singers were in menopause and were between 48-53 years old. One individual in this group had a hysterectomy in her late 40s. Of the remaining women, 4 were between 54-69 and 4 were between 70-86 year of age. All 8 were in menopause.

Four participants described themselves as natural singers. Many studied voice sporadically throughout their career, often with multiple instructors. Prior to age 25 however, when voice study and singing for performance began five received classical voice training, two studied musical theater, two received training in both genres, one received general voice instruction, and two received no formal voice training. Three individuals also worked as voice teachers.

Many interview participants were identified through personal acquaintances in the performance industry and three volunteered to be interviewed after completing the survey.

Each participant was assigned a number in no apparent order to conceal the participants identity. Participants are referred to in the study as Participant1-Participant 12. Many quotes are deidentified from their number to better preserve confidentiality.

• P1, mid 80s, Broadway elite singer, classically trained

• P2, early 50s, Broadway elite singer, Voice Teacher, trained in musical theater

• P3, early 50s, Broadway elite singer, trained in classical and musical theater

• P4, early 70s, Broadway elite singer, trained in classical and musical theater

• P5, late 50s, Opera & Choral elite singer, Voice Teacher, trained in classical

• P6, late 60s, Broadway elite singer, trained in musical theater

• P7, mid 60s, Broadway elite singer, trained in in general voice

• P8, early 70s, Broadway elite singer, no formal voice training

• P9, mid 50s, CCM elite singer, classically trained

• P10, late 40s, Choral elite singer, Voice Teacher, classically trained

• P11, early 50s, Broadway elite singer, no formal voice training

• P12, early 70s, Broadway elite singer, classical voice training

Redacted Transcripts

This link to the redacted transcripts of all interview participants will be available until

1 June 2026 or the date the researcher receives her marks from UWTSD, whichever is sooner.

Interviews were recorded via Zoom and are stored on a password protected website. Zoom does not share recordings with AI programs. De-identified and redacted individual interview transcripts are presented for review at the link below.

https://drive.google.com/drive/folders/1MoMfnMTOU2MEfb8H8F8sj8ZkmoishT91?usp=sharing

Data will remain available for review until 1 June 2026 or the date the researcher receives her marks from UWTSD, whichever is sooner.

Appendix K– Individual Survey Response Data

De-identified individual survey responses are presented for review at:
https://docs.google.com/spreadsheets/d/1aGwC_2us-LauIWTNLsl73_Qw00PCtoaEZNwNlj7vWAU/edit?usp=sharing

All data will remain available for review until 1 June 2026 or the date the researcher receives her marks from UWTSD, whichever is sooner.

Appendix L– Survey

Only those who answered “Yes” to question 3 were allowed to continue to the next question.

The survey is anticipated to take 10 minutes to complete.

This survey seeks to collect the experiences and opinions of women on the voice and menopause.

3. I am female. *

Mark only one oval.

- ◯ Yes
- ◯ No

Participant Description

This section requests information about the participant.

4. Enter your age *

_____

5. What stage of life are you in? *

Mark only one oval.

- ◯ Peri-menopause (I believe I am experiencing some pre-menopause related symptoms)
- ◯ Menopause (I have ceased to have a regular-menstrual cycle)
- ◯ Post-menopause (I have not had a menstrual cycle in 12 months or longer)
- ◯ None of the above (none of the descriptions above apply to me)
- ◯ I do not know

6. I was assigned female at birth. *

Mark only one oval.

- ◯ Yes
- ◯ No

7. I use my voice to perform in the following way: (Check all that apply) *

Check all that apply.

- [ ] Singer
- [ ] Actor
- [ ] Radio/TV Correspondent
- [ ] Voice Over Actor
- [ ] I am not a Performer
- [ ] Other: _____

8. I identify as the following type of performer: *

Mark only one oval.

- ◯ An Amateur performer (primarily performs on an unpaid basis)
- ◯ A Semi-Professional performer (less than 50% of my income comes from performing)
- ◯ A Professional performer (more than 50% of my income comes from performing)
- ◯ I am not a performer

9. State the average number of hours per week you rely on your voice for performance based activities or training. (If you are not a performer enter "N/A").

_____

Menopause and Voice

This section seeks to clarify your exposure to information about menopause and the voice. For the purpose of this study the term "menopausal voice" describes potential characteristics of the voice of someone experiencing peri-menopause or menopause.

10. Have you ever been made aware of potential characteristics of a menopausal voice?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

11. If "yes" or "maybe", please list what symptoms might you expect? If "no", write "N/A".

12. Have you ever worked with a voice teacher, vocal coach, or vocal director? *

Mark only one oval.

- ◯ Yes
- ◯ No

13. If "yes", has this person ever discussed potential characteristics of a menopausal voice?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ I do not work with a voice teacher, vocal coach, or vocal director.

14. Has anyone discussed menopause with you as a potential contributing factor of your vocal issues or traits? (Check all that apply)

Check all that apply.

- [ ] Yes - health care provider
- [ ] Yes - vocal care advisor or voice therapist
- [ ] Yes - other performers
- [ ] No
- [ ] Other: _____

15. Has anyone discussed hormones or your menstrual cycle with you as a potential contributing factor of your vocal issues or traits? (Check all that apply)

Check all that apply.

- [ ] Yes - health care provider
- [ ] Yes - vocal care advisor or voice therapist
- [ ] Yes - other performers
- [ ] No
- [ ] Other: _____

16. Has any a medical provider treating any health issue ever discussed menopause with you as it may relate to vocal health or quality?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

17. I have read about menopause and the voice. *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ I am not sure

18. I discuss menopause with: *

Check all that apply.

- ☐ My friends
- ☐ My work colleagues
- ☐ My health care providers
- ☐ My children
- ☐ My partner
- ☐ Strangers
- ☐ I do not discuss menopause
- ☐ Other: _____

19. If you do not discuss or have not discussed menopause, please elaborate on the reasons why.

20. I work with performers as a voice teacher, vocal coach, vocal director, vocologist, voice or speech therapist or health care provider.
If "yes", please define your role under "other".

Check all that apply.

- [ ] Yes
- [ ] No
- [ ] Other: _____

21. If "yes", have you ever discussed potential characteristics of a menopausal voice with a performer?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

22. My voice restricts my work activities. *

Mark only one oval.

	1	2	3	4	5	6	7	
Tota	◯	◯	◯	◯	◯	◯	◯	Totally Agree

23. My voice reduces the chances of getting professional opportunities. *

Mark only one oval.

	1	2	3	4	5	6	7	
Tota	◯	◯	◯	◯	◯	◯	◯	Totally Agree

24. Peri-menopause or menopause has an impact on my vocal performance. *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe
- ◯ I have not begun peri-menopause yet.

Menopause Specific Questions

This section is intended to reflect the participant's knowledge on the topics below without the assistance of the internet or research. Please answer all questions based on your present knowledge or best guess.

25. To the best of your knowledge, what answer best completes the following sentence?

____ percent of women experience vocal changes during their peri-menopausal to post-menopausal years?

Mark only one oval.

- ◯ 5
- ◯ 10
- ◯ 25
- ◯ 33
- ◯ 45
- ◯ 60
- ◯ 75
- ◯ 90
- ◯ 100

26. Were you aware that any of these issues might be brought upon by menopause? (Check all that apply)

Check all that apply.

- [ ] Anxiety
- [ ] Change in ability to control vibrato
- [ ] Change in ability to match pitch
- [ ] Change in voice registration
- [ ] Change in vocal range
- [ ] Decreased ligament stability
- [ ] Dehydration
- [ ] Delayed vocal onset
- [ ] Depression
- [ ] Feeling of bugs crawling on skin
- [ ] Hormonal change
- [ ] Irregular sleep
- [ ] Memory deficit
- [ ] Mood swings
- [ ] Muscle loss
- [ ] Rough voice
- [ ] Vocal tremor
- [ ] Weak joints
- [ ] Weight gain
- [ ] Word recall

27. Please list any conditions or symptoms that you feel may be affecting your voice.

28. What topics or key words might you look up or research based on what you read in this survey?

29. Phase 2 or this study will include interviews with women who use their voice to perform professionally and who are between their peri-menopausal and post-menopausal years. If you would like to be interviewed, please provide your name, email and phone number below. Thank you.

Appendix M – Email/Social Media Outreach for Research Participation

1. Solicitation correspondence on email and social media for questionnaire participation:

Survey request to women who use their voices!

I have begun the first stage of my Master's research on menopause and voice. For any women out there (18 and over), I would love for you to take a few minutes to take the short survey below.

This research topic was inspired by my own experiences navigating peri-menopause as a performer seeking advice from voice and health care providers, industry representatives and colleagues. Responses to this survey will be kept confidential. The goal of this research is to identify levels of knowledge about the topic, thereby guiding future conversation, practices, and research in support of all women, with a focus on women who continue to use their voices professionally through the peri-menopausal and menopausal years.

Thanks for considering!

The survey is available at:
(https://docs.google.com/forms/d/e/1FAIpQLSej95v2GmdJmAh0DQ8XgEnXuZt6xDK2k156Qk85-KRUx5yJkw/closedform)

2. Solicitation correspondence on email and social media for interview participation:

Research Participant Call Out: The Professional Voice and Menopause

Seeking to interview professional performers for a study that explores the personal experiences of females who rely on their voice for singing through their peri-menopausal and menopausal years. Interviews will explore personal journeys, vocal changes, challenges, or lack thereof, and the levels of industry, medical, and social support experienced. The intent of this research is to collect and learn from professional performers to guide future conversation, training protocols, practices, strategies and studies to help all women be lifelong singers.

Participants must be in their peri-menopausal OR post-menopausal years and be professional performers who use their singing or singing/speaking voices regularly, relying on their vocal craft for at least 50% of their income. Interviews will capture participant's physical, personal and professional experiences and strategies, will last approximately 1 hour, and will be scheduled during the months of November-December 2025.

This study has been reviewed and received ethical approval by the University of Wales Trinity Saint David (UWTSD) Institutional Review Board and supports a Master's dissertation in Vocal Pedagogy & Health from UWTSD in conjunction with the Voice Study Centre. Responses to this survey will be kept confidential.
Thank you for your consideration.

Researcher:

Karen Harris, JD
MA Candidate in Vocal Pedagogy & Health
Voice Study Centre, UWTSD
voicemenopause@gmail.com
Washington DC

3. Response to initial inquiry from potential interview participant:

Hi (Participant),

Thank you so much for responding to outreach regarding my study and your willingness to participate in an interview on your experiences as a singer working through the peri-menopausal and menopausal years. These interviews will support my master's degree in vocal pedagogy. I greatly admire your work and appreciate your time and expertise.

Please let me know a few times between November and December that might work best for you to be interviewed. I will do my best to accommodate your schedule. Mondays, Thursdays and Fridays are my most flexible days, and Tuesday and Wednesday I can usually be available after 4pm (I am based in Washington DC). I have some availability on weekends as well if needed. Interviews will take place on Zoom, will not exceed 1-hour, and are confidential.

I look forward to hearing from you about scheduling an interview.

If you have additional colleagues who may like to participate, please let me know or feel free to put us in touch.

Thank you so much.

Sincerely,

Karen Harris

Karen-Harris.com

Washington DC, USA

Appendix N – Sample Coding Exercises Using Delvetool.com

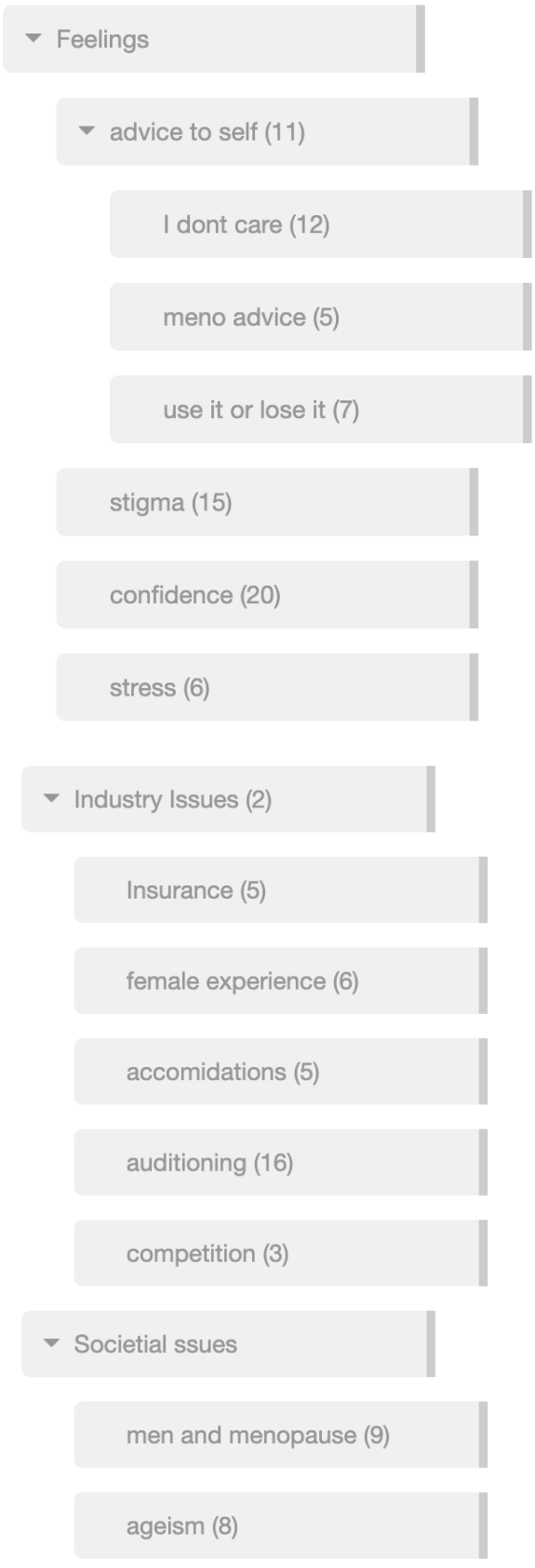
Delvetool was used both for coding open-ended questions in the survey and interview responses.

Listed below are:

1. Interview response codes (for redacted transcripts, see Appendix J).
2. A sample, fully coded open-ended survey question.

1. Interview response codes




Feelings
advice to self (11)
I dont care (12)
meno advice (5)
use it or lose it (7)
stigma (15)
confidence (20)
stress (6)
Industry Issues (2)
Insurance (5)
female experience (6)
accomidations (5)
auditioning (16)
competition (3)
Societial ssues
men and menopause (9)
ageism (8)

- Community
  - gratitude for the study (7)
  - where to seek info (14)
  - support (12)
    - mentorship (11)
  - vocal change (33)
- addl symptoms (47)
  - emotions (2)
  - hot flash (2)
  - skin (1)
  - respiration (1)
  - exhaustion (1)
  - bones (1)
  - emotional (4)
  - reflux (3)


3rd party stories (8)
Training (1)
vocal exercises (27)
physical exercise (13)
original training (6)
positives of singing (1)
natural singer (10)

2. Coded open-ended survey question

Coding done on www.Delvetool.com

Defining Characteristcs of a Menopausal voice

1. Decreased range and stamina

range | stamina/fatigue

2. Dry mouth and tissues, hot flashes (melting!)

dryness | menopausal 2nd impact

3. I've speed watched a couple of lectures. Less laryngeal stability, maybe change in pitch range and vocal quality dependent on hormonal imbalance.?

range | pitch instability | vocal quality | instability | hormones

4. loss of range

range

5. Loss of range, change in tone

range | tone

6. loss or range, loss or power, wobble

range | vibrato instability | loss of power/projection

7. Lower voice, less range and flexibility

range | lower voice | flexibility

8. lower, less clarity "sounds older"

vocal quality | lower voice | sounds older

9. Not sure

10. Shorter range, less certainty of pitch, possible increase in vibrato, breathing variability.

range | pitch instability | vibrato instability | breath quality

11. Vocal shift, change in range

range | passagio difficulty/breaks

12. Voice gradually getting lower, more strain on my vocal cords, harder to make a "pure" sound.

vocal quality | lower voice | strained voice | vocal fold

13. I hear some women talking about it but it does not apply to me!

14. I was not made aware but am now in the thick of it, so I've become educated about the subject at this point: less agility, less stamina, problems with vocal fold closure, dryness, problems with pitch, less resonance

stamina/fatigue | dryness | pitch instability | vocal fold | less resonance | agility

15. Possible deepening/loss of range

range | lower voice

16. Through my own research and studies I know that vocal cords can dry just like menopausal vagina dryness that can effect voice / sound production - as well as tonal shifts if using testosterone as part of HRT

dryness | tone | vocal fold | hormones | passagio difficulty/breaks

17. About 8 years ago my agent said, "Well you're lucky Sophie, your voice hasn't changed." I had never thought about the potential for it to change until she mentioned this.

vocal quality

18. androgyn bulking up the folds, dryness, hoarseness, loss of top

dryness | vocal fold | loss of high notes | hoarseness

19. Can't hit high notes easily

loss of high notes

20. change in resonance, shift in overall pitch (lowering of tessitura), less flexibility

pitch instability | lower voice | flexibility | less resonance

21. Change in timbre, endurance, range

range | timbre | endurance

22. deepening, loss of high range, vocal cord thickening, hoarse

lower voice | vocal fold | loss of high notes | hoarseness

23. Dryness, loss of flexibility

dryness | flexibility

24. Dryness, loss of stamina and stability

stamina/fatigue | dryness | pitch instability | vocal quality

25. Dryness, more easily tired, loss of higher range

stamina/fatigue | dryness | loss of high notes

26. Fold thickening due to hormone shifts, sensitivities due to lack of sleep and relax. Instability with hypermobility and menopausal impacts.

instability | vocal fold | hormones | menopausal 2nd impact

27. Gaps in voice , registration changes, lowering of voice, loss of high notes, weakness, different texture

range | stamina/fatigue | lower voice | loss of high notes | timbre | passagio difficulty/breaks

28. Hoarseness, breathiness, weakness in lower register transitions, difficulty in upper passaggio, difficulty accessing head voice

stamina/fatigue | instability | breath quality | loss of high notes | passagio difficulty/breaks | hoarseness

29. Hoarseness, calcification of the vocal folds, dryness

dryness | vocal fold | hoarseness

30. I conducted research on this topic and I have experienced many symptoms myself, such as cracking, unsteady range, lowered speaking voice (but singing range still high), breathing difficulties. I don't have a big vibrato and actually this area has improved for me.

range | vocal quality | lower voice | sounds older | breath quality

31. I know that women go through perhaps some of the most drastic changes in their voice at this time. It can often lower significantly, vibrato can widen, fatigue can set in more easily, vocal range can get smaller.

range | stamina/fatigue | vibrato instability | lower voice

32. I started googling once I started experiencing issues - mainly a weakening of my mix and a more pronounced "break"

passagio difficulty/breaks

33. inconsistency in signing voice.

instability

34. Increased breathiness. Possible deepening of voice. Decrease of range. Vocal fatigue

range | stamina/fatigue | lower voice | breath quality

35. Increased tension, loss of resonance, change in pitch… lower range. Vocal fatigue.

range | stamina/fatigue | pitch instability | less resonance | tension

36. Instability, loss of range & reliability, dryness, change of tone etc.

range | dryness | tone | instability | reliability

37. Less flexibility, deeper done, thicker cords, timbre change, increased lower range, dehydration

dryness | tone | lower voice | flexibility | vocal fold | timbre

38. Loss of elasticity, change in tone, range, dryness, change in voice quality

range | dryness | tone | flexibility | vocal quality

39. Loss of range

range

40. loss of range and flexibility

range flexibility

41. Loss of range and flexibility, dryness, loss of stamina.

range stamina/fatigue dryness flexibility

42. Loss of range, dryness, loss of stamina

range stamina/fatigue dryness

43. Loss of vocal strength, less flexibility, less range

range stamina/fatigue flexibility

44. Lots of people tell me your voice drops. I have started singing soprano after 40 years of alto1/mezzo.

range higher voice

45. Lowered range, crackling or stoppage of sound suddenly, difficulty navigating break , pain

range lower voice passagio difficulty/breaks pain vocal quality

46. Lowering pitch, decreased range, decrease in lubrication, longer time needed to warm up, less efficient breath use, moodiness!

range dryness lower voice breath quality menopausal 2nd impact longer warm up

47. more difficulty in warming up and in navigating around the break. Also, my break has shifted downward. Pre-warm-up, my break is closer to “middle C”

lower voice passagio difficulty/breaks longer warm up

48. My soprano voice will deepen

lower voice

49. Thickening of the vocal folds, loss of higher range, swelling before and during menstrual cycle

vocal fold | loss of high notes | swelling

50. thickening of vocal cords; losing some of my very high notes

vocal fold | loss of high notes

51. thinning cords, dryness, difficulty with the passagio, loss of range or projection

range | dryness | loss of power/projection | vocal fold | passagio difficulty/breaks

52. Vocal chord dysfunction

vocal fold

53. Vocal instability, hoarse voice, vocal fatigue, changes in range and timbre, pitch issues

range | stamina/fatigue | pitch instability | vocal quality | instability | strained voice | timbre | hoarseness

54. Voice lowers

lower voice

55. Weakness, lowering of the range, breaths problems est

stamina/fatigue | lower voice | breath quality

Created with the Delve Qualitative Analysis Tool (http://www.delvetool.com)

Appendix O – Sample Research Journal Entries

10/13/2025

I sent out my menopause and voice survey today and began to review some of the responses. I had 2 VSC tutors review the survey and we spoke through many different issues before sending it out. A few that stuck with me were the intent to focus on all women, not get hung up on the effects of HRT (which are more frequently discussed in the literature and easier to test because they are a quantifiable variable that can be measured in research), whether one could capture the experience of trans individuals and if it was necessary to be absolutely inclusive.

While we did talk through the potential embarrassment/stigma of menopause and the difficulty that may cause for finding people to interview, we did not consider any potential stigma of answering a primarily yes or no anonymous survey. We also spoke about my insider researcher status and my personal motivation for picking this topic – which was to improve the potential care and level of dismissiveness I experienced in perimenopause and help to protect the singer in later life.

With this in mind, one of the first responses I received bordered on hostile. I was not expecting this and took it rather personally, which then caused me to reflect on my questions again, In summary, the participant early on said although she was 67 and a professional singer, this issue did not apply to her. She went on to state in her responses:

Q - If you do not discuss or have not discussed menopause, please elaborate on the reasons why.

“Because it has nothing to do with my voice!”

In this section I purposely did not focus on the voice and menopause but was aiming to get at who the participant discussed menopause with generally. The prior question was “I discuss menopause with” followed by a list of options. My intent throughout this survey was to gather how much or little support or discussion was being experienced and I felt

in necessary to include questions about menopause as well as specific menopause and voice questions. Ideally this would indicate if menopause was receiving coverage and attention, but voice and menopause was not, or nothing was receiving attention, or all of it was. This respondent was not able to talk about menopause in any context without hostility.

The participant goes on to state she feels her voice is fine and menopause does not impact the voice, but what she fails to recognize is the possibility that her experience may not be universal. When asked to indicate which symptoms might be brought upon by menopause she replies by clicking depression and then stating, “I will not say menopause affects the voice in any way.”

When asked what percentage of women have voices impacted by menopause with answers from 5-100 percent she replies “the above question needs a yes or no answer.” I realize here that bias, my topic, and the reality of my knowledge of the actual answer to the question likely influenced my subconscious omission of having zero as an answer. This was a mistake but could serve to influence the answer to the penultimate question “What topics or key words might you look up or research based on what you read in this survey?” to which the respondent replied: None.

Upon reflection, something in this survey likely triggered this response. Unfortunately, she declined further participation and so I cannot interview her. The experience however reminded me that just because research is published out there, people often do not read it and have no interest in it. I found this with my Mod 3 research on vibrato as well. Some assumptions, even from the most experienced singers and teachers on vibrato was flat out misguided.

I wonder in a field that has long been guided by opinions, visualizations, kinesthetic and learn-by-doing methods, and personal preference, if people are more resistant to information backed-up by research that seeks to explain, what for decades has been intuitive. It is only relatively recently that science-based pedagogy has been explored, published and tested. Practice has not caught up to what we know, and at the same time, because we know more, we are challenging the strong personal experience that supports learn as you go methods. This is complicated by a field where the science we

learn is not directly observable and autonomic, arguably making some of the science seemingly irrelevant to the practicing singer.

11/3

In watching the many online lectures out there on menopause and perimenopause I have been struck by a common theme and sentiment, namely that the symptom of the day, be it voice, vasomotor symptoms, weight change, end of fertility, etc., poses an embarrassment to women. This idea that women are embarrassed by natural changes in their body is tied to a societal value placed on being young, the ability to have children, looks, and strength. Menopause represents the “change” in one’s average state from age 20 to 45, aka “decline.” This acknowledgement brings mental discomfort, anxiety, depression, and shame. Whether it is a realization that one has not completed all they thought they would in their “best” years, not had children, not partnered, not achieved a professional status, not swum the river or run the marathon, there is a feeling of imminent ending that comes with any talk of menopause. The narrative is that menopause is the END of a woman’s productive years. As women embrace feminism, the ability to do everything, to choose when to work, to have children, to marry or couple, to go to school, while still retaining their traditional roles of wife/mother/caretaker, and assume the additional caretaker role for parents who live longer and need more, the idea of a woman’s life beginning to sunset at the start of perimenopause is understandably depressing, especially when we know we may still have a lifetime to contribute and create.

This idea of a woman’s value being tied to children is discussed on every major talk show in western culture. Even Oprah broke down talking about her feelings about not having children and the self-worth implications attached. So, when having children is no longer an option for a woman, whether she has had them or not, what is her value in society? Is her usefulness over. We can shout from the rooftops that it is not, but we still function otherwise.

Add to this the performer's need to look and sound and move "young" and there is no mystery why female performers everywhere are not openly talking about it. Perhaps we need to reclaim the word menopause and begin describing it as a start rather than an ending. And perimenopause as a transition into self-valuation and opportunity rather than the cessation of the ability to create new life or and ending of any kind. Imagine the freedom if we as women could embrace all of our years, not only our reproductive ones, as potentially successful ones.

Now of course men don't have it easy either. They are expected to work later, be active longer, and can father until the die. But the real difference is there is no widely known term that represents a cessation of their productive years at midlife. And if there was a male condition that came with that moniker there would certainly be a pill to convince us that it was no big deal with well-funded research to back it up. In addition, older men are already valued for their wisdom, ruggedness, experience. Menopausal women however are known for their hot-flashes, moods and sagging skin. Yup I said it.

And, perhaps this "pill" is what hormone replacement therapy could be for women. The problem is it only delays the inevitable, not for all that long, and it is not for everyone. The value of the perimenopausal and menopausal years are not increased due to HRT. No one is saying "the change" isn't big deal. HRT just might give you a few more of the "valued" productive years and help to postpone some of the physical changes experienced in menopause.

I have long said feminists of the 60-70s demanded the opportunity to do it all to prove they could. Feminists of the 80s-90s wanted the recognition they could do it all, but the option not to. Feminists of 2000s felt entitled to do it all, without question or judgement. Perhaps feminists of the future should demand the time to do it all, so that their era of productivity is not defined by their reproductive status, but rather their reproductive years represent only one segment of their productivity timeline.

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One person I spoke with was saying “I wish I had known what exercises might have been helpful as I was aging.” Were there specific exercises as my body aged that might have helped me stay in shape vocally if I had known. One of the things I've noticed is that there are several pedagogy books that you go to as a voice teacher specifically for exercises. But if you go to these books, and they're lovely, really great books, but if you go to the books and you go to the index and you look up hormones or menopause it's not listed. It's not a thing.

We know what happens during menopause, what deteriorates. We know what loses strength. We know what needs to be strengthened. We know what can happen. And, we know what exercise help those issues. But, no one's taken the time to look at exercises under the umbrella of female hormonal change and try to organize exercises by which might strengthen or put off a potential vocal issue in the menopausal years.

In physical exercise for the body, we know that even light weightlifting can improve overall health as you age. Indeed, many interviewees spoke about their physical regimen from walking to yoga, and how doing cardio, even lightly, before singing improved their vocal performance. We know what one’s body looks like at 35 to 45 and there are exercises that are appropriate for that, and what the body looks like at 45 to 50, and what can start deteriorating and there are suggested exercises at that age, and what your body looks like at 55 and older. But if you develop a breathy sound or at 40 vs at 60, are the vocal exercises the same, or would different ones be more effective due to hormonal impact on the laryngeal tissue? How might vocal exercises prepare you for menopause and how might vocal exercises need to change, if at all, once you start perimenopause? Maybe you need to switch from sirens to breath work. And it may not just be necessarily menopause that is only having an impact. Are there strategies that improve one’s chances of performing successfully later in life? The demands on the body change as the body changes. The material that's out there is not phrased in this way. If you know what you're looking for it's there, but if you don't know what you're looking for it can be impossible to navigate.