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Bridging the gaps: creating a Theoretical Framework for Singing for Health research and practice

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Glossary of terms/abbreviations:

SFH - Singing for Health

TF - Theoretical Framework

HaW - Health and Wellbeing

CoMT - Community Music Therapy

MT - Music Therapy

HRV - Heart Rate Variability

SDT - Self Determination Theory

CET - Cognitive Evaluation Theory

Project Proposal

Bridging the gaps: creating a theoretical framework for singing for health practice, research and training.

Context

Singing for Health (SFH) is an emerging field with research increasing steadily since around the year 2000 (Dingle et al. 2019). SFH practice has been implemented in health, care and community contexts in the UK to support a variety of health issues: lung health conditions (McNaughton et al. 2017), Parkinson's (Stegemöller et al. 2017), Dementia (Osman et al. 2016), mental health and wellbeing (Clift et al. 2017), postnatal depression (Perkins et al. 2018) and immunity in cancer patients (Fancourt et al. 2016) amongst others. As research and practice have evolved, theory has yet to catch up, with there being no standard Theoretical Framework (TF) for SFH (Hendry et al. 2022). Similarly, there is not a definition of SFH, with many SFH studies giving little to no detail regarding the specific practices and interventions used (Kang 2018), which is problematic in trying to understand, justify and analyse the use of 'singing' as a health intervention.

Social Prescribing is a relatively new health initiative in the UK, aiming to improve health outcomes, behaviours and management of health conditions by prescribing non-medical interventions such as walking or group singing (Husk et al. 2019). By 2023-24 nearly 1 million people will qualify for social prescribing (Drinkwater et al. 2019) yet there is a lack of high quality evidence regarding outcomes, standardised outcome measures or processes (Husk et al. 2019).

My professional context is in SFH research and practice in community, health and social prescribing.

Justification

"there is a need for a comprehensive and systematic theoretical model of the mechanisms at work linking singing as an activity to wellbeing and health outcomes" (Clift et al. 2010, p10).

In the UK there is no standardised TF for SFH to inform research, practice nor potential training and regulation of SFH practitioners and their interventions (Dingle et al. 2019). A TF provides a guiding set of principles, values and theory for practice and research (McCrae 2012) and the education of SFH practitioners. It is also crucial for establishing an evidence base and professional framework for SFH, comparable with other health professions, providing a common language and frame of reference for collaboration in a multidisciplinary environment (Sun et al. 2012). McCrae (2012) identifies a TF in nursing as important for bridging gaps between theory and practice whilst Clift et al (2010) discuss its importance in SFH for giving coherence and validity to research allowing variables and techniques to be analysed and compared.

Arts and health interventions are being recognised in a global context (Fancourt and Finn 2019), with the WHO measuring the effectiveness of such interventions in 2019 (WHO website), reinforcing the need for a systematic and coherent framework. Within the context of social prescribing, SFH practice needs defining, with techniques and processes mapped to health and wellbeing outcomes, in order to justify the intervention.

In the UK the Singing for Health Network has recently been founded to bridge gaps between research and practice, and bring together interested parties: researchers, medics, SFH practitioners and participants, thus supporting the need for a relevant TF.

There are also ethical concerns regarding a lack of TF for SFH research and practice since it is an unregulated field. SFH practitioners may lack appropriate health training for working with vulnerable people or appropriate knowledge regarding specific health conditions (Peterson et al. 2018).

Intended Impact

Benefits of a SFH TF would be:

- Defining the essential components of SFH practice to inform research, practice and training (Riehl-Sisca and Roy, 1980);
- Providing a theoretical basis for the values and ideas informing practice (Clift et al. 2010);
- Enhancing the professional credibility of SFH research and practise;
- Providing a systematic framework within an evidence-based health context of social prescribing in the UK;

- Giving funding bodies and social prescribers confidence in the validity of SFH interventions;
- Contributing towards a global initiative on arts and health;
- Dealing with ethical concerns around practitioners without formal health training working with potentially vulnerable people or specific health conditions;
- Bridging gaps between SFH research and practice;
- Paving the way for SFH to become an allied health profession.

Outlined Intention

The aim of this project is to construct a TF for SFH practice, research and training informed by:

1. TFs used in SFH research identified in research literature;
2. Techniques and interventions described in SFH:
 - a. Research
 - b. Practitioners on the ground
 - c. SFH professionals with a track record of knowledge, experience and expertise in research and practice.

Methods

My ontological standpoint sits within a transformative and emancipatory framework, consistent with working as a SFH practitioner aiming to facilitate improved health and wellbeing outcomes. Facilitation is my role, employing my skills to support participants (Barden, 2021), as opposed to expert professional with associated higher status (Kawulich, 2011). Aiming to capture data from a large body of SFH practitioners on the ground, thereby conforming to a transformative/emancipatory paradigm by capturing data from practitioners who may not have formal training, rather experience and experiential learning (Chinn 2007).

The project is mixed-methods employing triangulation for external validity from: SFH and other relevant literature, SFH practitioners, feedback from SFH professionals.

Data will be collected, analysed and synthesised as follows:

1. Literature Review

Exploration and critical analysis of relevant TFs applied to SFH interventions. Few SFH interventions use a TF and there is little coherence between ones that are, making comparisons difficult and negatively affecting the validity and relevance of SFH interventions (Qualitative data).

2. Mixed methods Questionnaire for SFH Practitioners

Questionnaire for approximately 100 SFH practitioners identified through:

- SFH training in lung health, Parkinson's and dementia
- Professional Facebook groups

Data collected:

- Demographics (gender, age, nationality, location)
- Education/experience (Qualitative):
 - Music
 - Singing
 - Health
- TFs utilised and their perceived relevance (Qualitative).
- Essential features of SFH practice using a Likert scale of previously identified features/interventions identified from SFH literature (Routledge, 2023) (Quantitative).
- Open question to capture any other essential factors to SFH practice (Qualitative).

3. Questionnaire for SFH professionals

SFH professionals with a track record of knowledge and experience and SFH research and practice will be invited to comment on the proposed TF. The data will be used to gain insights into relevance and practicability.

Inclusion criteria: delivering weekly SFH sessions; 4+ years SFH practice; 1+ SFH qualification.

Project plan:

Date	Action
19/7/23	Tutorial to finalise research question.
By 21/7/23	Complete Questionnaire 1 (SFH practitioners)
By 28/7/23	Complete Project Proposal
4-11/8/23	Create, test and email Questionnaire 1 to SFH practitioners
28/7-3/9/2023	Collate Questionnaire 1 responses
28/7-30/9/23	Lit Review
w/c 4/9/23	Tutorial; Lit review on TF.
11/5/10/23	Write up Lit Review (15-20% of word count)
15-31/10/23	Write up methodology (15-20% of word count)
w/c 6/11/23	Tutorial
1-15/11/23	Analyse Questionnaire 1 responses
16-30/11/23	Synthesise Questionnaire 1 results + Lit review; create TF.
w/c 4/12/23	Tutorial
1/12/23	Send TF to SFH professionals + questionnaire.
6/1/24	Revise TF
16/1/24	Complete
1/2/24	Hand in draft

1-15/2/24	Prepare presentation
12/2/24	Draft Assignment deadline
w/c 12/2/24	Tutorial
12 or 15/2/24	Presentation Challenge
16th-28th Feb	Revise draft
1/3/24	Hand in final assignment
15/3/24	Revised deadline date due to personal circumstances

Ethics and Insider Research

Ethical implications arise from my insider researcher position. I have deep knowledge and interest in the topic and potential bias (Creswell 2014) as I will gain personally from the outcome. However, the wider SFH community (Dingle et al. 2019) will also benefit, support professional development of SFH (Clift et al. 2010). To mitigate potential bias, maintaining awareness throughout each stage of the research process is important (Fleming 2018). Similarly, using triangulation for external validity (Greene, 2014).

Potential for 'informant bias' from SFH professionals (Fleming 2018) who know me personally and may give responses to please me will be mitigated by sending a questionnaire in writing as opposed to face-to-face interviews which might discourage negative critique, including a statement in the questionnaire requesting honest feedback.

An important ethical benefit of this project is for the wider unregulated SFH community working with vulnerable people. A lack of regulation and TF puts practitioners and participants in a vulnerable position regarding health and wellbeing outcomes, and potential personal liability in case of adverse reaction. Ethical considerations should include: safeguarding, working with vulnerable people, GDPR, working in a health context without formal medical training, signposting and referring participants to relevant health professionals.

Ethical approval has been granted by the University of Wales Trinity St. David (see Appendix 1 p82).

Personal Learning Outcomes

- Developing analysis skills regarding quantitative data from questionnaires.
- Deepening knowledge of TFs relevant to SFH.
- Developing analysis and synthesis skills from multiple sources to create a coherent and practical TF for SFH.
- Improving academic writing skills for potential future publication.

Project

Project Title

Bridging the gaps: creating a theoretical framework for Singing for Health research and practice

Introduction

The context

Singing for Health (SFH) is a developing field sitting among health, creative arts and community sectors (Daykin, 2012). Burgeoning research demonstrates its positive impact on wide ranging social, mental and physical health and wellbeing (HaW) outcomes, including: lung health (McNaughton et al. 2017), Parkinson's disease (Stegemöller et al. 2017), dementia (Osman et al. 2016), mental health (Coulton et al. 2015), feelings of belonging (Pearce et al. 2016), improved immunity in cancer patients (Fancourt et al. 2016) and increased heart rate variability (HRV) (Bernardi et al. 2017).

However, an identified limitation in SFH research and practice is the absence of a “comprehensive and systematic theoretical framework” (Clift et al. 2010, p10) linking ‘active ingredients’ (Warran et al. 2022) in SFH interventions with HaW outcomes. This negatively impacts SFH research validity and professional credibility (McCrae, 2012). Additionally, a lack of standardised TF creates a gap between research and practice.

What is a theoretical framework?

A theoretical framework (TF) provides foundation, structure and support for knowledge and research while reflecting the researcher's ontological standpoint (Grant and Osanloo, 2014). A TF synthesises theory from relevant research literature to guide all aspects of research: the question, hypothesis, analysis and interpretation of findings, informing recommendations for future research (Kivunja 2018). TFs relate theory to practice and vice versa, supporting prediction and explanation of phenomena (Varpio et al. 2020) and providing a common language for interdisciplinary collaboration (Newman 2003). This is a pertinent point for SFH which sits among health, community and arts fields (Daykin,

2012). A TF also provides ways to understand and evaluate intervention outcomes (Dingle et al. 2019).

Group Aspect

The majority of SFH research interventions have involved group settings (Daykin 2012; Camlin et al. 2020). This group aspect coincides with recognition of social factors' impact on individual HaW outcomes and the introduction of social prescribing in the National Health Service (NHS) in the UK. Social prescribing regards health as a result of social, economic and environmental factors including self-determination, with "community-centred" health described as a key determinant in reducing health inequalities (gov.uk, 2024). The WHO Arts and Health report (Fancourt and Finn, 2019) emphasises this, providing extensive evidence that arts participation supports health outcomes in addition to being an underutilised resource. Their scoping review of arts and health interventions includes recommendations to increase collaboration between culture, health and care; introduce or strengthen communication and referrals from health to arts programmes; include training in the arts for health professionals. Yoeli and Macnaughton (2021) reveal that HaW benefits from music and health interventions are amplified on a collective level, with some benefits only attributable and identifiable within groups. A robust TF is necessary to underpin these recommendations and outcomes.

Project aims

Beyond its core objectives, this project endeavours to provide specific data on what SFH interventions entail. Research has identified that most SFH research omits details of interventions (Warran et al. 2022). These omissions negatively impact research validity, limiting the identification of active ingredients impacting outcomes (Warran et al. 2022). Isolating active ingredients in a complex and multidimensional activity such as group singing is complex, however it is an essential step in identifying as far as possible the HaW outcomes relating to particular features or interventions (Warran et al. 2022).

The framework developed in this study addresses the limitations of medical models with particular reference to their applicability to a group activity (Yoeli and Macnaughton, 2021). Furthermore, this study proposes to address the lack of standardised TF, developed as tools for SFH practitioners. Therefore the TF developed here will implement the following:

1. Provide definitions of 'HaW' and, significantly, a detailed definition of SFH.

2. Identify relevant themes drawing upon other group-theories (Community Music Therapy (CoMT), Dance therapy, Drama Therapy, Social Models of arts and health, Public Health) psychological theories (Attachment Theory, Polyvagal Theory, Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET) and biopsychosocial theories.
3. Combine qualitative data from research literature with quantitative and qualitative data from a questionnaire of SFH practitioners to ensure relevance and coherence for both research and practice.
4. Identify active ingredients in SFH.
5. Map active ingredients from literature to those identified in practice from the SFH questionnaire data, to externally verify and bridge theory and practice.
6. Propose means and themes for evaluation of outcomes.
7. Map evaluation recommendations with research recommendations and the framework (Dingle et al. 2019).

Methodology

Ethics Statement

Prior to initiation of recruitment or data collection procedures, this study received ethical approval from the University of Wales Trinity St David's ethics panel (See Appendix 1 p82). Questionnaire participants were made aware of research aims and that their personal information would remain confidential. Participants consented to participate. They were provided with contact details for further information or to receive the final report.

Research Design

Adhering to recommendations by the Agenda for Best Practice on Group Singing, Health and Wellbeing (Dingle et al. 2019) this project implements an exploratory research design using mixed methods to gather quantitative and qualitative data. Mixed methods are appropriate to the endeavour of defining and identifying the essential features of SFH to create a relevant and practical TF for research, practice and the development of the emerging field of SFH. The use of quantitative and qualitative data and analysis is to discover and describe, incorporating objective and subjective data and experiences (Harris and Brown, 2010). An exploratory design acknowledges the limitation of the author as a lone researcher on the first step to creating a TF to inform research and practice, and the widely reported issue of a lack of TF for SFH (Dingle et al. 2019; Hendry et al. 2022) with corresponding issues for validity. Similarly, it allows for further refinement and development of a TF. Drawing from and applying multiple factors is an example of methodological pluralism, compatible with pragmatism (Warran et al. 2022), appropriate to the key aims of this project, which are to provide a practical resource for SFH research, practice and training.

Insider researcher position

The implementation of an exploratory research design draws on the author's privileged insider position of practitioner and researcher, thereby contributing to peer practitioner-researchers and the distinct fields of research and practice. External validity to counteract potential insider bias (Greene, 2014) is provided by proposing an initial TF for feedback from knowledgeable and experienced SFH researchers and practitioners, to gain a broader perspective and insights, to increase objectivity, applicability and consequent validity. It takes the form of triangulation, another method supporting objectivity and mitigating potential bias of the insider research position (Greene, 2014 on Lincoln and Guba, 1985) from three sources detailed.

Triangulation

Source 1: Literature Review

A literature review to define the term 'HaW' as it applies to SFH. Furthermore, a critique of TFs implemented in SFH research interventions to extract themes for inclusion in the proposed TF for SFH. Due to the small number of relevant papers, it additionally draws from literature on TFs applied to group work from the fields of group psychotherapy, dance therapy, drama therapy, community music therapy and arts and health.

One of the key aims of the TF is to bridge the gap between research and practice. Following the exploratory research design, the literature review will be iterative going back and forth between papers, finding relevant papers from searches using the following, wide-ranging search terms: singing TF; SFH framework; theory SFH; group therapy frameworks; psycho-drama frameworks; community music theory; dance therapy frameworks; drama therapy frameworks and from references. This approach may appear unmethodical, however, in openly exploring uncharted terrain in this way, it seems the optimal approach to uncover relevant themes from other fields.

Source 2: Practitioner Questionnaire

A questionnaire for SFH practitioners, anonymised to avoid bias relating to being an insider researcher investigating peers (Greene, 2014). Inclusion criteria are: practitioners leading regular SFH sessions, as opposed to vocal pedagogy/singing teaching, sound healing or community singing. These criteria are to delineate SFH with its HaW aims from other practices. The questionnaire asks SFH practitioners about their attitudes and practices to establish a practical definition of SFH. Secondly, it seeks to identify essential features of SFH practice to underpin the proposed TF framework. Analysis of responses identifies the essential features of SFH practice according to practitioner attitudes and interventions, an important step in accurately identifying active ingredients, potentially affecting outcomes and contributing to concrete definitions of what SFH practice entails.

Questionnaire details:

Section 1: Practitioners - demographics, music education/qualifications, health education/qualifications. This was to identify relevant themes to ensure the TF is appropriate and accessible to practitioners and to identify relevant experience/education for SFH practice, which may also contribute towards the proposed TF.

Section 2: Aspects surrounding interventions such as setting, working with individuals or groups, frequency, timing and use of a TF or not and whether or not practitioners would benefit from a TF. This set of questions emerged when designing the questionnaire following identified themes from SFH literature (Routledge 2023) namely, the impact of timing and environmental aspects of SFH sessions on accessibility, participation and HaW outcomes (Warran et al. 2022; Barden, 2021; Daykin, 2012). The proposed TF should take this into account.

Section 3: Attitudes towards the importance of interventions presented on a 5-point Likert-type Scale where 1 is of no importance, 3 is neutral and 5 is extremely important. For some questions where participants answered 4 or 5 (important), they were then asked to provide qualitative information regarding what they consider to be optimal.

A 5-point Likert scale was used as it has high reliability (Dawes 2008) and to increase response rate, given the high number of questions. An odd number of points was used providing a neutral central point, allowing for neutrality of opinion and implying equal psychological distance on either side of the central point (Wakita et al 2012). Since it is a Likert-type scale without a central theme linking questions, data will be analysed using descriptive statistical analysis to find points of central tendency: means, modes, medians, frequencies and standard deviations (Field and Hole 2012).

Section 4: Frequency of use of certain intervention techniques on a 5-point Likert Scale with the following response options: Never/Rarely/Sometimes/Often/Always.

This set of questions extracted data regarding essential features of SFH practice, outlier or health condition-specific interventions for example. The proposed TF aims to provide a general guideline for all SFH practice, not specialised practice. The data extracted implies ordinal data to be analysed to provide mean and standard deviations, enabling identification of essential components of SFH practice. Following exploratory research and cohering with Likert-type analysis, descriptive analysis will be applied providing modes, medians and interpretation of composite mean scores to obtain a complete understanding, rather than a potentially reductive one (Harris and Brown, 2010).

Section 5: A final, open question collected data regarding any other features practitioners consider important to their practice. The qualitative data from this question was analysed using qualitative content analysis (Mayring, 2015) whereby themes were assigned and then quantified to identify most common themes.

Source 3: Professional Questionnaire

Data from sources 1 and 2 was combined using qualitative content analysis (Mayring, 2015), selected methodological coherence and suitable for integrating qualitative and quantitative data to inform a proposed TF for SFH. The proposed TF, version 1, was emailed to three SFH professionals selected using convenience sampling (Sedgwick, 2013). Ideally, a Delphi research approach to establish consensus of 'expert' opinion (Hohmann et al. 2018) would have been utilised, which usually has

three to four cycles. However due to limitations in the scope of this project only an initial round consulting three professionals was undertaken. Following Delphi recommendations by Trevelyan and Robinson (2015) diverse representation was required, in this instance representing different professional areas of SFH: practice, research and a practitioner-researcher. The term 'expert' was avoided due to ambiguity in its definition, with inclusion criteria defined (Trevelyan and Robinson, 2015) as follows:

- a record of practical application and success in SFH for at least 4 years
- regarded as leaders in their field;
- particular depth of knowledge and experience of a range of health conditions;
- a deep understanding of the theoretical foundations, methodologies, best practices, and nuances within their field;
- highly respected by peers and the SFH community for their contributions.

It is worth noting the lack of external validity and potential for bias by the convenience sampling approach adopted (Sedgwick, 2013) and in defining the inclusion criteria above, other than practice duration (Greene, 2014). SFH professionals were identified due to the author's insider knowledge of the field and personal contact with colleagues. This is an identified limitation worth consideration in future development of the proposed TF and could be mitigated by following classic Delphi research with a larger number of professionals.

Questionnaire details:

The questionnaire was administered online, again a method to limit potential insider-researcher bias by reducing personal contact (Greene, 2014), and had two sections. The first section collected data about each SFH professional on the length of their experience working in SFH and their knowledge of particular health conditions, thereby confirming their professional experience and status. The second section consisted of five open questions (Trevelyan and Robinson, 2015) about the proposed TF to ensure its clarity, comprehensiveness and applicability for SFH research, practice and training. The final question requested any additional comments or suggestions to improve the proposed framework.

Responses from the SFH professionals questionnaire were analysed using qualitative content analysis (Mayring, 2015) to extract themes and quantify them. This allowed prioritisation for application to the proposed TF.

Cycles of Action and Reflection

This project draws on aspects of action research in seeking out lesser heard voices to inform research, and in using a cyclical process with four stages of action and reflection (Eden and Ackermann, 2018) to provide actionable insights, presented as a TF for SFH research, practice and training. Moreover, asking SFH practitioners about themselves, their attitudes and their practice conforms to my ontological framework sitting within an emancipatory/transformative paradigm where I am concerned to garner the opinions and attitudes of practitioners who may not have formal training in music or health but valid and relevant experiential knowledge (Chinn, 2007). The cycles of action and reflection are here described:

Cycle 1:

- Literature review to define 'HaW' and 'SFH'.
- Critical reflection to draw out relevant themes for a TF
- Identify active ingredients across HaW, SFH and other relevant group arts therapies.
- Categorised active ingredients and map to '5Ws and 1H' (what, who, why, when, where, how) (Waisbord, 2019)

Cycle 2:

- Practitioner Questionnaire to identify demographic information, attitudes towards importance and frequency of interventions;
- Descriptive quantitative analysis of attitudes, frequency of interventions from data generated from Likert scales;
- Thematic qualitative analysis of open question;
- Define essential features and interventions (active ingredients) in SFH practice;
- Emergent themes.

Cycle 3:

- Data integration (Qualitative Content Analysis, Mayring, 2015) ([Fig. 11](#));
- Map essential features and interventions to thematic active ingredients from Cycle 1 and 5Ws and 1H (See Appendix 8, p207)
- Create TF (version 1 See appendix p214)

Cycle 4:

- Send TF (version 1) to SFH professionals with feedback Questionnaire (qualitative data);
- Analyse data using Qualitative Content Analysis (Mayring, 2015);
- Reflect on and implement findings to Cycles 1, 2 and 3
- Revise TF

It is necessary to highlight that the project presented is the revised project implementing findings from Cycle 4.

Further scope for this project would seek to address participants' attitudes within the action research paradigm, where rather than considering participants as subjects who are acted upon, they have high status and deep, insider knowledge of themselves, their health conditions and experiences (Hall, 2010; Yoeli and Macnaughton, 2021). Although participant voices are not included in this project due to its limited scope, it is essential that space and processes to include their voices are in the proposed TF.

We may now turn to Cycle 1 where research literature is critically analysed to extract relevant themes for a TF for SFH.

Cycle 1: Literature Review

It is essential to highlight that following feedback from SFH professionals in Questionnaire 2, it was necessary to make amendments and additions to the Literature Review to provide additional definitions and theoretical clarifications. Therefore the Literature Review presented here is the second iteration (Cycle 4) incorporating this feedback. The original Literature Review is in Theoretical Framework 1 (Appendix 9, p214)

Defining SFH requires teasing out its essential features compared to that of other singing for leisure activities and relating them to SFH's HaW aims. This requires a shared understanding of concepts by researchers, practitioners, participants and other relevant parties such as health professionals and

carers to effectively understand and evaluate SFH (Warran et al. 2022). To accomplish this, a wide-ranging literature review was conducted with the aims of defining relevant terms and exploring SFH and arts and health interventions to extract pertinent themes.

Defining HaW

An essential first step is to define ‘HaW’ to adequately address it in the proposed TF.

Background

Definitions of health continue to evolve, incorporating concepts, theories and political objectives extending beyond the traditional biomedical model of health as the absence of disease or ill-health to include physical, mental and social wellbeing (WHO, 2024). Similarly in a post-Covid context where health inequalities were thrown into stark relief (Kings Fund, 2022) the concept of health has been developed to include a social and community context with the idea that a healthy community leads to healthy individuals (Gov.UK, Social Prescribing; Yoeli and Macnaughton, 2021). Regarding health more holistically as community-centred is seen as a key component to reducing health inequalities and supporting marginalised and vulnerable people (Gov.UK, Social Prescribing).

Wellbeing is a term often used in conjunction with the term ‘health’ and has no widely agreed definition (Daykin, 2012) however it concerns the meaning and definition of what it is to be well and how to live a good life (Ryff et al. 2021). The ancient Greek roots of wellbeing describe hedonic wellbeing: the goal of achieving the most pleasure and maximum enjoyment possible (Ryff et al. 2021) in contrast to eudaimonic wellbeing: living a life of the highest virtue and achieving individual potential (Ryff et al. 2021). Deci and Ryan’s (2001) eudaimonic approach to wellbeing has parallels with Hettler’s model: Six Dimensions of Wellness (1976) which views wellbeing as a multidimensional, holistic state of “functioning optimally within your current environment” (National Wellness Institute, 2023). Six dimensions of wellness are identified: physical, emotional, social, spiritual, occupational and intellectual, which affect each other. Additional dimensions of economic and environmental factors can extend this model, recognising their impact on HaW (Wickramaratne, 2018). Hettler’s model with extensions appears comprehensive, providing evaluation questionnaires for each dimension. There is an emphasis on measurability to create self-directed change with a central component of taking personal responsibility and action. The measurements are based around subjective questionnaire and clinician observation, usefully extending evaluation beyond the subjective. However, the emphasis on individual responsibility (Nathenson et al. 2014) assumes that capability, irrespective of (dis)ability,

socio-economic and cultural context and their impact on HaW (Yoeli and Macnaughton, 2021). The individualistic model described is also inadequate for group health interventions such as SFH.

A commonly used definition of wellbeing is provided by the World Health Organisation (WHO), considering subjective wellbeing to be synonymous with positive mental health:

“A state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2001).

This definition seems informed eudaimonic wellbeing described above, while recognising that individuals function within a community context, important for HaW. Nonetheless it is again describing a subjective state of being without reference to the relations between an individual and their interpersonal, cultural and environmental context.

The above definitions of HaW consider it a subjective, individualistic state. This is problematic for SFH, largely taking place in a group. Traditional health models based on an individual or one-to-one basis are inadequate and incoherent with group processes. They are also inadequate to measuring outcomes relating specifically to group interventions (Yoeli and Macnaughton, 2021). Further limitations are that they are underpinned by critical realism and an individualistic ideology where wellbeing is the result of an individual's decisions and behaviours. Correspondingly, ill health and the absence of wellbeing demonstrate a failure to self-govern one's behaviour and body (Hall, 2010). This is ethically dubious; failing to acknowledge that health inequalities disproportionately affect marginalised communities (The King's Fund 2022) with systemic issues such as racism, ableism and other forms of discrimination profoundly impacting HaW (Williams et al. 2019). These limitations have led definitions of HaW to incorporate the wider context, acknowledging that individuals affect and are affected by their environment. Contextual definitions of HaW will now be considered.

Dynamic, relational and spatial concepts of HaW

Moving away from phenomenalist, human-centred approaches towards social constructivist and non-representational concepts of wellbeing draws from geography of health and social sciences (Andrews et al. 2014). These concepts considered HaW as dynamic, affective and relational involving people, places and the relations between them (Fleuret and Atkinson, 2007; Andrews et al. 2014). This has a theoretical strength as HaW is understood through ongoing interaction with people and

places (Andrews et al. 2014) rather than a traditionally competing dualist subjective/objective lens. This developing view in health research views health as holistic; a complex adaptive system with artistic, expressive activities mirroring essential, functional aspects of humanity and therefore HaW (Warran et al. 2022; Camlin et al. 2020; Yoeli and Macnaughton, 2021) .

These approaches are particularly relevant to arts and health interventions; holistic, creative activities where it is difficult to isolate the active ingredients contributing to HaW outcomes (Warran et al. 2022). In an arts and health paper (Warran et al. 2022) the authors map active ingredients in arts and health intervention to outcomes, creating the 'INNATE' framework. The proposition is that causal outcomes are not linear, rather, a multitude of mechanisms, factors and relations emerging through engagement and participation with the activity. Ingredients are framed into three categories: people, project and contexts, acknowledging that an individual's experience is uniquely shaped by their personal history, social context, culture and cultural context within space and time. Community Music Therapy (CoMT) also understands HaW as intrinsically related to a person within their ecology, with music requiring auditory expression reflecting a drive to be heard, connecting it to a community (Aigen et al. 2018).

Another relational approach to HaW is Social Identity Theory (Tajfel and Turner, 1979) where group identity and a sense of belonging to a group contribute to HaW (Hall, 2010; Hendry et al. 2022). Group identity is considered more important than self-identity, with powerful effects on confidence, empowerment and HaW (Yoeli and Macnaughton, 2021). CoMT draws on a similar concept whereby health is an exploration of relations between individuals, their community and environment (Wood, 2006).

Similarly, Spaces of Wellbeing Theory (Fleuret and Atkinson, 2007) aims to capture living within a particular body at a particular time and relationships between individuals and their social and spatial context, for a fuller concept of health. Four lenses are identified: spaces of capability – how physical and social spaces enable mobility and positive social experiences; integrative spaces – whether/how social networks build self-esteem and interpersonal appreciation; spaces of security – whether/how social networks promote understanding and protection from danger (human, environmental); therapeutic spaces– how a place promotes health, healing and wellbeing (Hall, 2010 on Fleuret and Atkinson 2007).

An important feature addressed here is the impact of 'spaces of capability' on HaW. It recognises how physical spaces enable access, promotes inclusion and a sense of safety, particularly for vulnerable

or marginalised groups, often due to socio-cultural factors (Chin and Noor, 2014). It also contains temporal aspects to access and inclusion, such as timing, frequency and duration of an intervention, likely to impact on HaW outcomes. These factors are significant to addressing health inequalities, disproportionately affecting ethnic minorities, people with disabilities and learning difficulties, homeless people (The King's Fund 2022) and other marginalised groups, with relations between these socio-cultural factors and HaW are well-documented (The King's Fund, 2022). Spaces of Wellbeing Theory potentially addresses an inherent bias in SFH research and practice involving people who actively want to take part in singing (Yoeli and Macnaughton, 2021). Those who feel unable to sing self-exclude, with barriers to singing participation remaining unidentified and corresponding access limitations to SFH and potential HaW benefits.

Synthesising these theories and ways of understanding HaW, we may conclude that socio-cultural, temporal and spatial factors and an individual's relationship to these factors significantly impact HaW outcomes.

Self-Determination

Self-determination or agency, refers to a sense of autonomy and empowerment, relevant to HaW and referenced in multiple models of HaW: HSE Living Well with a Chronic Condition; Hettler's Six Dimensions of Wellness (Hettler, 1976); Social Models (Daykin 2012); Exercise Psychology Frameworks (Biddle et al 2009) and Community Singing (Hendry et al. 2022); and a central feature of UK health care under the term 'personalised care' (NHS England, Personalised Care, 2024). Self-Determination Theory describes three fundamental human needs: autonomy, competence and connection (Deci and Ryan, 2000) and is a core component of Hendy et al's (2022) community group singing model. This demonstrates how group singing fulfils those needs, additionally providing a theme for evaluation. Regarding SFH practice, there may be challenges in identifying features which promote agency within a group context, which also relies on cooperation to achieve musical synchrony.

Considering self-determination, individual autonomy and empowerment as central components of HaW seems to reinforce an individualistic concept of health, demonstrated to be reductive (Warran et al. 2022) and in tension with community and social-centred concepts of HaW (Hall, 2010). However, the dynamic, relational and spatial concepts of health described above (INNATE Framework, Social Identity Theory, Spaces of Wellbeing Theory) reconcile this apparent contradiction by acknowledging that individuals exist in relation to their communities and vice versa. There are parallels with SFH

practice in a group context, relying on a combination of agency and cooperation in a continuous negotiation to achieve musical and therefore HaW aims (Camlin et al. 2020).

Participation

Related to self-determination, participation is a central factor relating to HaW with increased participation in one's own HaW and social and cultural context relating to increased HaW (Hettler, 1976; Warran et al. 2022; Yoeli and Macnaughton, 2021). Aligning with empowerment and social capital, high levels of participation demonstrate shared norms, reciprocal trust, a network of relations and high social capital (Daykin 2012 on Putnam 1995). Corresponding increases in access to support and health services reduce health inequalities, enhance social role and promote agency. Participation also provides evaluation of HaW from different perspectives: participant, facilitator, wider community e.g. health professionals, family (Daykin, 2012), and a means to assess personal, interpersonal and environmental impacts relating to HaW.

Safety

Safety emerged as an important ethical theme for arts practitioners working in a mental health setting (Daykin 2012) and when dealing with vulnerable people (Hall, 2010) with potentially volatile behaviours and people on medication (Daykin 2012), supported by Warran et al (2022). Polyvagal Theory (Porges, 2022) describes the relationship between a felt sense of safety and HaW, with feelings of safety/unsafety affecting the ANS (autonomic nervous system). Feeling unsafe relates to an activated, sympathetic nervous system state, with physiological responses associated with 'fight or flight' such as pupil dilation, heart rate increase, increased muscle tone and stress hormones (Roelofs, 2017). In contrast, with felt safety the nervous system supports "homeostatic functions of health, growth, and restoration, while they simultaneously become accessible to others" (Porges, 2022 np). Spaces of Wellbeing theory similarly denotes 'Spaces of Security', relevant for participants and practitioners (Fleuret and Atkinson 2007).

From examining theoretical constructs above, this study conceptualises HaW as holistic, reflecting the complex and holistic activity that is therapeutic group singing.

We will now explore how this concept of health applies to singing by defining SFH from a theoretical perspective before providing definitions of both 'HaW' and 'SFH'.

Defining SFH

The concept of singing having therapeutic powers has a long history however it is in the last twenty years that there has been a burgeoning of research into whether or not singing improves HaW outcomes, with promising research regarding particular health conditions (Dingle et al. 2019). The majority of this research concerns clinical care based on individualistic medical models (Daykin, 2012) yet conducted in a group singing context. This is demonstrably inconsistent, suggesting that individual models are inadequate to understand and assess group activities (Camlin et al. 2020). Similarly, most of the research has little detail of the specifics of the singing interventions (Dingle et al. 2019; Routledge, 2023). This lack of detail is problematic for isolating research variables, compounded by the complexity of a group setting and the fact that by its nature it is impossible to conduct randomised blind trials, the gold standard of medical research (Clift et al. 2010). (There are some notable exceptions: singing for lung health, which details a standardised protocol including breathing, relaxation, vocal and music exercises and song examples; Hendry et al's (2022) model for community group singing).

Embodied Singing

Singing is obviously central to SFH with a common definition as “the act of producing musical sounds with the voice” (Wikipedia 2024; Cambridge Dictionary 2024) with different genres and cultural contexts in which singing takes place. Pulling this apart we have: the embodied act of musical vocalising involving complex interactions between multiple biological systems: respiratory, laryngeal, resonance, articulation and complex neural networks (Kleber and Zarate, 2014) as identified by biopsychosocial models of health (Fancourt, 2017). The notion of ‘embodiment’ has become more widely recognised as significant for HaW with trauma-informed approaches to health (Marsac et al. 2016). The embodied act of singing refers to the integrity and wholeness of human functioning incorporating mental, physical and emotional (Paparo, 2016) aspects. This renders it distinct from instrumental music-making (Halwani et al. 2011) with significant implications for health, particularly explored in singing for lung health (Lewis et al. 2018), singing for Parkinson's (Tamplin et al. 2021) and singing for mental health (Shakespeare and Whieldon 2017). The greater extent of embodiment in singing also distinguishes it from other creative and expressive art forms with therapeutic aims. Comparing it to dance and drama therapy, also requiring embodiment to some extent, the act of singing requires coordinated breathing according to musical phrase lengths (Vickhoff et al. 2013), lyrical content and complex neurobiological mechanisms to produce accurate pitch and rhythms

(Camlin, 2019) relating to singing a song. The extent of embodiment in singing requires a TF adapted to this, justifying the aims of this project.

This brings us on to a feature of embodied singing only applicable to a group singing context (Camlin, 2019).

Entrainment and Attunement

Another distinct feature of group singing is the degree of synchronicity involved between individuals to sing the same frequencies at exactly the same time, termed “musical entrainment” (Camlin, 2019, np). Musical entrainment in singing coheres with synchronisation of heart rate and heart rate variability, (HRV) an interpersonal neurobiological interaction (Vickhoff et al. 2013; Scherbaum and Müller, 2023), termed “attunement” (Camlin, 2019). There is little research on this, remarkably, given its potential relevance to cardiovascular health. An emerging hypothesis is that neurobiological attunement may provide a biological account for feelings of belonging and connection frequently reported by choir members and SFH literature and related positive impact on HaW (Camlin, 2019). In contrast, Ruiz-Blais et al (2020) report a lack of correspondence between coordinated HRV and subjective experiences of “togetherness” (Ruiz-Blais et al. 2020), suggesting that more research needs to be undertaken.

Music

Related to the embodied act of vocalising is the sung content; the music. Songs, song forms and genres are disseminated via aural and written traditions (Aigen et al. 2018) using language and sounds. Alternatively, improvised singing as an individual or group, without a predetermined form or content, rather the singing is an individual expression influenced by previous experiences, wider cultural context and the individual within their particular context in space and time. These factors parallel features of HaW discussed above (Dynamic, relational and spatial concepts of HaW p), supported by an evolutionary perspective that music developed from human survival requirements relating to healthy biological and societal functioning (Bannan, 2020; Cross and Morley, 2010). This may explain increased heart rate variability (HRV) during improvised singing such as toning and humming results (Vickhoff et al. 2013; Bernardi et al. 2017) with increased HRV corresponding with improved cardiovascular health and fewer cardiac events (Bernardi et al. 2017). Finally, the cultural significance of songs and types of singing may have particular meaning or reference to life events, self-identification and group-identification (Camlin et al. 2020), relating to SIT and HaW previously described.

Yoeli and Macnaughton (2021) distinguish arts therapy from SFH practise observing that in arts therapy the aims are therapeutic and within a medical model of an intervention aiming to improve medical symptoms. In contrast SFH practitioners are usually practising singers/musicians aiming for a meaningful artistic experience, out of which HaW outcomes may arise. This may affect identity with participants in SFH identifying as singers first, elevated from principally identifying with their health condition and potential accompanying limitations (Yoeli and Macnaughton, 2021). Community Music Therapy (CoMT) reinforces this with the music itself conceived as a “natural agent of health promotion” (Aigen et al. 2018, p141).

Group

The role of the group relating to HaW is important to SFH since most research and practice involves group work. Psychodrama is a form of group psychotherapy (Yehoshua and Chung, 2013) and an arts intervention comparable to SFH as a group arts/health intervention. In group therapy the group itself is considered to be the agent for therapeutic change, in contrast to individual therapy where the therapist and therapeutic relationship is conceived as the agent of change (Bakali et al. 2010). There are parallels here with the role and relationship between patient/therapist serving as a differentiator between Music Therapy and CoMT (Aigen et al. 2018) to be discussed further when considering the role of a SFH facilitator.

Camlin et al (2020) describe group singing as requiring social engagement within a multifaceted context. Group singing is an act of co-creation; a continuous negotiation creating collective cultural expression via vocalised, embodied music-making which results in “paramusical” (Camlin et al. 2020) effects. These ‘paramusical’ effects are further described as an ‘adaptive complex’ where single features are amplified in conjunction with others (Warran et al. 2022; Camlin et al. 2020 on Whiten 2007); the output is greater than the sum of its individual parts. ‘Paramusical’ experiences (Camlin et al. 2020) may be attributed to the well-documented sense of connection and belonging that people experience from singing together (Clements-Cortés 2015), extending to empirically measurable consequences with large group singing resulting in increased pain threshold (Weinstein et al. 2016). This corresponds with evolutionary theory’s assertion that human survival relied on group membership (Ian and Morley, 2010). Further corroboration is provided by Social Pain/Physical Pain Overlap Theory, a neurobiological theory (Herman and Panksepp, 1978) with further research suggesting shared neural underpinnings between hurt feelings and physical pain (Eisenberger and Lieberman 2004). Conversely, positive feelings of belonging and connection may have a corresponding positive

effect on biological wellbeing (Weinstein et al. 2016). Therefore group processes have direct impacts on HaW.

Participants

Related to the concept of a group are the individuals of which it consists. Research literature often includes basic demographic information such as gender, age, health condition and amateur vs professional singers (Grape et al. 2002). Hendry et al (2022) include occupational information and length of time in the choir. One paper (Cronley et al. 2018) identifies how profiles of resilience, social support, stress, mental health and race are associated with choir attendance in members of a homeless street choir in Dallas, Texas. However, features relating to group functioning such as neurodiversity or sensory sensitivities have not been identified from SFH literature except for a single study (Young, 2018) despite high comorbidity with mental health issues (Chapman and Carel, 2022). Young (2018) investigates group singing's effect on quality of life in young people with autism, identifying personal information beyond basic demographics such as cultural affiliation, musical background and preferences, living situation, attitudes concerning the importance of music in their lives, opinions about their singing voices, level of comfort with social situations. Interventions were planned taking these considerations into account. Although this study specifically investigates quality of life in young people with autism, the personal background features would impact participants' experiences of the intervention, other participants, the music etc potentially impacting HaW outcomes. Applying this more generally raises questions around how much participant background history may be relevant to HaW outcomes in SFH and what background questions to include as active ingredients. Following emancipatory research, background information may best be identified by participants themselves, acknowledging them as experts on themselves.

The five central themes in SFH identified above: embodied singing, entrainment and attunement, the music itself, the group and participants intrinsically function together, with the music being created by embodied singing by participants, which, in a group context results in entrainment and attunement. Together they define distinct features of group singing implying a requirement for a distinct TF for SFH, as opposed to a more general arts and health framework such as the INNATE framework (Warran et al. 2022). A bespoke TF for SFH is important for it to effectively contribute to participant HaW and be relevant to SFH research and practice.

Facilitator

The role of the singing facilitator/leader has considerable importance according to research (Daykin, 2012; Dingle et al. 2019) and SFH practitioners (See Table 1). In Music Therapy (MT) the therapeutic relationship between individual and therapist is understood as the major agent of change. CoMT challenged this perspective believing that music is the active ingredient (Aigen et al. 2018, p141) and defining individual health as intrinsically connected to an individual's ecology. Therefore CoM Therapists' role is to support development from individual music-making to group/social music-making. Wellbeing is conferred on all participants from the music-creators to those participating by listening. This conception provides a powerful way of understanding the role of a SFH facilitator mediating multiple relationships: intrapersonal within individuals and how they connect to their own vocalising; interpersonal within group members via singing together; musical relations by facilitating and negotiating relationships between individuals to songs and the group's relationship with music and song; interpersonal within a community context via performance; interspatial by facilitating relations of individuals and the group within their 'ecology'. This has significance for ethical boundaries of SFH practice which will be considered later.

Performance

There are theoretical justifications for including performance in SFH relating to community, culture and environment as in social models of health, along with CoMT's recognition that an essential aspect of music is to be expressed as sound and be heard (Aigen et al. 2018). Cultural anthropology understands performance as an essential element in building community and practising social roles (Camlin et al. 2020), relevant to HaW. Performance can also play a powerful role in empowering individuals (Hall, 2010) and raising social capital within a community (Daykin, 2012) with corresponding positive effect on HaW. Performance also provides an appropriate group measure relevant to therapeutic group singing currently relying on individual measures.

The themes identified as relevant to SFH play out in a complex web of relations functioning in multiple directions: the individual - themselves/their voice, individual - individual, individual - facilitator, individual - song, individual - spatial environment, individual - time, individual - socio-cultural background/environment. These relations will be elucidated in a visual representation of the TF presented in Cycle 3 (p26) after combining theoretical and practical considerations for SFH.

Definition of Health and Wellbeing

Having identified relevant themes from research literature, we may define the term ‘HaW’ as:

- a dynamic, multi-dimensional state on a continuum from intrapersonal to interpersonal to intercultural (Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017; Social Identity Theory, Tajfel and Turner, 1979; INNATE framework, Warran et al. 2022).
- incorporating biological, psychological, social, environmental (Hettler, 1976), cultural and spatio-temporal factors (INNATE framework, Warran et al. 2022; Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017) .
- Safety (Polyvagal Theory, Porges, 2022); self-determination (SDT, Deci and Ryan, 2000), participation (Warran et al. 2022; Daykin, 2012) and relationships (SIT, Tajfel and Turner, 1979; Hall, 2010; CoMT, Aigen et al. 2018) are important themes affecting HaW outcomes with implications concerning evaluation.

Definition of Singing for Health

Integrating the above discussed strands we may define SFH as:

- Embodied, musical vocalising (Kleber and Zarate, 2014; Paparo, 2016) mediated by music and a facilitator (Aigen et al. 2018), occurring in a one-to-one, group, cultural, social and/or public setting (Camlin et al. 2020).
- A socio-cultural activity (Aigen et al. 2018) connecting an individual to their own body and identity (Tajfel and Turner, 1979), other singers in a group context, and their community and cultural context in a performance context ((Aigen et al. 2018);
- A spatio-temporal activity influenced by factors affecting inclusion such as access, timing, physical and social environment (Fleuret and Atkinsons, 2017).

Identifying Active Ingredients in SFH

Combining our earlier definitions of HaW and SFH with relevant features from TFs, we may identify the thematic active ingredients in SFH as follows:

- The space eg the physical and cultural environment where interventions may take place along with the wider environment a person inhabits (Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017; INNATE Framework, Warran et al. 2022);
- Time eg as time may affect access, duration of individual sessions, duration of intervention and music itself taking place over a time period (Fleuret and Atkinson, 2017; Hall, 2010);
- Relationships: intra and interpersonal, intercultural (Dingle et al. 2019; SIT, Tajfel and Turner, 1979);
- Self-determination (Self Determination Theory, Deci and Ryan, 2012));
- Participation (Daykin, 2012);
- Safety (Polyvagal Theory, Porges, 2022; Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017);
- Entrainment (Vickhoff et al. 2013; Bernardi et al. 2017);
- Music itself (CoMT (Aigen et al. 2018);
- Singing as embodied music-making (Kleber and Zarate, 2014; Paparo, 2016);
- Group (Psychodrama, Yehoshua and Chung, 2013; INNATE Framework, Warran et al. 2022; Camlin et al, 2020);
- Facilitator (Dingle et al. 2019);
- Performance (CoMT, Aigen et al. 2018; Ansdell, 2005).

Mapping themes to the '5Ws and 1H'

Warran et al (2022), in a framework matching active ingredients in arts interventions to health outcomes, identify three groupings: people, context and project. People may be understood as answering the question: who? Context may be understood as answering the questions: where and when? Project may be understood as answering the questions: what, why and how? Derived from journalism (Waisbord, 2019) these open question words are termed: 'the 5Ws and 1H' (Waisbord, 2019). These simple categories are relevant to the pragmatic and exploratory methodology deployed, along with the emancipatory aims of including perspectives of practitioners and participants without formal education or with cognitive impairments for example (Hall, 2010). The linguistic character of the open question words denotes a broad function, for example, 'when?' is a temporal question referring to multiple temporal factors eg. date, time, duration, how often etc relevant to SFH research, practice, interventions and the people involved. Yet it is narrow enough to be specific that it is referring to temporal factors as opposed to spatial factors.

Using the 5Ws and 1H (Waisbord, 2019) we may map the identified themes to them, acknowledging that themes may relate to more than one category:

What? Specific features of the intervention itself and relations between them

The Music
Singing
Entrainment and attunement
Performance

Who? People involved including referrers, carers, health professionals and relations between them.

Participants
Group
Facilitator

Why? Factors relating to HaW outcomes including addressing particular symptoms of particular health conditions

Relationships
Self Determination
Participation
Safety

Where? The space where it takes place including its role, geographical location and any features of the environment

Space

When? Temporal features relating to the intervention

Time

How? Factors relating to referrals, finding out about an intervention, access to SFH.

Factors relating to 'how?' have not been identified from SFH literature, which may be due to research aims of focusing on the intervention itself. However, considering how participants find out about interventions, how they are funded and how these factors influence and relate to participation (Warran et al. 2022) are essential. These are important factors to understand to overcome potential barriers to access and participation in SFH interventions (Barden, 2021).

Having identified and categorised themes identified from qualitative data from research literature, we will now consider qualitative and quantitative data derived from SFH practitioner questionnaires in Cycle 2 for validation of themes identified in Cycle 1, followed by integration to create a relevant TF informed by theory and practice.

Cycle 2: Practitioner Questionnaire

Data Collection and Analysis

An online questionnaire was distributed to SFH practitioners via professional SFH and choir directing groups and networks, with a link also placed on my personal website. Organisations contacted to disseminate the questionnaire were: SFH Network, Natural Voice Network, The Voice College, Musical Breath, Luminate Scotland, Sing to Beat Parkinson's, SFH Scotland. A poster and text requesting questionnaire participants was also posted on social media (See appendix, pX).

The questionnaire was anonymous to encourage honest, unbiased responses relating to informant bias due to the author's position as an insider-researcher (Greene, 2014) with questions grouped into three sections explained in 'Methodology' (pX) above. A deadline for responses was set to ensure adequate time for analysis and integration with theoretical data from the Literature Review to create a TF.

There were forty-six respondents however one response was discarded due to failing to fulfil the inclusion criterion of currently facilitating at least one SFH group therefore 45 responses were considered. Since questions were treated as single entities, absence of response to a particular

question was noted and incorporated into calculations. All questions apart from inclusion criteria were optional.

Results

Section 1: Practitioners

Demographics

(See Appendix 4, p105)

This section was included to find out background information about who SFH practitioners are, where they are based, what their level of education is with respect to music and health.

[Table 1](#)

Demographic information	
Gender	
Female	93.3%
Male	6.7%
Age range	
25-34	11.1%
35-44	26.7%
45-54	26.7%
55-64	22.22%
65-74	13.3%
Country	
UK	95.55%
Belgium	2.2%
USA	2.2%
UK region	
London	16.7%
South East	11.6%

South West	11.6%
Yorkshire and the Humber	11.6%
East of England	9.3%
North West	9.3%
Wales	7%
Scotland	7%
North East	4.7%
West Midlands	4.7%
Northern Ireland	4.7%
East Midlands	2.3%
Ethnicity	
English, Welsh, Scottish, Northern Irish or British	60%
White	33.33%
Irish	2.2%
Asian or Asian British (Taiwanese)	2.2%

The predominance of female practitioners may be relevant to the development and status of the field of SFH. SFH practitioners are in a leadership role, yet their profile remains largely unrecognised and unsupported by mainstream clinical practice, especially in funded positions according to personal observations. No supporting literature on this has been found. Similarly lack of female representation is an identified issue in music conducting and choral conducting in the UK, which has been heavily dominated by the male-dominated cathedral tradition (Doyle and Helen 2020).

The largest proportion of practitioners were from the UK reflecting an anglo-centric dominance due to the lead author being a UK resident and professionally connected with other UK residents. This is a limitation of being an insider-researcher (Greene, 2014). Further investigation is required to ascertain international distribution of SFH practitioners.

Regarding ethnicity, there was no representation from self-identified Indian, Pakistani, Bangladeshi, Chinese, African, Afro-Caribbean, Arab, Mixed race, Gypsy, Irish traveller or Roma groups - ethnic minority groups. This may be of particular relevance to a TF regarding supporting access to SFH interventions by minority ethnic groups who also disproportionately experience health inequalities

(Kings Fund, 2022). Similarly most SFH research has been conducted on middle class groups (Dingle et al. 2019). A relevant TF needs to consider and support access to SFH by marginalised groups who stand to particularly benefit from a holistic, potentially status-raising intervention (Daykin 2012), promoting self-determination (Hendry et al. 2022), with corresponding positive impacts on HaW.

Music qualifications

Music qualifications (Fig. 1) yielded the following results showing that the most common qualification among SFH practitioners in our sample is an undergraduate music degree, a fairly high level of education considering that SFH is entirely unregulated. The fifth highest category of qualification among participants is a postgraduate-level music qualification, again a high level of academic qualification. Some responses included Music Therapy as a music qualification despite being an allied health profession, potentially indicating a perception of music therapy as a music rather than health profession. 2.2% (n=1) had no music qualification:

SFH Practitioners' Music Qualifications (%)

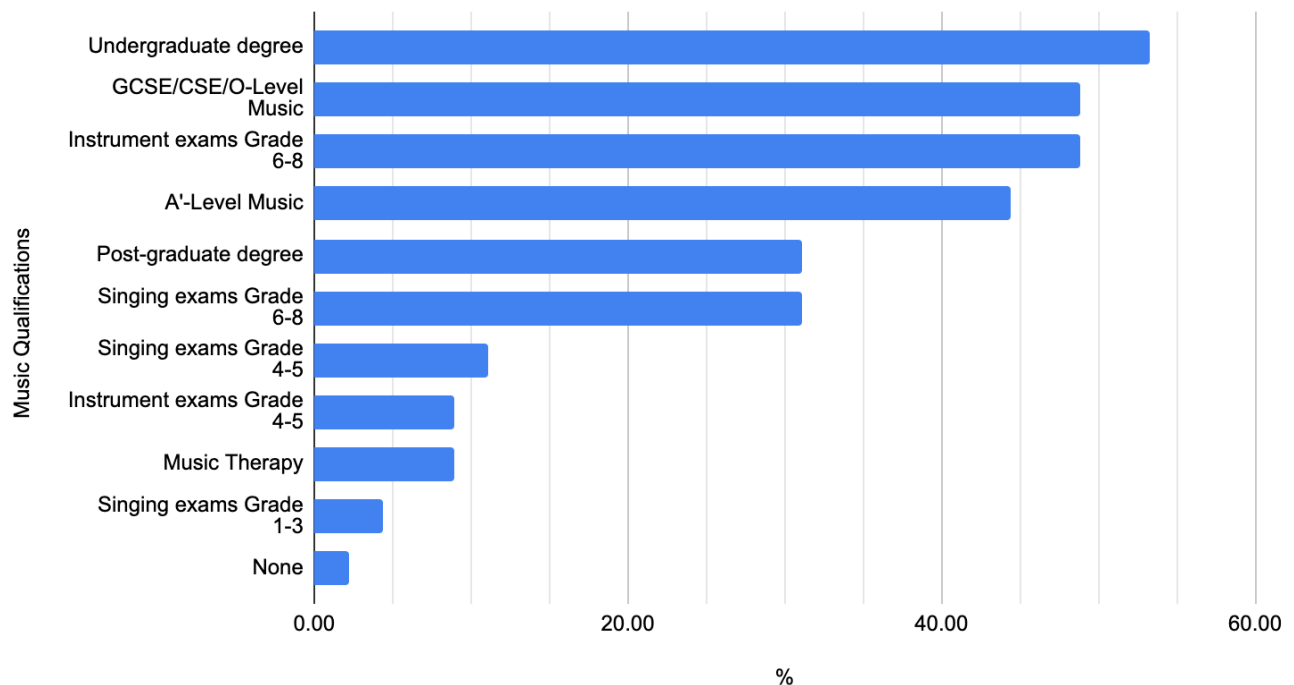
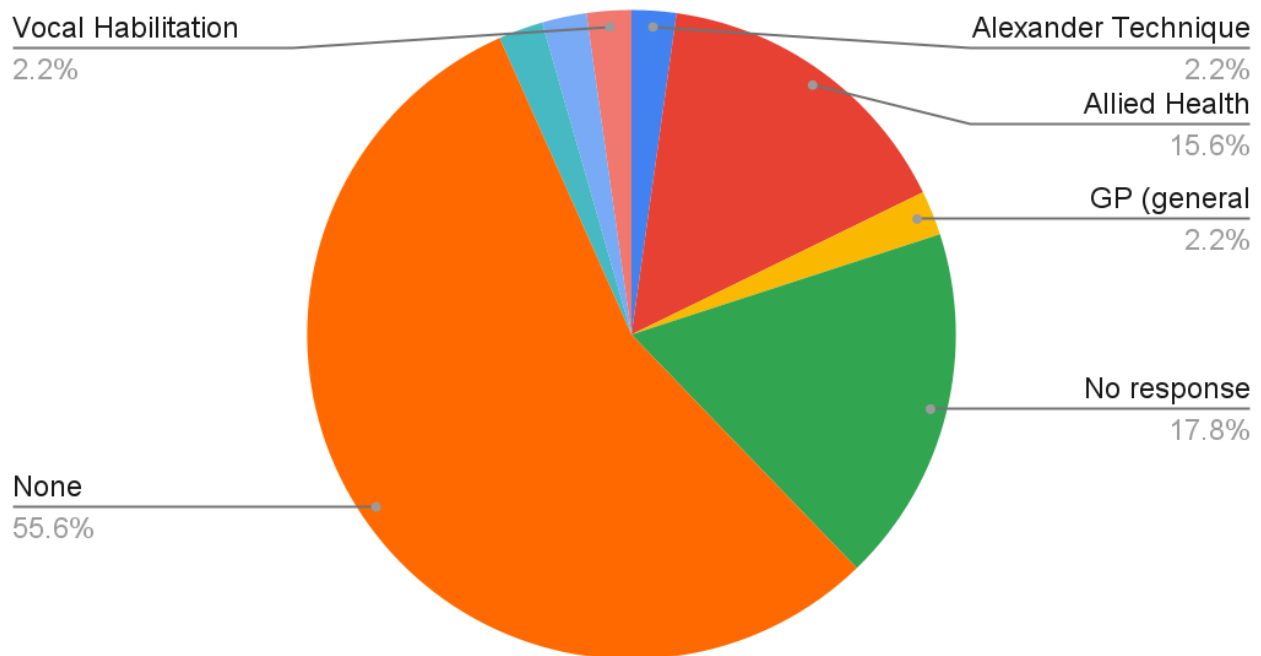


Figure 1

Health Qualifications

In contrast to the high numbers and levels of music qualifications are low percentages of respondents' with health qualifications demonstrated in the below pie-chart ([Fig. 2](#)) with most having none. There was a high percentage of no responses. Given the wording of the question this may suggest they also do not have a health qualification. Combining responses "none" and "no response" gives a total of 73.4%. Of the Allied Health professionals there were seven music therapists, two physiotherapists and one each of GP, registered nurse, occupational therapist, public health specialist, vocal habilitation professional and Alexander technique teacher. However, it is questionable whether vocal habilitation professional or Alexander technique teacher may be considered health qualifications since neither are recognised as health professions.

Percentage of SFH practitioners with health qualifications

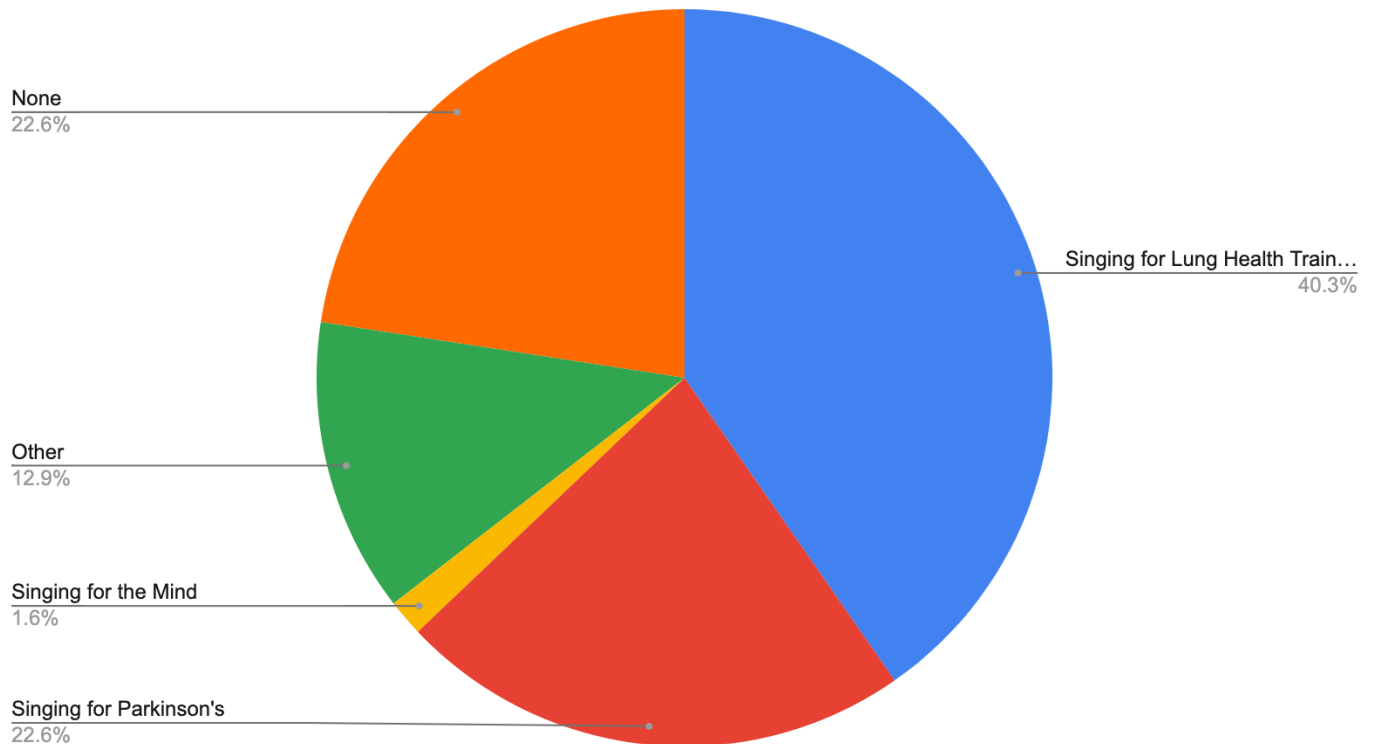


[Figure 2](#)

SFH qualifications

There was a 96% response rate to the question requesting data regarding specific SFH qualifications with responses demonstrated below ([Fig. 3](#)) :

Percentage of SFH qualifications



[Figure 3](#)

A large proportion have no SFH qualification and since SFH is not standardised or regulated in the UK there is no requirement to do so. Similarly, there is little SFH training available and what exists relates to particular health conditions. It would have been useful to include a question regarding practitioners' attitudes towards opportunities for SFH training and professional development.

The predominance of SFH training for specific health conditions contrasts with responses to what health conditions are addressed by SFH practitioners, demonstrating that most (71.11%) SFH interventions address general HaW (See [Fig. 5](#)). Similarly the high proportion of practitioners with no health or SFH training may be ethically problematic since practitioners may work with people with a range of health conditions. Practitioners may not have adequate training regarding safe and appropriate interventions. Additionally, there may be a lack of boundaries concerning the limits of SFH practice, with potential negative implications for participants and practitioners.

It is worth noting that the British Lung Foundation SFH training was fully funded for a period therefore free for practitioners potentially accounting for that training being completed by the largest proportion of practitioners. It also implies that training cost is relevant for SFH practitioners. One participant had funded Singing for Lung Health training themselves, reinforcing cost as a significant factor in accessing SFH training. Cost is a point for future consideration regarding SFH training. Other SFH training mentioned were: Opus CIC (Opus Music CIC, 2024); short SFH courses through the Voice Study Centre (Voice Study Centre, 2024); trauma and mental health informed training, singing for dementia training; working with Pulmonary Rehab consultant Plymouth University and singing leader training (Suzy Ro, 2018; Singing Mamas CIC, 2024).

It would have been useful to include a question indicating length of experience, based on the assumption that longer experience equates with greater depth of knowledge relating to SFH practice.

Section 2: Aspects surrounding interventions

This section of the questionnaire collected data regarding working with individuals or groups, whether their practice targets particular health conditions, use of a TF and whether or not practitioners would like a TF. This group of questions emerged when designing the questionnaire following identified themes from SFH literature (Routledge 2023).

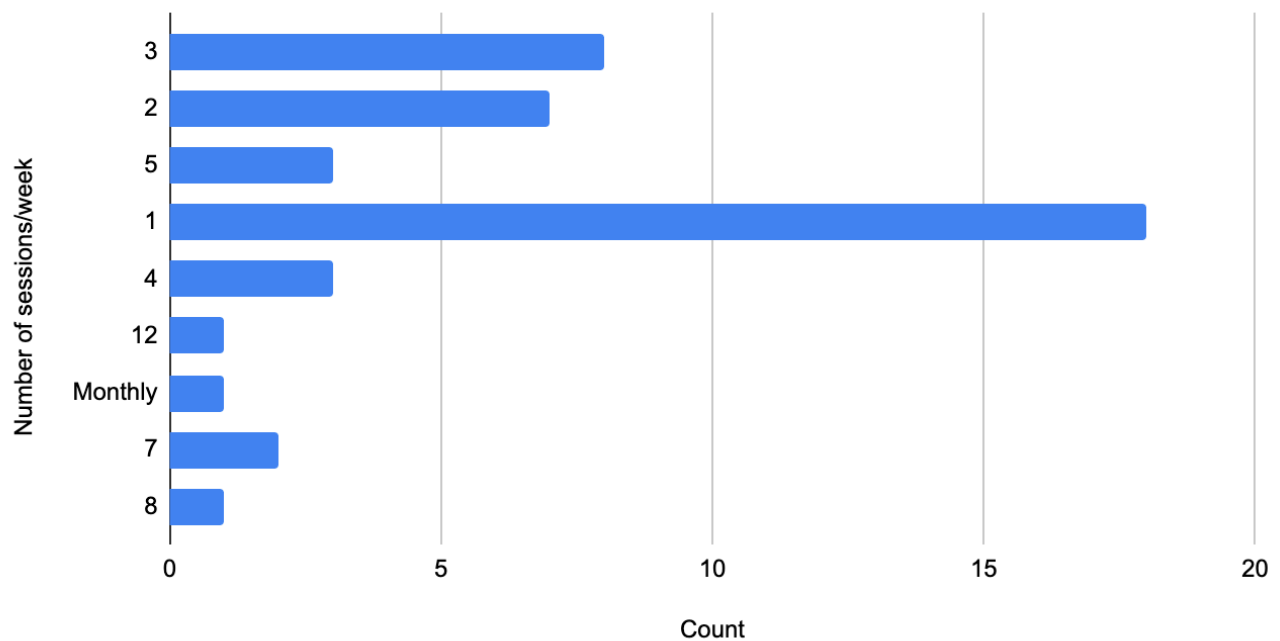
Participants

Out of forty five responses, thirty three practitioners work with groups compared to twelve who work with both individuals and groups. None worked with just individuals. Of the twelve working with individuals, five have a health qualification (GP, registered nurse, music therapist, Alexander Technique teacher and vocal habilitation professional). Of the remaining seven, five have completed singing for lung health training and/or singing for Parkinson's training, two have no health qualification or SFH training. This suggests that having a health qualification or a SFH qualification is a desired requirement when working with individuals in a SFH capacity in a way that it is not when working with groups. Most of those working with individuals only see up to two on a weekly basis in contrast to the Alexander Technique teacher and a MT who see nine individuals per week and the GP who sees eight individuals per week. This is unsurprising given that medical models of health are usually one to one.

Number of SFH sessions

The below chart ([Fig. 4](#)) shows the number of weekly SFH sessions practitioners are leading, with once a week the largest. The single respondent running the largest number of groups per week has no health qualifications, no SFH qualifications and music qualifications up to A¹-Level music. This may support regulation around working with potentially vulnerable people in SFH.

Responses to: if you work with groups, how many weekly singing for health sessions do you deliver?



[Figure 4](#)

Group Size

Practitioners were asked what they consider to be the optimum number of participants in a SFH group with answers shown in the following chart ([Fig. 5](#)). The most frequent answer was 11-15 participants, followed by the slightly larger 16-20 bracket, which seems coherent with balancing individual needs with creating a safe group singing experience. No literature has been found, however in my practice participants have reported informally that having a minimum number of singers is important for feelings of safety singing in a group. The need to be hidden within the group requires balancing with participants' value to the group being acknowledged. Group sizes may also reflect a musical requirement of creating a confident sound and having adequate numbers to hold multiple harmonies.

Optimal group size

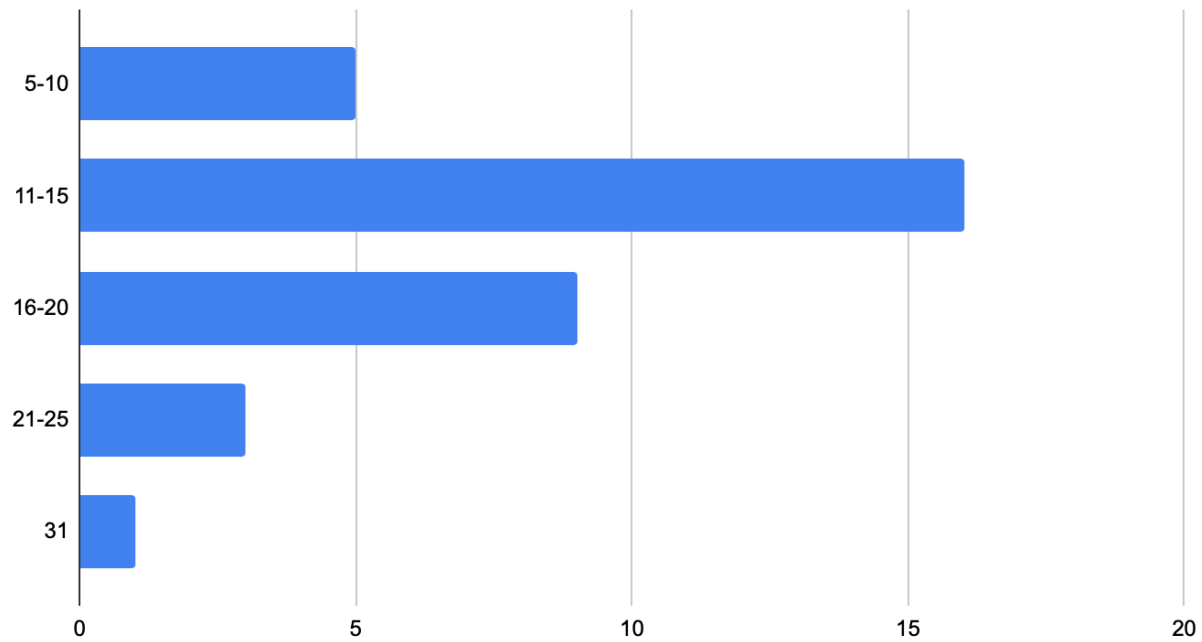
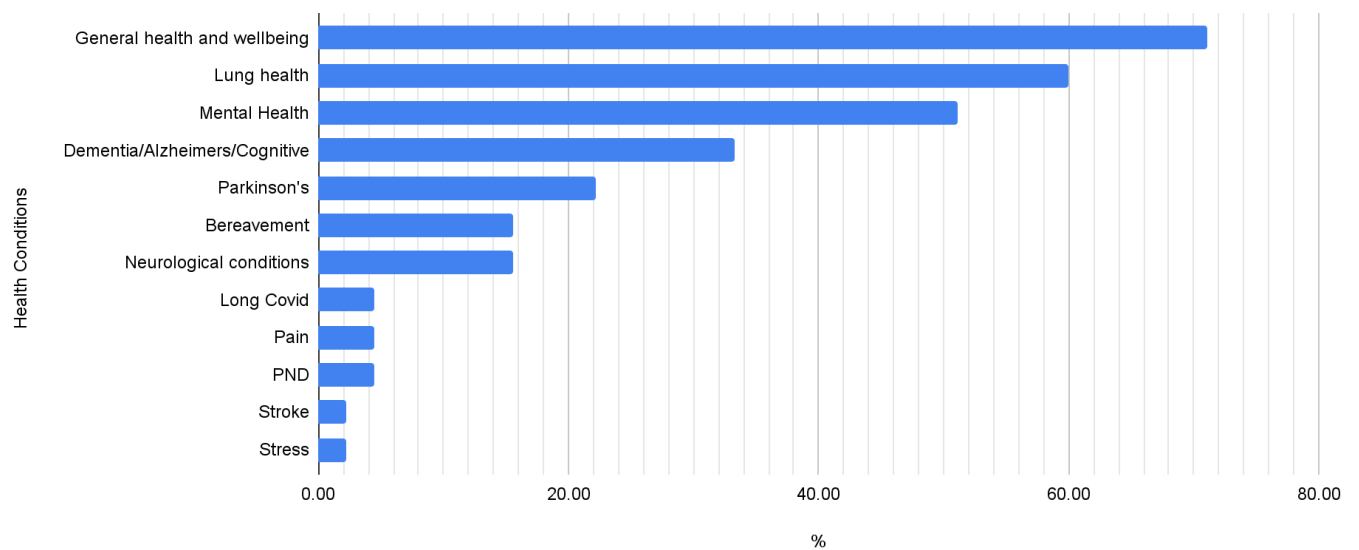


Figure 5 Label axes on graph above

Health Conditions

Regarding the health conditions being addressed in SFH, results are shown on the below graph ([Fig. 6](#)) demonstrating a range of health conditions:

Health conditions (%) being addressed by SFH interventions



[Figure 6](#)

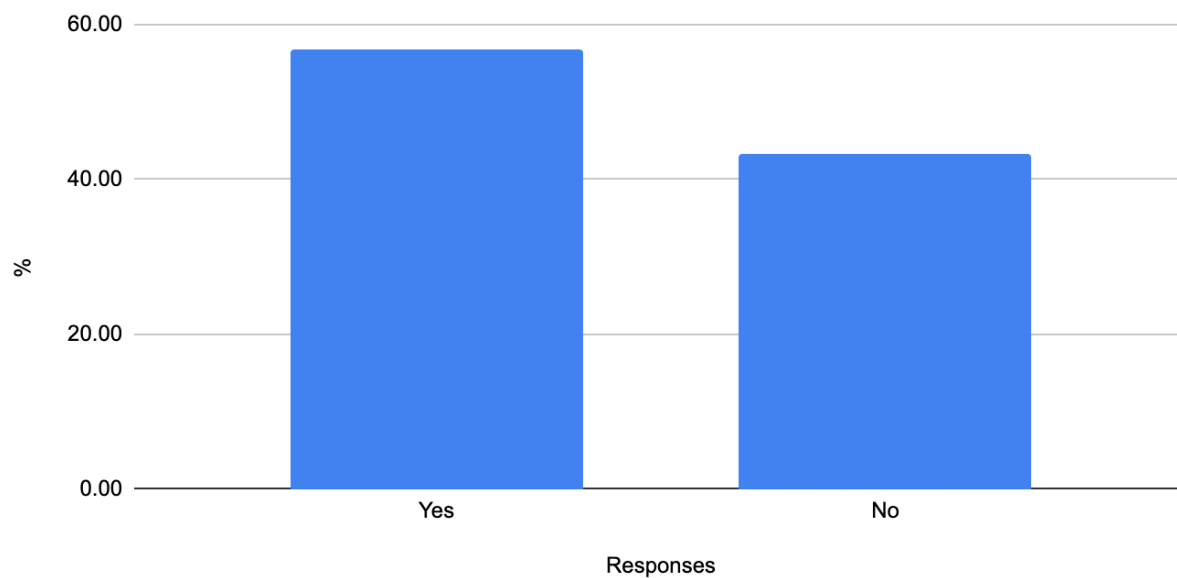
Theoretical Frameworks

These questions were designed as a short series as follows:

1. Does your SFH practice draw on a TF ([Fig. 7](#))
2. If yes, please give details :
3. If no, would you like to have a TF for your SFH practice ([Fig. 8](#))?

There was a 97.77% responses rate to question 1 with responses and commentary detailed below :

Responses to: Does your singing for health practice draw on a theoretical framework?

[Figure 7](#)

Most practitioners responded affirmatively although it is notable that nearly half of practitioners do not draw on a TF, supporting the rationale for creating a TF for SFH. Of those that replied “Yes” to question 1, nineteen gave details of which seven are based on singing and lung health knowledge and training, three participants say they have devised their own models, accent method is referred to by two respondents as is polyvagal theory. One respondent replied with a long list: “Social pedagogy model, motivation theory, polyvagal theory, compassionate focussed therapy, affective neuroscience

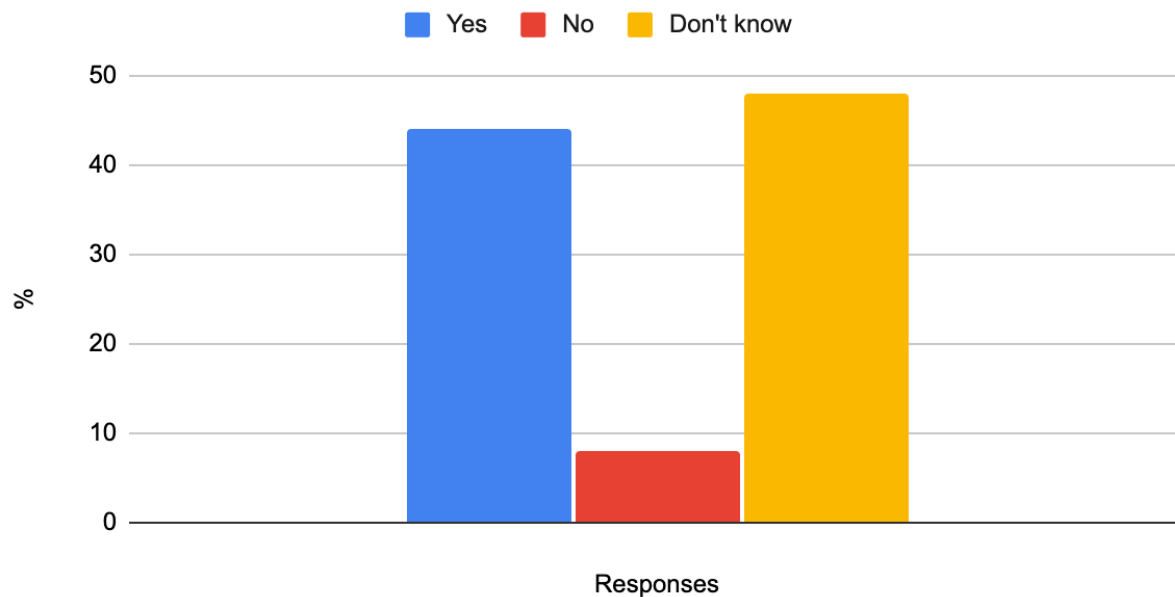
model, PACE model, acceptance and commitment models, positive psychology, relational practice models, accent method, SOVTs” and others reference music therapy, occupational perspective of health, Sing to Beat Parkinson’s, First Nature Body and Breath training, Modified Borg scale 0 – 10 – 0 = healthy 10 = very poorly Dyspnoea Scale (pron ‘Dysnia’) Need to record feeling AND perception Rate and perceived exertion RPE scale. One participant, a therapist, describes encouraging participants to tell their personal stories and another describes the importance of fun and social aims along with musical, physiological and cognitive elements.

It is beyond the scope of this paper to consider all the theories or models cited in detail. However, the variety of TFs in use and citation of practice frameworks such as singing for lung health, accent method and SOVTs demonstrates confusion as to what is a TF and its application in SFH practice, again supporting the rationale for creating a practical TF for SFH.

Six of those who replied “yes” also replied “yes” to the follow up question 2 asking if they would like a TF. This indicates that they use a TF in their practice and would like a TF for their practice. Four of these respondents gave details of the TFs they use as based on singing for lung health training, one based on an occupational perspective of health and one gave no details. These incoherent responses suggest that they do not consider the TFs they are currently using to be adequate or sufficient. This may be because singing for lung health is a practice framework without a theoretical justification other than improvements in lung health (Lewis et al. 2018).

Follow up responses to question 3 are shown in the below bar chart ([Fig. 8](#)):

Responses to: If 'no' would you like a theoretical framework for your SFH practice?



[Figure 8](#)

The fact that most respondents do not know whether or not they would like a TF implies that they do not understand what a TF is and how it may inform and support their practice. This may be due to a lack of formalisation and training around SFH practice with most practitioners coming to it from a music training and background, rather than health or research (see [Fig.1](#), [Fig. 2](#), [Fig. 3](#) above). This in turn demonstrates the current gap between theory and practice, to the detriment of both since neither is informing the other to develop the field, provide standardisation or a shared language (Warran et al. 2022).

The factors on Facilitator demographics and education information are relevant to identifying features of SFH practitioners, and should therefore be included in a TF for SFH since the history, education and experience of practitioners may be defined as active ingredients, affecting practice and influencing HaW outcomes.

Section 3: Attitudes towards intervention importance

Practitioners were asked a series of questions on their attitudes towards the importance of features of their practice identified from SFH literature (Routledge, 2023). These were presented on a 5-point Likert-type Scale where 1 is of no importance, 3 is neutral and 5 is extremely important. For some questions where they answered 4 or 5, so considered a feature to be important, they were then asked to identify what they would consider to be optimal. A 5-point Likert scale was used as it has high reliability (Dawes, 2008) and to increase response rate, given the high number of questions. An odd number of points was used to provide a neutral central point, to allow for neutrality of opinion and to imply equal psychological distance on either side of the central point (Wakita et al. 2012). The questionnaire uses a Likert-type scale without a centrally coherent theme linking questions therefore descriptive analysis will be used.

It is necessary to acknowledge a limitation in the questionnaire design. Not every number was assigned a descriptor to suggest that the scale is ordinal with equal distance between the attitude points. However when considering the term 'neutral' with respect to an attitude to how important or not a feature is, a neutral attitude implies indifference which is by default a negative response. Having considered the responses and the large number of questions, it seems as though responses reflect the original intention of the questionnaire design, rather than considering the specific definition of the term 'neutral' and the data has been analysed accordingly. In terms of identifying essential and non-essential features of SFH practice from practitioners we may calculate the composite score from the Means to derive an interpretation (Kaptein et al. 2010).

Analysis of the Likert-scale results regarding importance is to define essential features of SFH practice. Mean average is a reliable indicator for this (Batterton and Hale, 2017), therefore interpretation of composite scores using the Mean was established as a threshold to define essential features of practice. Interpretation results of 4 or 'Extremely important' defines essential features. Those features with an interpretation of 'Neutral', 2 or "No importance" may be regarded as non-essential. Results are shown in the table below ([Fig. 9](#)):

Results showing Mean average responses and standard deviations of practitioner attitudes towards the importance of intervention features

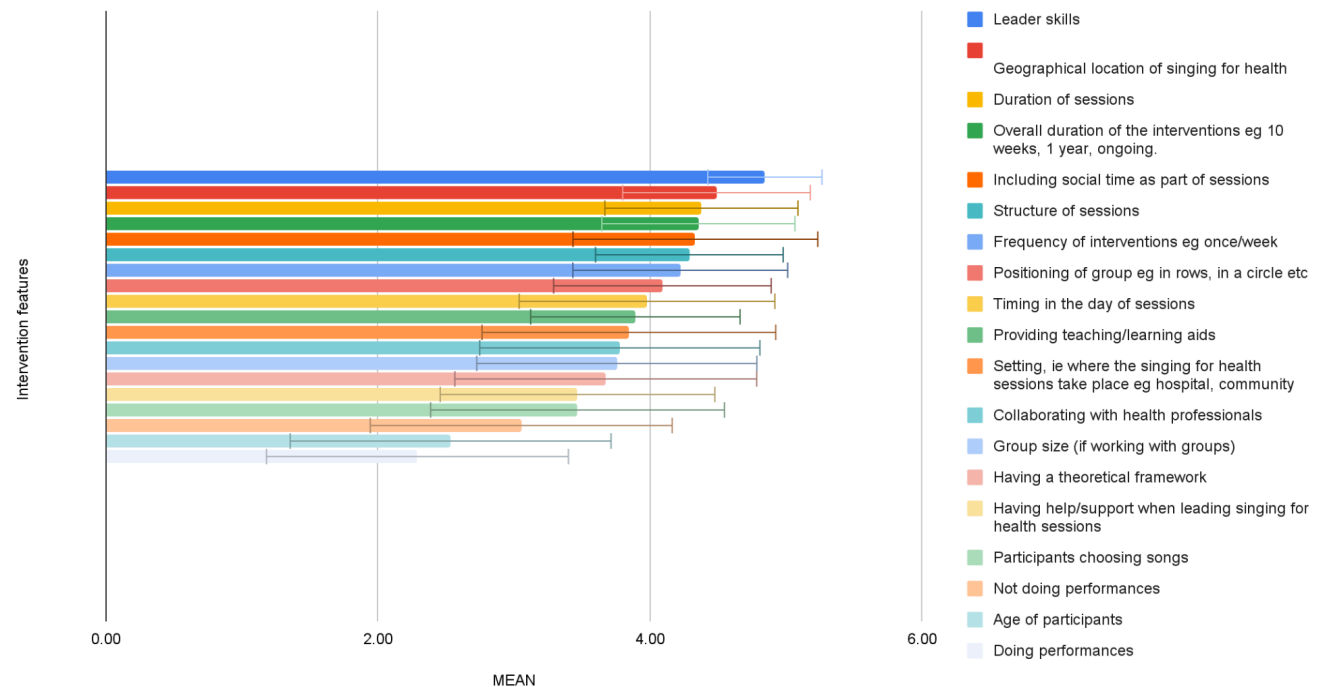


Figure 9

Leader skills emerged as the most important factor for SFH practitioners with both the highest Mean and the lowest standard deviation. The importance of leader qualities and skills is also supported by literature (Dingle et al. 2019). This was followed by practical aspects relating to geographical location of sessions, duration of sessions and duration of the whole intervention. The next most important factor was including social time as part of sessions. This attitude by practitioners may be as a result of widely-reported feelings of connection and belonging associated with group singing (Dingle et al. 2019).

The relatively high importance given by practitioners to spatio-temporal features such as location, duration, frequency, positioning of the group and timing of sessions coheres with the spatio-temporal aspects identified in literature as important for inclusion and HaW outcomes. Further investigation of spatio-temporal features is warranted, including details regarding the physical space in which the intervention takes place such as the level of comfort and atmosphere (Warran et al. 2022).

When we look at interpretations of composite Mean scores ([Tab. 2](#)) below there is a high level of coherence with the features identified from research literature (Routledge, 2023) and practitioner responses, validating these features theoretically and practically. Unimportant (non-essential) features of SFH practice resulting from the questionnaire are ‘not doing performances’, ‘age of participants’ and ‘doing performances’.

However when looking at research literature, from which these features were sourced (Routledge 2023) there are strong arguments supporting performance in SFH practice, explained above relating to enhanced social identity (Tajfel and Turner, 1979), increasing bonding and connection (Helitzer et al. 2022), raising social status especially among marginalised groups, who are disproportionately affected by health inequalities (Hall, 2010). Further justification for including performance is provided by CoMT’s perspective of music-making taking place within a socio-cultural context with an intrinsic requirement of being heard (Aigen et al. 2018). Therefore it should be considered an essential feature of SFH practice.

While the age of participants is relevant to research and practice from a demographic and health research perspective, it is not a strong consideration in SFH practice, other than differentiating between adults and children from a legal and safeguarding perspective.

	MEAN	Interpretation of composite scores using the Mean	s	MODE	MEDIAN
Leader skills	4.84	Extremely Important	0.42	5	5
Geographical location of SFH sessions eg town centre, close to public transport etc	4.49	Extremely Important	0.69	5	5
Duration of sessions	4.38	Extremely Important	0.61	4	4
Overall duration of the interventions e.g. 10 weeks, 1 year, ongoing.	4.36	Extremely Important	0.71	5	4
Including social time as part of sessions	4.33	Extremely Important	0.90	5	5
Structure of sessions	4.29	Extremely Important	0.69	4	4
Frequency of interventions eg once/week	4.22	4	0.79	4	4

Positioning of group eg in rows, in a circle etc	4.09	4	0.80	4	4
Timing in the day of sessions	3.98	4	0.94	5	4
Providing teaching/learning aids	3.89	4	0.77	4	4
Setting, ie where the SFH sessions take place eg hospital, community centre	3.84	4	0.93	4	4
Collaborating with health professionals	3.78	4	1.08	4	4
Group size (if working with groups)	3.76	4	1.03	4	4
Having a TF	3.67	4	1.11	4	4
Having help/support when leading SFH sessions	3.47	4	1.01	3	3
Participants choosing songs	3.47	4	1.08	3	3
Not doing performances	3.05	Neutral	1.11	3	3
Age of participants	2.53	2	1.18	3	3
Doing performances	2.29	2	1.11	3	3

[Table 2](#)

Following exploratory and pragmatic research design we may also consider Mode and Median averages, with 'Having help/support when leading SFH sessions', 'Participants choosing songs', 'Doing performances', 'Age of participants' and 'Not doing performances' scoring 3, 'Neutral' and therefore unimportant. Having help/support when leading SFH sessions relates to practitioner and participant safety, important when working with vulnerable people who may be on medication or emotionally triggered by a situation or song, and corresponding HaW (Daykin 2012; Hall, 2010). SFH practitioners not considering this to be of high importance in their practice may reflect a lack of training and consideration for their personal safety and the role safety plays in HaW.

Similarly, participants choosing songs may be considered an example of implementing self-determination in a SFH context, identified as relevant to HaW from the literature (Hendry et al. 2022). The 'Neutral' Median and Mode scores may reflect some practitioners' lack of awareness of self-determination's impact on HaW.

We will now consider the following section in the SFH practitioner questionnaire on frequency of use of particular intervention techniques.

Section 4: Frequency of intervention techniques

The intervention techniques cited in this section of the questionnaire were identified from research literature (Routledge, 2023) with a high level of coherence in frequency of use by practitioners. This coherence validates their inclusion as essential features of SFH practice and contributes to bridging gaps between SFH research and practice.

A limitation of a questionnaire with specific questions is that practitioners may not include interventions they may frequently use which are not cited in the research literature. An attempt to mitigate this limitation was the inclusion of a final open question. Nonetheless, an open question specifically about intervention techniques may have been more effective at addressing this limitation.

As in section 3 above (p47), results will be interpreted following interpretation of composite scores of the mean, to identify most frequent and therefore essential intervention techniques. This will be followed by further discussion of Mode and Median averages.

Results showing Mean and standard deviations are shown on the below bar chart ([Fig. 10](#)). It is noteworthy that the three most commonly used intervention techniques are not vocal but posture, breathing and movement, reinforcing embodiment in general as a central aspect of SFH. This is corroborated by twelve out of twenty two interventions involving vocalisation (italicised in [Fig. 10](#)). Rhythm exercises have not been considered as vocalisations here although this is a possibility.

Results showing Mean averages and standard deviations of practitioner responses regarding the frequency of SFH interventions

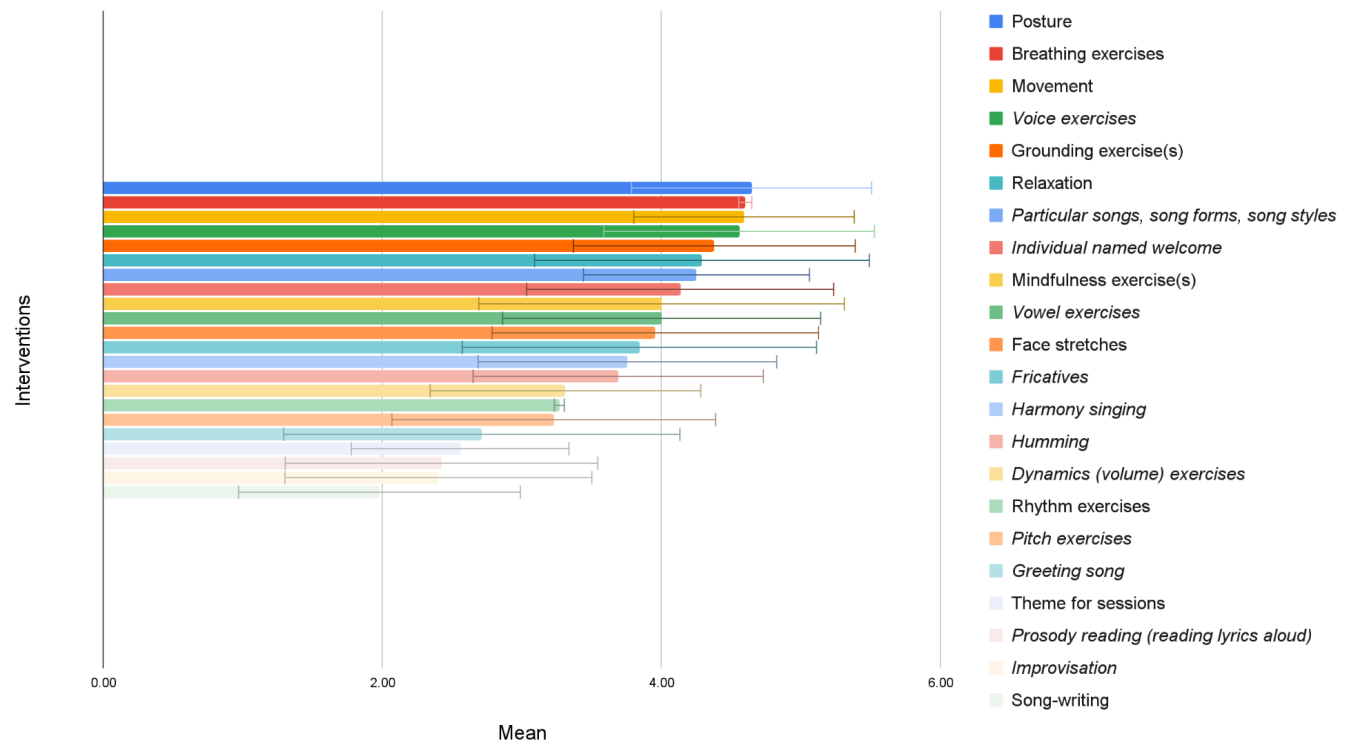


Figure 10

A follow-up question requested details of particular songs, song forms and song styles with responses demonstrating consideration for: how phrase length relates to breathing and development of breath control; avoiding certain themes such as death; accessibility of vocal range and technical challenge; variety of songs, genres, texture and mood for stimulation and interest; cultural inclusion and relevance; development of vocal skills; familiarity of songs for accessibility. These responses demonstrate the importance of carefully considered repertoire in SFH adapted as necessary to the particular group. There was some contrast between providing new, varied repertoire for stimulation or familiar repertoire for accessibility. A balance of new and familiar is arguably the best approach thereby supporting feelings of accessibility and safety, relevant to HaW and providing interest and a challenge, important for maintaining engagement and a sense of achievement (Hendry et al. 2022).

Interpretation of composite scores following the Mean gives the following interpretations shown in [Table 3](#) below, and showing Mode and Median averages:

	Mean	S	Mode	Median	Interpretation of composite scores using the Mean
Posture	4.64	0.86	5	5	Always
Breathing exercises	4.60	1.01	5	5	Always
Movement	4.59	0.79	5	5	Always
Voice exercises	4.56	0.97	5	5	Always
Grounding exercise(s)	4.38	1.01	5	5	Always
Relaxation	4.29	1.20	5	5	Often
Particular songs, song forms, song styles	4.25	0.81	5	4	Often
Individual named welcome	4.13	1.10	5	5	Often
Mindfulness exercise(s)	4.00	1.31	5	5	Often
Vowel exercises	4.00	1.14	5	4	Often
Face stretches	3.96	1.17	5	4	Often
Fricatives	3.84	1.27	5	4	Often
Harmony singing	3.76	1.07	4	4	Often
Humming	3.69	1.04	4	4	Often
Dynamics (volume) exercises	3.31	0.97	3	3	Sometimes
Rhythm exercises	3.27	1.10	3	3	Sometimes
Pitch exercises	3.23	1.16	4	3	Sometimes
Greeting song	2.71	1.42	1	3	Rarely
Theme for sessions	2.56	0.78	3	3	Sometimes
Prosody reading (reading lyrics aloud)	2.42	1.12	3	3	Rarely
Improvisation	2.40	1.10	3	3	Rarely
Song-writing	1.98	1.01	1	2	Never

[Table 3](#)

Following the interpretation in Section 3 (p47), composite interpretation of mean score results of Sometimes, Rarely and Never define an intervention as non-essential. This interpretation renders dynamics, rhythm, pitch, greeting song, theme for sessions, prosody reading, improvisation and song-writing as non-essential interventions. Exploring Mode averages it is striking that 'Pitch exercises' has a Mode of 4, demonstrating that 'Often' was the most frequent response to the frequency of use of this intervention.

Accurate pitching is a foundational vocal and musical skill and due to the essential nature of music itself as an active ingredient should be considered an essential SFH feature. It also relates to entrainment and attunement, with coordination of pitch and rhythm potentially affecting corresponding entrainment of HRV in addition to feelings of connection. Additionally, it is relevant to Parkinson's Disease, with loss of vocal quality being an associated symptom (Han et al. 2018) with corresponding loss of emotionally expressive capability. Pitch exercises may therefore be considered an essential feature of Singing for Parkinson's practice with real world applicability in terms of maintaining vocal and expressive range both singing and speaking.

Dynamics exercises may also be considered essential to SFH due to the breath control required to alter vocal volume and corresponding relevance to lung health conditions. Furthermore, dynamics relate to emotional expression in music, pertinent to mental health and musical elements such as blend which enhances deep listening, entrainment and potentially group bonding (Camlin, 2019).

Similarly as a foundational musical skill, rhythm exercises should be considered essential to SFH practice. Furthermore, rhythm exercises and rhythmic repetition are applicable to creating a felt sense of safety (Levine et al, 2018) due to creating predictability and potentially a non-vocal component experienced as safer. This is particularly relevant to trauma-informed practice and corresponding health outcomes (Levine et al, 2018).

Improvisation is an additional intervention failing to cohere with essential criteria following composite interpretation of its mean score. Again, there is theoretical justification for its inclusion as an essential feature of SFH practice. Improvisational exercises such as free humming and toning correspond with increased heart rate variability (Vickhoff et al. 2013; Bernardi et al. 2017), a reliable indicator and predictor of cardiovascular health (Soares-Miranda et al. 2014) and relevant to mental health (Pham et al. 2021). Infrequent employment of improvisation may reflect unawareness of these considerations

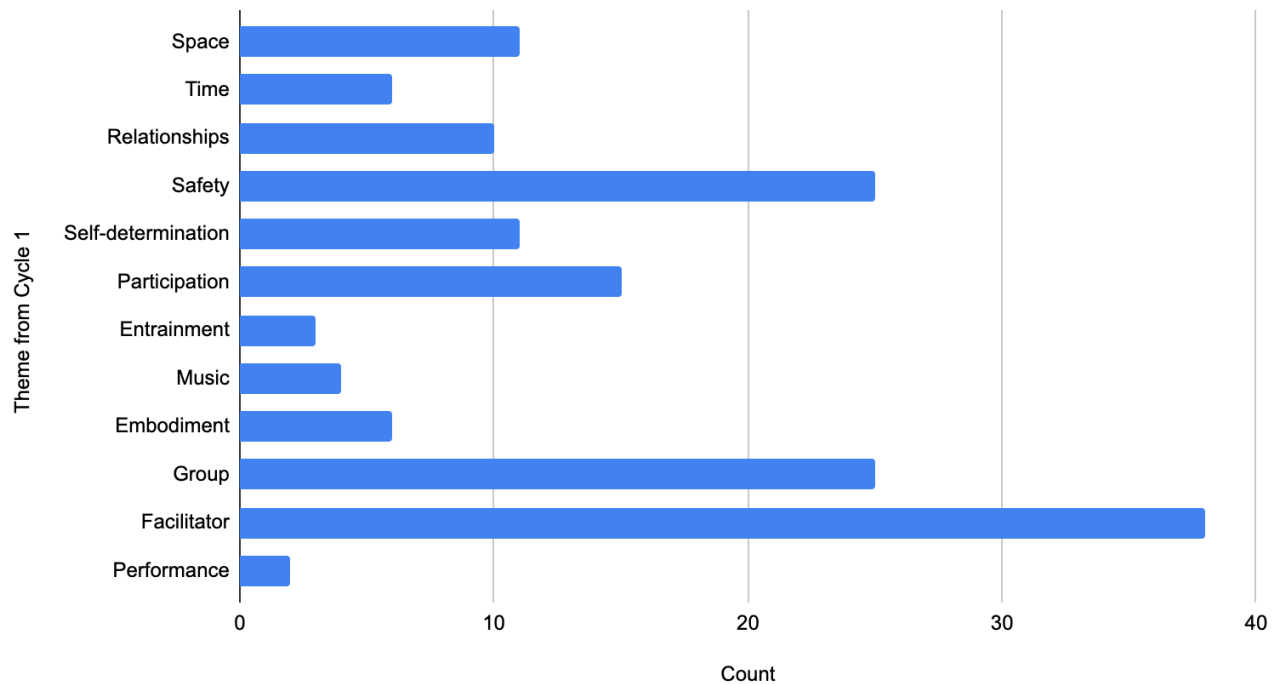
or a lack of experience and confidence in improvisation (Larsson and Georgii-Hemming, 2019). Further investigation of the HaW effects of group vocal improvisation compared to pre-composed music would contribute to the current research gap.

Drawing together the themes from theoretical and quantitative data above we may conclude that there is a high level of coherence between interventions identified in theory and being applied in SFH practice. All of the interventions in section 4 of the questionnaire may be considered essential features with the exception of Greeting song, Theme for sessions, Prosody reading and Song-writing.

Section 5: Open qualitative question

A final open qualitative question was included in the practitioner questionnaire aiming to capture rich qualitative data which may not have emerged from the previous sections. There was a 64.44% response to this question with responses analysed using qualitative content analysis (Mayring, 2015) with results shown below. Forty one themes were labelled (See Appendix p with 'community' and 'joyful, fun' emerging as the most frequently cited factors, closely followed in frequency by 'belonging, connection', 'social', 'inclusion' and 'individual tailoring'. These cohere with aforementioned themes from theory and practice. These themes were categorised according to the active ingredients identified in Cycle 1, yielding the following results ([Fig. 11](#)):

Open question responses by theme



[Figure 11](#)

Emergent Themes

Previously unidentified themes emerged from one practitioner: having space for reflection, discussion with peers about best practice and supervision. These themes cohere with professional practice in teaching (Burns and Yendol-Hoppey, 2015), nursing (Bulman et al. 2016) and MT (Ravaglioli, 2023), contributing towards professional development (Tesfaw and Hofman, 2014). They may also play a significant role in defining the boundaries of SFH practice (Helitzer and Moss, 2022) to be addressed further in the proposed TF, thereby contributing towards participant and practitioner safety.

Additionally, transitioning out of the session emerged as a consideration. Relating to neurodiversity, some people with autism experience difficulty with transitions (Nuske et al. 2019). It may also relate to trauma informed practice whereby safety is central (Levine et al. 2018), therefore creating safety within a session is a priority, potentially rendering the contrast to outside the session, perhaps perceived as unsafe, problematic without due preparation (Piotrowski, 2020).

From the data in research literature and practitioner questionnaires we have defined essential features of SFH practice. SFH practitioners are working at the intersection of health, community music, community music therapy, group therapy often without specific training and without support from health professionals, peers or colleagues, as identified from questionnaire results above. Similarly they are working with participants with a wide range of health issues and needs often simultaneously.

Further investigation is required to ensure participant and practitioner wellbeing, however reflection, peer-to-peer discussion and supervision have been identified as relevant tools to support maintaining professional boundaries of SFH practice.

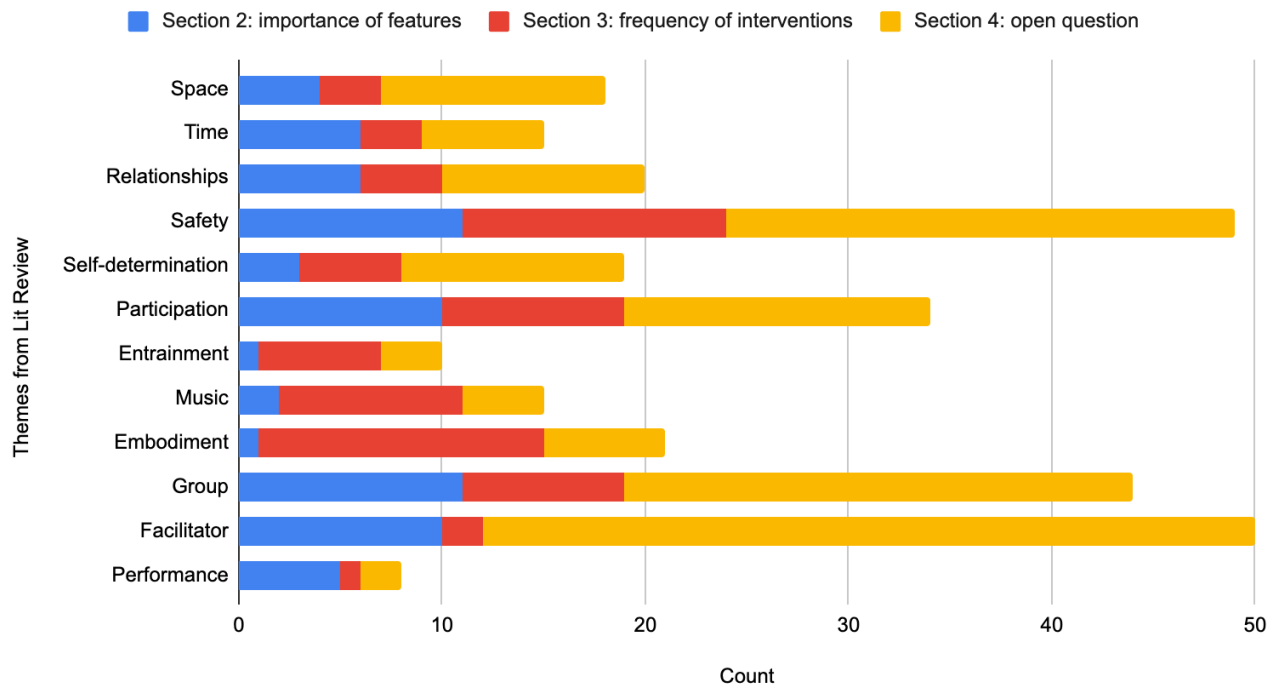
Cycle 3: Integration of Data from Cycles 1 and 2

We have identified essential features of SFH practice above. Now it remains to integrate data generated from the Literature Review (Cycle 1) with data generated from the Practitioners' questionnaire (Cycle 2) to provide internal validity (Hussein, 2009). By integrating data from the literature review with practitioner responses, a TF relevant to research and practice may be constructed.

To integrate the data, qualitative content analysis (Mayring, 2015) was employed. Intervention features and practices were assigned theme codes from the literature themes, then counted. A strength of this approach is that it allows for features and practices to be assigned multiple themes, appropriate to the holistic and multidimensional activity of SFH. Assigning themes required reflection by the author who is a practitioner-researcher with a privileged insider view and the possibility of internal bias (Greene, 2014). Employing qualitative methods for validation by quantitative methods is an attempt to mitigate potential insider bias although it relies on having confidence in the insider-researcher perspective to faithfully ascribe themes and interpret data. Additionally, applying qualitative content analysis, which quantifies qualitative content, is mixed-methods and therefore suitable for this exploratory project. Demographic information from Section 1 of the practitioner questionnaire was not included in this integration process since analysis and discussion of this data has been previously undertaken.

Results of this integration are demonstrated in the below stacking bar chart ([Fig. 12](#)):

Responses by theme



[Figure 12](#)

Themes around Facilitator were the most frequently reported, however this result is skewed by responses to the final open qualitative question where facilitators unsurprisingly had many comments relating to their own role. Ascribing themes to all the identified elements was undertaken without effort, demonstrating a high level of fidelity between the SFH literature and practice.

Mapping active ingredients

Following the above integration, the essential features or active ingredients will be mapped to the thematic active ingredients identified in Cycle 1 (literature review), and again mapped to the '5Ws and 1H' (Waisbord, 2019) in a spreadsheet (Warran et al. 2022) (See Appendix 8, p207).

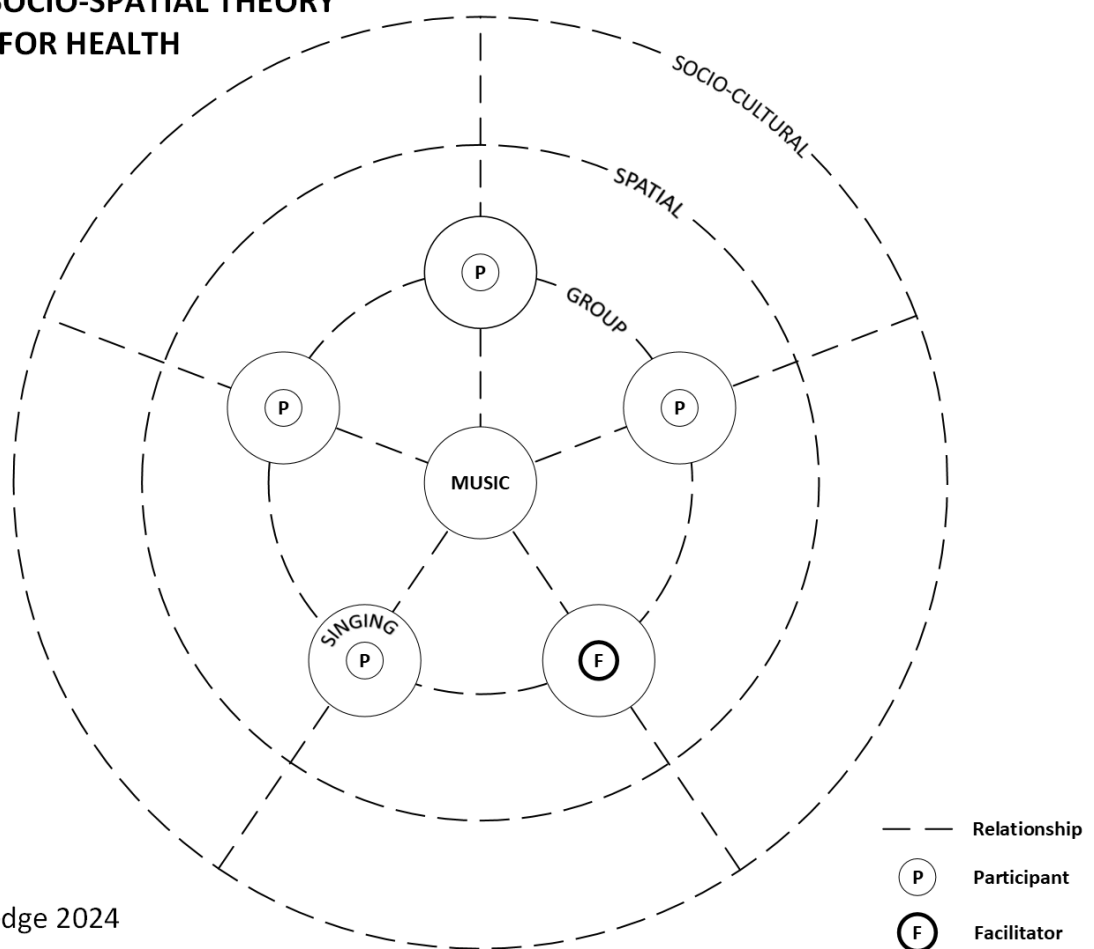
From this mapping it is now necessary to describe the relationships between the above elements and incorporate them into a coherent, descriptive and applicable TF for SFH. Reflection on the above considerations drew on personal experience of SFH research and practice, an identified benefit of being an insider practitioner-researcher (Heugten, 2004). Combined with philosophical and theoretical underpinnings, a TF was designed, aiming to faithfully convey the real-world experiences of different

people involved in SFH and provide a useful foundation for research, practice and training. This led to the creation of a visual model incorporating the active ingredients and their relationships to each other.

An Embodied Socio-Spatial Framework for SFH

An initial framework (Version 1, see Appendix 9, p214) was proposed. This is the revised version 2 (full Version 2, see Appendix 10, p226)

EMBODIED SOCIO-SPATIAL THEORY OF SINGING FOR HEALTH



5Ws and 1H: what? who? where? when? why? how?

Themes identified above from research literature have been mapped to the '5Ws and 1H' framework (Waisbord, 2019), however it is important to acknowledge that the categories are not distinct with some features relating to multiple categories, reflecting the holistic nature of SFH as a complex, adaptive process.

What?

- ☐ Music is at the heart as a concept dependent on its realisation by 'Participants' who create, co-create and interact with music via Singing. It may consist of different forms, genres, pre-composed or improvised vocal sound and relates to all aspects in the model.
- ☐ 'Singing' is embodied music-making in all its forms, including any of the somatic aspects relating to singing such as breathing exercises, relaxation, pitch exercises etc. In SFH the singing may take place in a one-to-one setting with a facilitator, although more commonly in a Group setting. It has a strong Socio-Cultural component given culture-relevant songs, styles and genres.

Who?

- ☐ Participants create and co-create music via embodied singing, engaging with each other musically and socially as well as with the facilitator and their wider socio-cultural context of family, health professionals, carers, colleagues etc.
- ☐ The Facilitator moves between the different elements as required to mediate and support the various and varied relationships via the medium of singing: participant - music; participant - singing; participant - participant; participant - group; participant - spatial context; participant - socio-cultural context.

- ☐ The Group consists of Participants and Facilitator but exists as an independent 'paramusical' concept (Camlin et al. 2020).

Where and when?

- ☐ The 'Spatial' context in the diagram is where the group occurs, taking a wide definition of 'space' to include physical space, functional role, temporal features such as how long the intervention lasts, frequency and duration of each session, access-to and safety within. The 'Spatial' context exists within and relates to a wider 'Socio-cultural' context.
- ☐ The 'Socio-cultural' context has a wide definition to include interpersonal relationships and contexts, cultural contexts, socio-economic context, race, (dis)ability, role and environment.

Why?

- ☐ The dotted lines connecting the elements indicate dynamic relationships between them, demonstrating that health and wellbeing are affected by all of them.
- ☐ Safety, performance, entrainment and attunement, relationships, participation and self-determination/empowerment are additional active ingredients which SFH should incorporate with reference to all other active ingredients. They define lenses through which to evaluate outcomes.

How?

- ☐ Facilitator reflection is a recommended evaluation tool and professional development technique.
- ☐ Peer-to-peer support and supervision of Facilitators is recommended to underpin safety, relationships, participation and evaluation of outcomes.

Ethical Boundaries of SFH Practice

Music and singing are the central therapeutic active ingredients (Aigen et al. 2018) with the facilitator acting to support and enable participant's interactions with them, as opposed to the facilitator being a central therapeutic factor, as in MT or psychotherapy (Yoeli and Macnaughton, 2020). This defines the ethical boundaries of SFH practice as being around music, singing and group facilitation interventions, essentially creative arts interventions, as opposed to anything else (Yoeli and Macnaughton, 2020). This removes any requirement for health expertise. However since SFH practitioners are working with vulnerable people with wide ranging health conditions in varied contexts the following are recommended to support them in establishing and maintaining ethical boundaries around their practice:

- peer-to-peer discussion on best practice (Cycle 2);
- supervision (as an unregulated field it is unclear who would undertake this, however initially peer-to-peer discussion around best practice could perform this function) (Cycle 2);
- knowledge of health services to signpost participants as appropriate (Foster et al. 2021);
- mental health first aid training (Morgan et al. 2018);
- Clear, published information to participants on method/time of communications, limiting it to within sessions or pre-agreed times (Star, 1984).

Evaluation Recommendations

From identifying the therapeutic agents relevant to SFH and integral features of HaW, we may now combine these with suggestions for ways in which to evaluate them. (This is Version 2. For version 1 see Appendix 9, p214)

Health condition/theme	Evaluation recommendation
General health and wellbeing	WHO-5 for well-being (Dingle et al. 2019)
Mental health	Kessler-6 for anxiety and depression (Dingle et al. 2018)

Safety	Neuroception of Psychological Safety Scale (NPSS) (Morton et al. 2022)
Self-determination/empowerment	Collective self-esteem scale (Luhtanen and Crocker, 1992), Performance
Participation	36-item measure identified five discrete dimensions: mood and coping, esteem and worth, socialisation, cognition, and self-actualisation (Krause et al. 2018); Performance
Relationships: intra and interpersonal, intercultural, inter-musical	EQ-5D quality of life, from which a health economic evaluation can be derived (Dingle et al. 2019); Performance
Entrainment/attunement	Measure of Heart Rate Variability; Performance

Cycle 4: Professional Questionnaire

Data collection, results and analysis

To evaluate the proposed TF (Version 1, Appendix 9, p214), it was sent to three SFH professionals representing different professional areas: SFH practice, SFH research and a practitioner-researcher. Experience of a range of health conditions was required and the following inclusion criteria defined so as to ensure their capacity to evaluate the proposed TF and ensure its relevant to research, practice and training. Their professional status was defined according to the following criteria:

- a record of practical application and success in SFH for at least 4 years
- regarded as leaders in their field;

- particular depth of knowledge and experience of a range of health conditions;
- a deep understanding of the theoretical foundations, methodologies, best practices, and nuances within their field;
- highly respected by peers and the SFH community for their contributions.

They consisted of a practitioner with over sixteen years of experience who has created programmes, resources and practitioner training with a particular specialism in singing for dementia/alzheimers/cognitive decline; a SFH researcher/respiratory physiotherapist who has led, authored and co-authored research on singing for lung health; a SFH practitioner-researcher who has founded a SFH charity, training programmes for SFH practitioners and has authored a research paper on singing and mental health.

The questionnaire results were analysed using qualitative content analysis (Mayring, 2015) whereby themes were labelled and identified from qualitative responses to questions to identify thematic convergence between the respondents. Frequency of themes was then counted to add a quantitative and objective analysis indicating quantitative prevalence of themes showing a clear numerical order (see [Fig. 12](#) below). SFH professionals commented most on linking theory to practise, one of the foremost aims of the project and therefore important to address. This was followed equally by linking theory to evaluation and training, again a fundamental aim of this project. These comments imply that the theoretical basis is strong but that its applicability requires development. Theoretical clarification is also required with suggestions of additional research papers for inclusion and consideration. These papers did not surface in the exploratory and iterative literature review, demonstrating a limitation with this approach and the previously cited limitation of a single researcher seeking to draw from a range of fields, a factor noted in one of the questionnaire responses.

A final theme emerged from the questionnaire proposing more consideration for ethical boundaries relating to SFH. Although 'safety' is an important consideration in the proposed TF, more explicit consideration for the boundaries around the role of a SFH practitioner should be developed.

Count of frequency of themes in Questionnaire 2 to SFH professionals

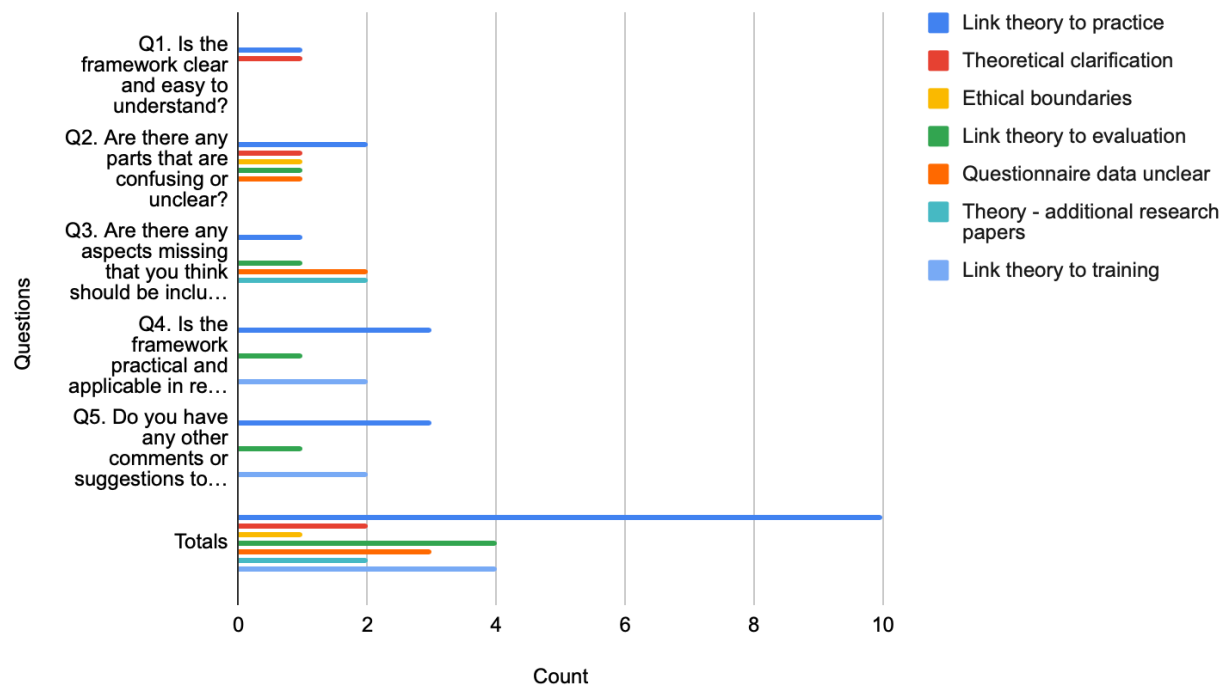


Figure 12

Following the structure for the initial development of the TF, the revisions were addressed as follows:

1. Literature Review revisions:
 - a. Critical analysis and inclusion of additional papers;
 - b. Definitions of 'embodied' and 'socio-cultural' (theoretical clarification) provided;
2. Development of TF revisions:
 - a. Boundaries of SFH practice considered;
 - b. Further explanation of how the TF was developed.
3. Develop the practical applicability of the TF for practitioners drawing together theory and SFH practitioner Questionnaire results to define essential features of SFH practice:
 - a. TF version 2 including '5Ws and 1H' framework (Waisbord, 2019)
 - b. Creation of mapping spreadsheet of active ingredients from Cycles 1 and 2 to '5Ws and 1H' (Waisbord, 2019) (Appendix 8, p207)

- c. Creation of intervention worksheet (Appendix 11, p237)
4. Develop the practical applicability of the TF for SFH training:
 - a. Creation of mapping spreadsheet of active ingredients from Cycles 1 and 2 to 5Ws and 1H (Appendix 8, p207).
5. Develop the practical applicability of the TF for SFH intervention evaluation by extending description of evaluation methods:
 - a. Creation of table mapping thematic active ingredients to evaluation recommendations (Appendix 8, p207) with addition of performance as a measure of group features .
 - b. Creation of intervention worksheet (Appendix 11, p237)
6. Revise the TF (Appendix 10, p226)

Reflection on Learning Outcomes

This project was motivated by personal motivations of experiencing a lack of theoretical foundation in my SFH practice. During the process I have developed the following skills:

- Critical analysis of wide ranging literature going beyond SFH to other therapeutic arts practices;
- Creation of questionnaires;
- Understanding and application of statistical analysis tools relating to Likert scale and Likert-scale analysis;
- Applying mixed methods including integration of mixed methods data;
- Application of action-research methods of cycles of action and reflection;
- Deep reflection on the nature of singing, SFH, SFH theory and practice and how they can relate;
- Creation of practical and accessible tools for a wide ranging audience of SFH practitioners;
- Developed academic writing skills.

Conclusion

A TF for SFH has been created by identifying active ingredients in research and practice, which were internally and externally validated. Additionally definitions of HaW and SFH have been provided and mapped to the '5Ws and 1H' (Waisbord, 2019), a simple and accessible framework, allowing for further development and interaction. A practical worksheet has been created to identify other active ingredients and continue a dialogue between research and practice as well as allowing for evaluation and evaluation comparisons.

Essential features of SFH practice have also been identified to inform research, practice and training.

Relevant evaluation tools for HaW outcomes have been identified from literature, similarly relevant to the active ingredients identified in SFH, with an additional recommendation that performance is included as a means of evaluation of group features relating to self-determination/empowerment, participation, relationships and entrainment.

The framework has not been explicitly related to SFH training, however in its current form it is hoped that it could be successfully applied to provide SFH practitioners with a relevant and applicable theoretical foundation for their practice, along with tools (practical worksheet) for evaluation of practice interventions.

Recommendations

- Develop the TF with explicit inclusion of participants;
- Test the framework to ensure relevance, validity and applicability;
- Ensure that continued dialogue between research and practice is included to enhance and refine the TF.

Limitations

- The study is UK-centric with most practitioners being UK-based, which limits its potential wider applicability.
- Social demographics of practitioners are overwhelmingly white, female with a high level of education, similarly most SFH research is undertaken on white, middle class and female

demographic. Diverse representation needs to be sought including identifying barriers to participation.

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Appendices

Appendix 1: Ethics Form



PG2 / E1 FORM APPLICATION FOR ETHICAL APPROVAL

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.

Delete the Guidance Notes at the end of the form BEFORE submitting your

application SECTION A: About You (Principal Researcher)

1	Full Name:	RUTH ROUTLEDGE			
2	Tick all boxes which apply:	Member of staff:	☐	Honorary research fellow:	☐
3	Undergraduate Student	☐	Taught Postgraduate Student	☒	Postgraduate Research Student

4	Institute/Academic Discipline/Centre:	WAPPAR
5	Campus:	Carmarthen
6	E-mail address:	REROUTLEDGE@GMAIL.COM
7	Contact Telephone Number:	07946 900543
For students:		
8	Student Number:	2018733
9	Programme of Study:	MA Professional Practice (Voice Pedagogy)
10	Director of Studies/Supervisor:	Louise Emanuel/Julie Crossman/Debbie Winter

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PG2 / E1 FORM October 2020 2 Ethical Approval Form

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PG2 / E1 FORM 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	☐
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				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	☐	
3		Institute Research Committee	☐	
4		Other (write in) WAPPAR Ethics Board Representative	☒	

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, 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.	
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3		☐

SECTION D: External Collaborative Research Activity

1	Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
2	If Yes, please provide the name of the external organisation and name and contact details for the main contact person and confirmation this person has consented to their personal data being shared as part of this collaboration.				
3	Institution				
4	Contact person name				
5	Contact person e-mail address				



6	Has this individual consented to sharing their details on this form?	YES	☐	NO	☐	
7	Are you in receipt of a KESS scholarship?	YES	☐	NO	☐	
8	Is your research externally funded	YES	☐	NO	☐	
9	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☐
10		Employed	YES	☐	NO	☐
11	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	☐
12	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

13	Does this organisation have its own ethics approval system?	YES	☐	NO	☐
14	If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

1	Indicative title:	What techniques and interventions are being used in singing for health practice? Drawing on emerging themes to create a theoretical framework for singing for health research, practice and training.			
2	Proposed start date:	1st September 2023	Proposed end date:	1st March 2024	

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PG2 / E1 FORM

3	Introduction to the Research (maximum 300 words) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • <i>Purpose of Research Activity</i> • <i>Proposed Research Question</i> • <i>Aims of Research Activity</i> • <i>Objectives of Research Activity</i> Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • <i>What the research activity will add to the body of knowledge</i> • <i>How it addresses an area of importance.</i>
4	Purpose of Research Activity Currently there is not a widely accepted and used theoretical framework for singing for health research, practice or training purposes, which undermines research credibility and the credibility of the profession. This research aims to fill that gap by investigating interventions and guiding principles practitioners are currently using and current theoretical frameworks in use. This will then be combined to create a theoretical framework to support practice, practitioner and participant wellbeing and to inform future research and training of singing for health practitioners. (this box should expand as you type)
5	Research Question What interventions, practices, values and theoretical frameworks are in use by singing for health practitioners? How can these interventions, practices, values and frameworks be integrated with details of singing interventions in the body of literature and theoretical frameworks in use, to create a relevant theoretical framework to inform singing for health research, practice and training? (this box should expand as you type)
6	Aims of Research Activity To construct a theoretical framework building on existing theory, research and practice for singing for health, building on prior research defining practices and techniques (breathing exercises, physical warm-ups, vocal warm-ups, the setting, the practitioner's role and expertise for example) used in singing for health interventions. (this box should expand as you type)

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PG2 / E1 FORM

7	Objectives of Research Activity 1. Identify and critically analyse current theoretical frameworks being used in singing for health interventions. 2. Identify techniques and interventions in use by singing for health practitioners. 3. Understand and define singing for health practice, including any theoretical frameworks from which they are drawing. 4. Develop a theoretical framework based on results from points 1 and 2, and literature on singing for health interventions. 5. Present theoretical framework to experts in the field to get commentary and feedback in order to refine and improve the theoretical framework. 6. Refine theoretical framework. (this box should expand as you type)
8	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.

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PG2 / E1 FORM

9	A mixed-methods study to create a theoretical framework for singing for health, which I will triangulate from three sources: • Literature - theoretical frameworks and intervention techniques in use in singing for health interventions; • Practitioners - the details of their practice; • Experts in the field of singing for health. 1. Literature Review of peer-reviewed, published research papers to investigate and critically analyse existing theoretical frameworks used in singing for health interventions - Qualitative and quantitative depending on the number of papers identified. If large numbers of papers are identified quantitative data analysis according to themes will be conducted. 2. Online Survey of singing for health practitioners to answer questions to: • Identify techniques being used in practice; • Identify values guiding ethical practice and ethical boundaries; • Identify theoretical frameworks (if any) being used in their practice. • Identify attitudes towards defining the boundaries of singing for health practice; Analysis • Quantitative data for analysis using quantitative analysis techniques regarding numbers and percentages of practitioners using particular techniques/interventions; • Qualitative data regarding attitudes and values, for example, to be extracted using inductive thematic content analysis 3. Face to face semi-structured interviews over Zoom (online video conferencing software) with experts in the singing for health field to present and discuss an initial theoretical framework for improvement and refinement following their recommendations and feedback - Qualitative data. Analysis • Data to be codified and analysed using Iterative Categorisation in conjunction with an appropriate system of analysis as well as observation of facial expressions, gesture etc and how they contribute to communications. 4. Focus group with experts and participants in the singing for health field to help guide the application of data collected from survey and interviews. Analysis • As above in point 3. (this box should expand as you type)

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PG2 / E1 FORM

10	Location of research activity Identify all locations where research activity will take place.
11	United Kingdom (this box should expand as you type)
12	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.
13	(this box should expand as you type)

14	Use of documentation not in the public domain: Are any documents NOT publicly available?	NO	☒
		YES	☐
15	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 prevailing data protection law of the country in question and England and Wales. (this box should expand as you type)		

SECTION F: Scope of Research Activity

1	Will the research activity include:	YES	NO
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2	Use of a questionnaire or similar research instrument?	☒	☐
3	Use of interviews?	☒	☐
4	Use of diaries?	☐	☒
5	Participant observation with their knowledge?	☒	☐
6	Participant observation without their knowledge?	☐	☒
7	Use of video or audio recording?	☒	☐
8	Access to personal or confidential information without the participants' specific consent?	☐	☒
9	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒

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PG2 / E1 FORM

10	Performance of any acts which may cause embarrassment or affect self esteem?	☐	☒
11	Investigation of participants involved in illegal activities?	☐	☒
12	Use of procedures that involve deception?	☐	☒
13	Administration of any substance, agent or placebo?	☐	☒
14	Working with live vertebrate animals?	☐	☒
15	Other primary data collection methods, please explain in this box For example, 'focus groups'. Please indicate the type of data collection method(s) in this box and tick the accompany box.	☒	☐
16	Focus Group (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

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

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PG2 / E1 FORM

1	Participant numbers and source	
2	Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
13	How many participants are expected?	Survey - approx 500 from various global locations. Interview - 6 Focus group - 6 <i>(this box should expand as you type)</i>

1 4	Who will the participants be?	Survey - singing for health practitioners located anywhere in the world, able to speak and understand English. Interview - singing for health experts Focus groups - singing for health experts Inclusion criteria currently are: adults (over 18), able to speak and understand English, practitioners in singing for health as opposed to vocal pedagogy. <i>(this box should expand as you type)</i>
1 5	How will you identify the participants?	Survey: - through professional organisations: Sing 4 Lung Health, Singing for Parkinson's, Singing and the Brain, Singing for Health Network, Natural Voice Practitioners Network. - through informal professional Facebook groups: Singing for Health Network, Voice Geek Professionals, Creative Choir Leader, Total Vocal Resources, Natural Voice Leaders Network, Community Choir Leaders; - personal network contacts. Interview and Focus Group - identified by myself with support from my tutor as experts in the field of singing for health. <i>(this box should expand as you type)</i>

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PG2 / E1 FORM

1 6	Information for participants:	YES	NO	N/A
1 7	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
1 8	Will you tell participants that their participation is voluntary?	☒	☐	☐
1 9	Will you obtain written consent for participation?	☒	☐	☐
20	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
21	If the research is observational, will you ask participants for	☒	☐	☐

	their consent to being observed?			
22	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
23	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
24	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
25	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
26	If NO to any of above questions, please give an explanation			
27	<i>(this box should expand as you type)</i>			

28	Information for participants:	YES	NO	N/A
29	Will participants be paid?	☐	☒	☐
30	Is specialist electrical or other equipment to be used with participants?	☒	☐	☐
31	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
32	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
33	If YES to any question, please provide full details			
34	Interviews and Focus Group will have audio and video recordings made via my personal laptop. <i>(this box should expand as you type)</i>			

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**PG2 / E1 FORM SECTION H: Anticipated Risks**

1	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.		
2	Full risk assessment completed and appended?	Yes	☐
		No	☒
3	Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
4	Risk to Participant: 1. Potential risk that survey participants may feel professional or personal insecurity as a result of questions being posed regarding their practice. <i>(this box should expand as you type)</i>	<i>How will you mitigate the Risk to Participant</i> Risk 1 will be mitigated by signposting to relevant professional organisations such as Music Minds Matter and the Musicians Union. Participants will be told that all information is valued and that all views and beliefs are respected. Participants will be reminded at the beginning and end of the questionnaire that they may withdraw from the research at any point. <i>(this box should expand as you type)</i>	
5	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		
	<i>(this box should expand as you type)</i>		

6	Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to Investigator: 1. Risk of burnout and impact on personal health and wellbeing. 2. Risk of negative feelings such as imposter syndrome as a potential result of negative feedback from focus group. <i>(this box should expand as you type)</i>	<i>How will you mitigate the Risk to Investigator:</i> Risk 1 can be mitigated by appropriate planning of relevant tasks including time frames and external roles/responsibilities. Asking for appropriate support as and when it is needed. Risk 2 can be mitigated by ensuring appropriate personal, peer and tutor support before the research process starts and ongoing. <i>(this box should expand as you type)</i>

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7	University/institutional risks For example: adverse publicity, financial loss, data protection	
	Risk to University: Risk of adverse publicity if data collection is not conducted in an appropriate, timely and professional manner. <i>(this box should expand as you type)</i>	<i>How will you mitigate the Risk to University:</i> Risk mitigated by ensuring that relevant guidelines are followed and adhered to. Principle researcher will uphold a high standard of professionalism and integrity at all times. The research process will be well-organised adhering to proposed timelines and processes. <i>(this box should expand as you type)</i>

8	Disclosure and Barring Service			
9	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	<u>N/A</u>
10	Does your research require you to hold a current DBS Certificate?	☐	☐	☒

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?
	Participants will be provided with a personal email address to follow-up for further detail they would like. <i>(this box should expand as you type)</i>
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.
	Online questionnaire - first screen will have a screen a consent form to tick before they can continue. Interview and Focus group - online consent form sent via email to be completed prior to taking part, including consent for video and audio recordings to be made. Participants will be reminded verbally at the start of interviews and focus group that recordings will be made for analysis purposes only and that they may opt out if they wish. If a participant opts out of being recorded then any data they provide will not be included in the research. <i>(this box should expand as you type)</i>

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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.
	Online questionnaire - names will not be collected and no identifying details will be used in any research outputs. Interviews and Focus Group - participants will not be identified, except with reference to their professional experience, in order to explain the range of expertise for the 'expert' interviewees and focus group participants.

	(this box should expand as you type)
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SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

1	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
	"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.	☒	☐
2	If YES, provide a description of the data and explain why this data needs to be collected:		
	Professional role data - collected for analysis purposes to inform positionally, training and experience of singing for health practitioners. Consent forms will be gathered for interview/focus group participants. All participant data will be assigned an ID for anonymisation and for data analysis purposes only. (this box should expand as you type)		
3	Does it involve special category data (as defined by the GDPR)?	YES	NO

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	“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),	☐	☒
4	If YES, provide a description of the special category data and explain why this data needs to be collected:		
	(this box should expand as you type)		

5	Will the research activity involve storing personal data and/or special category data on one of the following:	YES	NO
6	Manual files (i.e. in paper form)?	☐	☒
7	University computers?	☐	☒
8	Private company computers?	☐	☒
9	Home or other personal computers?	☒	☐
10	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
11	“Cloud” storage or websites?	☒	☐
12	Other – specify:	☐	☐
13	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of password protection, encryption, anonymisation and pseudonymisation:		

	All data will be kept in password protected cloud storage (Dropbox) on my personal laptop system which will not be shared. Audio/visual data will be transcribed and will be shown to participants to check accuracy of reporting. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. <i>(this box should expand as you type)</i>
14	All Data Storage

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15	Will the research activity involve any of the following activities:	YES	NO
16	Electronic transfer of data in any form?	☒	☐
17	Sharing of data with others at the University?	☒	☐
18	Sharing of data with other organisations?	☐	☒
19	Export of data outside the European Union or importing of data from outside the UK?	☒	☐
20	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☒	☐
21	Publication of data that might allow identification of individuals?	☐	☒
22	Use of data management system?	☐	☒
23	Data archiving?	☐	☒
24	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and DPA (and/or any international equivalent):		

	All data will be encrypted and kept in password protected cloud storage on my Dropbox account system which will not be shared. Any USB sticks used to store or transfer data will be password protected. All data transfers will be encrypted and 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. 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 if the participant requests this, in which case the data will not be used in the project. <i>(this box should expand as you type)</i>
2 5	List all who will have access to the data generated by the research activity:
	Ruth Routledge, Pippa Anderson (Tutor) <i>(this box should expand as you type)</i>
2 6	List who will have control of, and act as custodian(s) for, data generated by the research activity:
	Ruth Routledge <i>(this box should expand as you type)</i>
2 7	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.

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	All data will be encrypted and kept in password protected cloud storage on my Dropbox system which will not be shared. Any USB sticks used to store or transfer data will be password protected, and will be reformatted at the end of the project in order to destroy the data. The data will be stored until the completion of the project and then deleted. <i>(this box should expand as you type)</i>
2	Please indicate if your data will be stored in the UWTSD Research Data Repository

8	(see https://researchdata.uwtsd.ac.uk/). If so please explain. (<i>Most relevant to academic staff</i>)		
	(this box should expand as you type)		
29	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
		NO	☐
30	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	☒
		NO	☐

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**PG2 / E1 FORM****SECTION K:****Declaration**

31	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/		
	Signature of applicant:	Ruth Routledge	Date: 23 rd June 2023

For STUDENT Submissions:

32	Director of Studies/Supervisor:	Laura James	Date: 3.7.23
33	Signature:	Laura James	

For STAFF Submissions:

34	Academic Director/ Assistant Dean:		Date:
35	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 (and have NOT completed Section H of this form) (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.

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☒	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.
☒	I have deleted the guidance notes before submitting the PG2 for consideration

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Appendix 2: Letter of approval from employer

Ruth Routledge

Singing for health practitioner-researcher

9th June 2023

Dear UWTSD,

RE: What techniques are being used in singing for health practice? Drawing on emerging themes to create a theoretical framework for singing for health research, practice and training.

I confirm that I approve of the research proposed into 'drawing on emerging themes to create a theoretical framework for singing for health research, practice and training' to be carried out by Ruth Routledge, of Ruth Routledge, Singing for health practitioner-researcher to be carried out between September 2023 and March 2024.

Kind Regards,

Kate Cubley

Appendix 3: Participant recruitment poster



Do you lead Singing for Health groups? Calling Singing for Health practitioners

I am completing the Voice Study Centre's Masters in Singing for Health and for my final assignment I am trying to find out about YOU and YOUR singing for health practice.



**Please contribute to singing for health
research by completing an anonymous
online questionnaire:**

sing2health.com/research

It takes around 10 minutes to complete



Appendix 4: Practitioner Questionnaire Responses Section 1

Link to spreadsheet:

https://docs.google.com/spreadsheets/d/1QsyxD0AQQbDB_hS8jwaSIUyLG6bw5M_cyA51UE3ygrs/edit?usp=sharing

ID	INFORMED CONSENT: I consent voluntarily to be an anonymous participant in this study and understand that I may refuse to answer questions. I understand that I may withdraw	I confirm that I am a practitioner in the field of singing for health delivering regular singing for health/wellbeing sessions, as opposed to vocal pedagogy/singing teaching,	What is your gender?	Other, please state:	What is your age bracket?	What is your ethnicity?	If other, please state your ethnicity or preferred description:	If you live in the UK, please tick what region:	If you live outside of the UK, please state where (region/state and country):	Please indicate if you have any musical qualifications, ticking all that apply:	Other please state:	Please indicate if you have any of the following health qualifications:	Other, please state:	If you are an Allied health professional, please select which:	Please select if you have completed any of the following:	Other, please state:	In your singing for health practice, do you work with individuals, groups or both? Please tick all that apply:	If you work with groups, how many weekly singing for health sessions do you deliver?	Other please state:	If you work with individuals, how many weekly singing for health sessions do you deliver?	Please select if your singing for health sessions target particular health conditions listed below?	Other, please state:	Does your singing for health practice draw on a theoretical framework?	If yes, please give details:	If no, would you like to have a theoretical framework for your singing for health practice?
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	raw from the study at any time, without having to give a reason.	sound healing or community singing for example.																							
P1	Yes	Yes	Female		55-64	English, Welsh, Scottish, Northern Irish or British		East of England		Other music qualification	Diploma Performing Musician via Access to Music	None			BLF Singing for Lung Health Training; Singing for Parkinson's		Groups	3			Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; Neurological conditions; Bereavement; General health and wellbeing		Yes	Singing for Lung Health (for some sessions)	Yes

P10	Yes	Yes	Female		65-74	English, Welsh, Scottish, Northern Irish or British		South East		Singing performance diploma; Other music qualification	diploma in music therapy and LGS M teaching singing	None		Music Therapist	BLF Singing for Lung Health Training		Groups	1;2			Lung health; Dementia/Alzheimers/Cognitive decline		Yes	the format for SFLH	
P11	Yes	Yes	Female		65-74	English, Welsh, Scottish, Northern Irish or British		South East		Instrument ABRSM/Trinity Guild hall Grade 6-8; GCSE/ CSE/ O-Level Music ; A'-Level Music ; Undergraduate degree; Post-graduate degree; Instrumental performance	Music Therapy Diploma	Allied Health Professional		Music Therapist	BLF Singing for Lung Health Training; Singing for Parkinson's; Singing for the Mind		Groups	4			Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; Neurological conditions; Bereavement; General health and wellbeing		Yes	"First Nature Body & Breath" training	

									e diplo ma;O ther music qualifi cation															
P12	Yes	Yes	Fema le		35-44	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		North West	Singi ng ABR SM/Tr inity Guild hall exam Grad e 6-8;In strum ent ABR SM/Tr inity Guild hall Grad e 6-8;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degree		None			BLF Singi ng for Lung Healt h Traini ng		Grou ps	5			Lung healt h;Me ntal healt h;Ge neral healt h and wellb eing	Strok e	No		Don't know

P13	Yes	Yes	Female		45-54	English, Welsh, Scottish, Northern Irish or British		Scottish		Instrument ABR SM/Trinity Guildhall Graduate 6-8; GCSE/ CSE/ O-Level Music ; A'-Level Music ; Undergraduate degree; Post-graduate degree; Other music qualification	Singing for Lung Health trained (BLF) ; Dementia Training (EMS , Luminate); Singing for Parkinson's (Sing to Beat); Long Covid physio breathing certificate. Masters in Advanced Opera, and Performance.	None			BLF Singing for Lung Health Training; Singing for Parkinson's	Various singing for Dementia training courses	Individuals; Groups	8		0-2	Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; General health and wellbeing	Long Covid	Yes	A mixture if practical and theoretical as trained.	
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P14	Yes	Yes	Female		45-54	English, Welsh, Scottish, Northern Irish or British		Yorkshire and The Humber		Singing ABR SM/Trinity Guild hall exam Grade 6-8; Instrument ABR SM/Trinity Guild hall Grade 6-8; GCSE/ CSE/ O-Level Music ;A'-Level Music ;Undergraduate degree		None			BLF Singing for Lung Health Training; Singing for Parkinson's		Individuals; Groups	7		0-2	Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; Postnatal Depression; General health and wellbeing		No response		
P15	Yes	Yes	Female		65-74	English, Welsh, Scottish, Northern Irish				GCE/CS E/O-Level Music ;Other music	BKA Musicianship and Colourstring Associate	None			Have completed workshops on Singing for Lung		Groups	1			Mental health		No		No

																							frame works around a practi ce that is perso n-cen tered and cultur ally demo cratic		
P17	Yes	Yes	Fema le		55-64	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		Wale s		Instru ment ABR SM/Tr inity Guild hall Grad e 4-5;O ther music qualifi cation		Regis tered nurse					Indivi duals; Grou ps	2		0-2	Ment al healt h;Neu rologi cal condit ions; Gene ral healt h and wellb eing		Yes		Yes

P18	Yes	Yes	Female		25-34	English, Welsh, Scottish, Northern Irish or British		South East		Instrument ABR SM/Trinity Guildhall Grade 6-8; GCSE/ CSE/ O-Level Music ;A'-Level Music ;Undergraduate degree; Post-graduate degree		Allied Health Professional		Music Therapist	BLF Singing for Lung Health Training		Groups	5			Lung health; Dementia/Alzheimers/Cognitive decline; Mental health; Bereavement; General health and wellbeing		Yes	There is so much research to suggest that singing improves wellbeing and as a therapist I encourage people to share their stories with me and with the group to help cohesion and build friendships which in turn improve	
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																								ves their qualit y of singin g and atmo spher e in the room.	
P19	Yes	Yes	Fema le		35-44	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		Lond on		GCS E/CS E/O-L evel Music		None			BLF Singi ng for Lung Healt h Traini ng;Si nging for Parki nson' s		Indivi duals; Grou ps	3		0-2	Lung healt h;Ge neral healt h and wellb eing		Yes		
P2	Yes	Yes	Fema le		55-64	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		Wale s		Unde rgrad uate degre e	Soun d healin g voice practi tioner	None			BLF Singi ng for Lung Healt h Traini ng		Grou ps	1			Lung healt h		No		Yes

P20	Yes	Yes	Female		35-44	White		North West		Singing ABRSM/Trinity Guildhall exams Grade 4-5; GCSE/O-Level Music; Undergraduate degree		None			BLF Singing for Lung Health Training		Groups	1			Lung health		Yes		
P21	Yes	Yes	Female		65-74	English, Welsh, Scottish, Northern Irish or British		Yorkshire and The Humber		Other music qualification	classical piano to grade 7, classical violin to Grade 6	None					Groups	1			General health and wellbeing		No		Don't know

P22	Yes	Yes	Female		55-64	White		South West		Singing ABR SM/Trinity Guild hall exams Grade 1-3; Singing ABR SM/Trinity Guild hall exams Grade 4-5; Singing ABR SM/Trinity Guild hall exam Grade 6-8; Instrument ABR SM/Trinity Guild hall Grade 4-5; In							Individuals; Groups	1		0-2	General health and wellbeing		No		Yes
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									strum ent ABR SM/Tr inity Guild hall Grad e 6-8;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degre e;Pos t-grad uate degre e																
P23	Yes	Yes	Fema le		55-64	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		South West		Other music qualifi cation	up to grade 4 piano as a teena ger	Allied Healt h Profe ssion al		Physi other apist	Singi ng for Parki nson' s	Singi ng Lead ershi p cours e - Suzy Ro Prate r	Grou ps	2			Parki nson' s;Me ntal healt h;Ber eave ment; Gene ral healt h and wellb eing		Yes	Sing to Beat Parki nson' s traini ng	

P24	Yes	Yes	Female		35-44	English, Welsh, Scottish, Northern Irish or British		Scottish		Singing ABR SM/Trinity Guild hall exam Grade 6-8; Instrument ABR SM/Trinity Guild hall Grade 4-5; GCSE/ CSE/ O-Level Music ;A'-Level Music ;Undergraduate degree; Singing performance diploma		None			Singing for Parkinson's	Music and Healthcare (OPUS - based in Derby)	Individuals; Groups	2		0-2	Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; Neurological conditions; General health and wellbeing		Yes	This would risk being a doctorate length answer! But two of the key points are that people can 'learn' , whatever is happening cognitively. There are a series of physiological things I'm slipping into things that feel	
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P25	Yes	Yes	Female		25-34	Asian or Asian British	Taiwanese	Scottish		Singing ABR SM/Trinity Guild hall exam Grade 6-8; Instrument ABR SM/Trinity Guild hall Grade 6-8; GCSE/ CSE/ O-Level Music ;A'-Level Music ;Undergraduate degree; Post-graduate degree; Other music qualification	MSc in Music Therapy	None		Music Therapist		Singing for Lung Health Training with The Musical Breathe	Individuals; Groups	1		9	Lung health; Parkinson's; Dementia/Alzheimers/Cognitive decline; Mental health; Neurological conditions; General health and wellbeing	No		Yes
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P26	Yes	Yes	Female		45-54	White		North West		Undergraduate degree					BLF Singing for Lung Health Training		Groups	1			Lung health		Yes	use the partnership with NHS Queens Nurse plus the BLF singing course knowledge	
P27	Yes	Yes	Female		35-44	White			Belgium (Flanders)	Singing performance diploma; Instrumental performance diploma		None	Vocal Habilitation Professional		Singing for Parkinson's	Singing for Health short courses through Voice Study Centre	Individuals; Groups	1	Some are delivered as a short series (long covid), some are delivered through an online training system, some are live one	3-5	Lung health; Parkinson's; Mental health; Neurological conditions		Yes		

																	off works hops, and some are on different intervals between bi-weekly and monthly							
P28	Yes	Yes	Female		35-44	White		Wales		Singing ABR SM/Trinity Guild hall exam Grade 6-8;GCSE/CSE/O-Level Music ;A'-Level Music ;Undergraduate degree;Singing		None		Music Therapist	BLF Singing for Lung Health Training		Groups	1			Lung health		Yes	

									performanc e diplo ma;O ther music qualifi cation																
P29	Yes	Yes	Fema le		45-54	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		North West	Singi ng ABR SM/Tr inity Guild hall exam Grad e 6-8;In strum ent ABR SM/Tr inity Guild hall Grad e 1-3;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degre e		None					Group s	3			Gene ral healt h and wellb eing		No		Don't know	

P3	Yes	Yes	Female		35-44	White		West Midlands		Post-graduate degree					BLF Singing for Lung Health Training		Groups	1			General health and wellbeing		No		Don't know
P30	Yes	Yes	Female		35-44	White		London		Singing ABR SM/Trinity Guild hall exams Grade 1-3; Singing ABR SM/Trinity Guild hall exams Grade 4-5; Singing ABR SM/Trinity Guild hall exams Grade 6-8; GCSE/CSE/							Groups	1			General health and wellbeing		Yes	Trauma theory and polyvalent theory	

									O-Level Music ;A'-Level Music ;Post-graduate degree;Singing performance diploma																
P31	Yes	Yes	Female		45-54	White		Yorks hire and The Humber	Instrument ABR SM/Trinity Guild hall Grade 6-8;G CSE/ CSE/ O-Level Music ;A'-Level Music		None				BLF Singing for Lung Health Training		Groups	4	Up to 3 online sessions per week in addition		Lung health		Yes	Accent method	
P32	Yes	Yes	Male		45-54	English, Welsh, Scottish, North		Yorks hire and The Humber	Instrument ABR SM/Trinity Guild hall		None						Groups	3			Dementia/Alzheimers/Cognitive		No		No

						ern Irish or Britis h				Grad e 6-8;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degre e										declin e					
P33	Yes	Yes	Fema le		55-64	White		East Midla nds		Instru ment ABR SM/Tr inity Guild hall Grad e 6-8		GP (gene ral practi tioner)					Indivi duals; Grou ps	1		6-8	Lung healt h;Ge neral healt h and wellb eing		Yes	Self-d irecte d learn ing	
P34	Yes	Yes	Fema le		45-54	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		North East		Singi ng ABR SM/Tr inity Guild hall exam Grad e 6-8;In strum ent ABR SM/Tr inity Guild		None			BLF Singi ng for Lung Healt h Traini ng		Grou ps	1			Gene ral healt h and wellb eing		No		Don't know

									hall Grad e 6-8;A' -Leve l Music ;Unde rgrad uate degre e;Oth er music qualifi cation															
P35	Yes	Yes	Fema le		25-34	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h	South East		Instru ment ABR SM/Tr inity Guild hall Grad e 6-8;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degre e;Pos t-grad uate degre e		Allied Healt h Profe ssion al		Music Thera pist	BLF Singi ng for Lung Healt h Traini ng		Grou ps	4			Lung healt h;De menti a/Alz heim ers/C ogniti ve declin e;Me ntal healt h;Ber eave ment; Gene ral healt h and wellb eing		Yes	I draw on ideas from the SfLH traini ng and my knowl edge of music thera py	

P36	Yes	Yes	Female		65-74	English, Welsh, Scottish, Northern Irish or British		London		Instrument ABR SM/Trinity Guild hall Grade 6-8; A-Level Music; Undergraduate degree; Other music qualification	Postgraduate Diploma in Music Therapy	Allied Health Professional		Music Therapist				Groups	1			Lung health	Long Covid	Yes	Learn t from other practitioners and respiratory staff	
P37	Yes	Yes	Female		55-64	English, Welsh, Scottish, Northern Irish or British		East of England		Singing ABR SM/Trinity Guild hall exam Grade 6-8; Instrument ABR SM/Trinity Guild hall Grade 6-8; G			Alexander Technique Teacher					Individuals; Groups	5		9	Mental health; Postnatal Depression; Bereavement; General health and wellbeing		No		Don't know

									CSE/ CSE/ O-Le vel Music ;A'-Le vel Music ;Unde rgrad uate degre e;Pos t-grad uate degre e;Inst rume ntal perfor manc e diplo ma																
P38	Yes	Yes	Fema le		25-34	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		North ern Irelan d		Singi ng perfor manc e diplo ma		None			Singi ng for Parki nson' s		Grou ps	1			Ment al healt h; Ge neral healt h and wellb eing		No		Yes
P39	Yes	Yes	Fema le		35-44	White		Lond on		Instru ment ABR SM/Tr inity Guild	Grad e 5 music theor y	Publi c healt h speci alist				Singi ng Mam as	Grou ps	2			Ment al healt h; Pos tnatal Depr		No		Don't know

									hall Grad e 6-8											essio n;Ge neral healt h and wellb eing					
P4	Yes	Yes	Fema le		25-34	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		North ern Irelan d		Singi ng ABR SM/Tr inity Guild hall exam Grad e 6-8;In strum ent ABR SM/Tr inity Guild hall Grad e 6-8;U nderg radua te degre e					BLF Singi ng for Lung Healt h Traini ng;Si nging for Parki nson' s		Grou ps	2			Lung healt h;Par kinso n's;M ental healt h;Ge neral healt h and wellb eing		No		Yes
P40	Yes	Yes	Fema le		45-54	Engli sh, Wels h, Scotti sh, North ern Irish		South East		Instru ment ABR SM/Tr inity Guild hall Grad e		None					Grou ps		12		Deme ntia/A lzhei mers/ Cogni tive declin e;Me ntal	Also physi cal pain	No		Don't know

						or Britis h				6-8;G CSE/ CSE/ O-Le vel Music ;A'-Le vel Music										healt h;Neu rologi cal condit ions; Berea veme nt;Ge neral healt h and wellb eing					
P41	Yes	Yes	Fema le		35-44	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		South West		Singi ng ABR SM/Tr inity Guild hall exam s Grad e 4-5;U nderg radua te degre e;Pos t-grad uate degre e					BLF Singi ng for Lung Healt h Traini ng;Si nging for Parki nson' s	Trau ma and ment al healt h infor med traini ng	Grou ps	2		0-2	Lung healt h;De menti a/Alz heim ers/C ogniti ve declin e;Me ntal healt h;Ge neral healt h and wellb eing	Chro nic pain	Yes	Lots! But will menti on a few. It also varies depe nding on the aims and intenti on of each proje ct/gro up/pe rson. Socia l peda gogy mode l, motiv ation	

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																						(pron 'Dysn ia') Need to recor d feelin g AND perce ption Rate and perce ived exerti on RPE scale				
P43	Yes	Yes	Male		45-54	Any other White backg round		Lond on		Post- gradu ate degre e;Inst rume ntal perfor manc e diplo ma;O ther music qualifi cation	MMu s						Indivi duals; Grou ps				Lung healt h;Par kinso n's;D emen tia/Al zheim ers/C ogniti ve declin e;Ge neral healt h and wellb eing		No			Don't know

P44	Yes	Yes	Female		55-64	White		West Midlands		Singing ABR SM/Trinity Guild hall exams Grade 4-5; Singing ABR SM/Trinity Guild hall exam Grade 6-8; GCSE/ CSE/ O-Level Music ;A'-Level Music		None					Groups	3			Dementia/Alzheimers/ Cognitive decline; Mental health; General health and wellbeing		No		Yes
P45	Yes	Yes	Female		55-64	White			USA, Maine	Undergraduate degree; Other music qualification	Choral conducting, music ed, trainings with Bobby MCF	None					Groups		Monthly		General health and wellbeing	Belonging, stress reduction, breathing, care	No	Custom design	Don't know

										errin, and other amazing teachers															
P5	Yes	Yes	Female		45-54	English, Welsh, Scottish, Northern Irish or British		North East		Singing ABR SM/Trinity Guild hall exam Grade 6-8;Instrument ABR SM/Trinity Guild hall Grade 6-8;A'-Level Music;Undergraduate degree		None			BLF Singing for Lung Health Training		Groups	1			Mental health;General health and wellbeing		Yes	Broadly based on Singing for Lung Health recommendations	Yes
P6	Yes	Yes	Female		35-44	White		East of England		Undergraduate degree;Post-grad		Allied Health Professional		Occupational Therapist			Groups	3			Mental health;General health		Yes	Occupational perspective of	Yes

									uate degre e											h and wellb eing			healt h		
P7	Yes	Yes	Fema le		55-64	Engli sh, Wels h, Scotti sh, North ern Irish or Britis h		South West		None		None			BLF Singi ng for Lung Healt h Traini ng;Si nging for Parki nson' s		Grou ps	3			Lung healt h		Yes	If a theor etical frame work includ es traini ng in the physi ology of breat h and breat hless ness, lung disea se, ways of enabli ng healt hy breat hing, ATC. If not, then not.	Don't know
P8	Yes	Yes	Fema le		45-54	Engli sh, Wels h, Scotti sh,		East of Engla nd		Instru ment ABR SM/Tr inity Guild		Allied Healt h Profe ssion al		Physi other apist	BLF Singi ng for Lung Healt h		Grou ps	1			Lung healt h		Yes		

Appendix 5: Practitioner Questionnaire Results: Section 2 (importance)

See spreadsheet link above

On a scale of 1-5, how important do you consider the following factors to be, where 1 is of no importance, 3 is neutral and 5 is extremely imp	Group size (if working with groups):	If you answered 4 or 5 to the previous question, what do you consider to be the optimal group size?	Age of participants:	What age group(s) do you work with? Select all that apply:	Setting, i.e. where the singing for health sessions take place eg hospital, community centre:	If you answered 4 or 5 to the previous question, what do you consider to be an optimal setting?	Other please state:	Leader skills:	If you answered 4 or 5 to the previous question, please describe the leader skills you consider to be important:	Having help/sup port when leading singing for health sessions:	Collaborating with health professionals:	Timing in the day of sessions:	Is you answered 4 or 5 to the previous question, please state what time of day you consider to be optimal	Other, please state:	Positioning of group eg in rows, in a circle etc:	If you answered 4 or 5 to the previous question, please state what position you consider to be optimal:	Including social time as part of sessions:	Structure of sessions:	Duration of sessions:	If you answered 4 or 5 to the previous question, please choose the optimal duration of your singing for health sessions:	Other please state:	Frequency of interventions eg once/week:	If you answered 4 or 5 to the previous question, please choose the optimal frequency of your singing for health sessions:	Overall duration of the intervention eg 10 weeks, 1 year, ongoing.	If you answered 4 or 5 to the previous question, please choose the optimal duration of your singing for health sessions:	Participants choosing songs:	Having a theoretical framework:	Doing performances:	Not doing performances:	Providing teaching/learning aids:	If you answered 4 or 5 to the previous question, please tick which of the following you provide:
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5	1		1	30-50;50+	5	Accessibility is the most important. If it's not easy to get there then people won't come.	5	Non judgemental, inclusive, knowledgeable	3	3	3		Depends on your target market	3		5	3	3			5	Once/week	5	Ongoing	5	3	3	3	5	Lyrics;Recording s of songs;Recording s of exercises
4	5	21-25	2	Young adults 18-30;30-50; 50+	4	Hospital My ultimate aim is to have singing sessions running alongside clinics in	5	Being able to deal with people, complex moods as many people are poor	4	5	5	Early afternoon	Or late morning	4	Circle or semi-circle	4	4	4	1.5 - 2 hrs	1 hour to 45 minutes singing etc 15 minutes connect at start 5 minutes	4	Once/week	4	Ongoing	3	3	3	4	4	Lyrics;Sheet Music;Recording s of songs;Recording s of exercises

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5	4	11-15	3	50	4	Other medical setting eg GP surgery		5	Professional boundaries, empathy, listening and observation, knowing when and where to sign post, training in health condition, sense of humour and passion for com	4	4	5	Late morning		5	Circle or semi circle at least, so that everyone can see and be seen. Also a circle is inclusive and in musical terms the sound is directed into the circle and affects	4	5	5	0.5 - 1 hr		4	Once/week	4	Ongoing	2	5				
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4	3		2	Young adults 18-30; 30-50; 50+	4	Community Centre		5	good with people, positive, kind, welcoming, empathetic, good at holding the space, good at motivating and uplifting others, giving positive feedback and encouragement	4	1	3			4	an inclusive semicircular shape so everyone can see each other	5	4	4	1.5 - 2 hrs		4	Once/week	4	Ongoing	4	4	3	3	4	Lyrics; Recording of songs
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5	5	21-25	2	Young adults 18-30; 30-50; 50+	5	Re the optimal setting, it is different for different groups. Some find a community setting easier, others a healthcare setting. Ideally we would be able to provide both which	5	A solid training in the specific musical-physiological-psychological stuff, and equally important, the ability to read the room and support people with what they need in the	5		5		5		This also depends on the group you are talking about! General best time for people living with dementia seems to be late morning. It's much more variable for people	4	I much prefer a circle, as people can really engage with each other's expressions etc. I inherited one of my groups in a classic choir formation using a screen	4		4		4	1.5 - 2 hrs	1.5-2hrs but including a sizeable social break.	4	Once/week	4	Ongoing	3		4		2		2		2		
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5	4	11-15	4	30-50;50+	5	Community Centre		5	The ability to work with a group with various needs from each individual, and with adequate knowledge on how singing can have an impact on people experience	3	4	5	Early after noon	Late morning or late afternoon could also be a suitable time, depending on the group/individual	4	I feel circle would work better as it helped people to feel more inclusive and equal with one another. However, it may not be suitable with a bigger group.	4	4	4	1.5 - 2 hrs	Social time does not have to be long yet it is important	4	Once/week	5	Ongoing	5	4	3	3	4	Lyrics; Recording of songs; Recording of exercises
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3	4	11-15	3	Young adults 18-30; 30-50; 50+	3		5	being able to work with the group as a whole whilst keeping an eye on the individuals needs and accommodating for them in some form or other	3	4	3	it depends on the group what works best (depending on energy levels or how long it might take them to get ready)	4	circles work best for me	1	4	4	0.5 - 1 hr	0,5 to 1 hr for my long covid groups - 1 to 1,5 hrs for my other groups	3		3		4	4	1	1	3	
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4	3		4	50	4	Community Centre		5	To have knowledge of conditions specific to the participants needs	4	5	4	Early afternoon		3		5	5	5	1.5 - 2 hrs		4	Twice/week	5	Ongoing		3	5	2	4	3	
3	3		3	30-50:50 +	5	Community Centre		5	Consistency, high level of musical skill, reading the group, appropriate song choices	3	4	3			3		5	5	3			3		3		4	3	3	3	4	Lyrics;Sheet Music;Recording s of songs;Recording s of exercises	

5	5	11-15	5	50	5	Community Centre		5	Being able to deliver a great session	5	5	5	Morning		5	Circle	5	5	5	0.5 - 1 hr		5	Once a week	5	Ongoing	3	3				
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3	4	11-15	2	30-50	5	Community Centre		5	Ability to hold a space in a safe-feeling way Skills in teaching the songs in a clear and accessible way The use of inclusive language in order to allow those with low voc	3	1	5	Evening	My clients work 9-5, so that's why evenings are important for me	5	Singing in a circle (with the leader as part of the circle) is my ideal. It promotes a sense of equality	5	5	5	1.5 - 2 hrs		5	Once/week	3		1	4	1	5	3	
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3	4	21-25	3	Primary age children 4-11; Secondary age children 11-18; Young adults 18-30; 30-50; 50+	3		5	Communication, warmth, encouragement, subject knowledge, own involvement in performance	1	3	3		I offer late morning and evening sessions and singers are free to come to as many as they like during the week.	5	We rehearse in a circle to ensure i have contact with every singer and to encourage them to know each other.	5	3	5	1.5 - 2 hrs		5	Twice/week	5	Ongoing	3	3	4	4	4	Lyrics; Sheet Music; Recording of songs; Recording of exercises
5	3	5-10	1	30-50; 50+	2		3		3	4	5	Late morning		4	Circle	4	3	5	0.5 - 1 hr		4	Once/fortnight	4	Ongoing	5	4	3	3	5	Lyrics; Recording of songs

4	4	11-15	2	30-50	4	Community Centre	Cost feeling place; not clinical or institutional	4	Holding space; emotional intelligence; positive encouragement	5	3	5	Morning	Needs to not be in school runs /afternoon naptimes	5	Circle	5	3	4		Hour singing, half hour to socialise	5	Once/week	3		3	1	1	3	2	Recordings of songs
5	5	11-15	3	30-50;50+	4		Online	5		5	5	5	Early afternoon				4	4	4	1.5 - 2 hrs		4	Once/week	4	11-13 weeks	4	3				
5	4	16-20	3	30-50;50+	5	Community Centre		5	People skills, energetic & upbeat, great rapport with people with long term health	2	3	4	Early afternoon		4	Horseshoe	5	4	4	0.5 - 1 hr		4	Once/week	3	Ongoing	1	3	1	5	4	Lyrics

4	4	16-20	2	Primary age children 4-11; Secondary age children 11-18; Young adults 18-30; 30-50; 50+	4	Community Centre	Away from medical provision, level access good acoustic free parking, nice hot drinks all important	4	Welcoming, Inclusive, Flexible, good musical ear and sight reading ability, songwriting ability, ability to write and create arrangements which suit the voices present	4		4		4	Early afternoon	late morning OR early afternoon	4	Horse shoe or circle so everyone can hear and see each other	5		5		5	1.5 - 2 hrs	30 mins tea meet and greet 30 mins voice prep and tech 60 mins singing	4	Once/week	4	Ongoing	3		5		3		3		Lyrics; Sheet Music; Recording of songs; Recording of exercises
---	---	-------	---	---	---	------------------	---	---	---	---	--	---	--	---	-----------------	---------------------------------	---	--	---	--	---	--	---	-------------	--	---	-----------	---	---------	---	--	---	--	---	--	---	--	---

[illegible]

[illegible]

[illegible]

[illegible]

5	4	31	1	Young adults 18-30; 30-50; 50+	4	Community Centre		5		2	2	4	Early after noon		2		5	5	4	0.5 - 1 hr		5	Once/week	5	Ongoing	5	3				
5	3	11-15	1	30-50; 50+	4	Community Centre		5	Creating a safe space Adaptation Group Facilitator Understanding health needs Authenticity	4	3	3			3		5	5	5	1.5 - 2 hrs		1		5	Ongoing	4					
5	4	11-15	1	50	5	Community Centre		5	Group facilitation skills, teaching	3	3	4	Early after noon	Not too early in the day (meals, health)	5	Semi-circle to circle	5	5	5	0.5 - 1 hr		5	Once/week	5	Ongoing	3	3				

[illegible]

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Appendix 6: Practitioner Questionnaire Results: Section 3 (frequency)

See spreadsheet link https://docs.google.com/spreadsheets/d/1QsyxD0AQQbDB_hS8jwaSIUyLG6bw5M_cyA51UE3ygrs/edit?usp=sharing

Individual name d welco me	Greeti ng song	Groun ding exerci se(s)	Mindf ulnes s exerci se(s)	Postu re	Move ment	Breat hing exerci ses	Relax ation	Partic ular songs , song forms, song styles	If you answe red "Often " or "Alwa ys" pleas e descri be:	Them e for sessi ons	Impro visati on	Hum ming	Harm ony singin g	Song- writin g	Proso dy readin g (readi ng lyrics aloud)	Rhyth m exerci ses	Pitch exerci ses	Fricati ves	Face stretc hes	Voice exerci ses	Vowel exerci ses	Dyna mics (volu me) exerci ses
Often	Often	Always	Always	Always	Always	Always	Always	Often	I'm not sure what you mean by this ...	Sometimes	Rarely	Often	Often	Rarely	Rarely	Often	Sometimes	Always	Always	Always	Often	Often
Sometimes	Never	Often	Never	Always	Sometimes	Always	Always	Always	songs that encourage thoughtful and longer breaths	Rarely	Always	Sometimes	Always	Never	Sometimes	Often	Often	Always	Always	Always	Always	Never

Always	Never	Always	Always	Always	Always	Always	Always			Never	Never	Never	Never	Never	Never	Never	Never	Never	Rarely	Always	Always	Never
Always	Never	Always	Always	Always	Always	Always	Always	Always	We always sing songs	Sometimes	Sometimes	Often	Always	Sometimes	Often	Always	Always	Always	Always	Always	Always	Always
Often	Often	Always	Often	Always	Always	Always	Always	Sometimes		Sometimes	Sometimes	Often	Often	Sometimes	Often	Always	Always	Often	Often	Always	Always	Often
Always	Always	Always	Always	Always	Always	Always	Always	Always	Every session begins in the same way. Relaxation/ Grounding, followed by gentle movement, followed by breathing exercises, followed by a vocal warm up.	Sometimes	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes	Always	Always	Always	Sometimes	Sometimes

Sometimes	Sometimes	Always	Often	Always	Always	Always	Always	Always	Songs that are ideally suited to singing in groups and that can be learnt and harmonised easily to create an uplifting sound, eg rounds and simple part songs with call & response structure. Also songs chosen from a wide range so there	Sometimes	Sometimes	Rarely	Always	Sometimes	Rarely	Sometimes	Sometimes	Often	Always	Always	Often	Often
-----------	-----------	--------	-------	--------	--------	--------	--------	--------	--	-----------	-----------	--------	--------	-----------	--------	-----------	-----------	-------	--------	--------	-------	-------

									is something to appeal to all tastes, reflecting a mix of cultural backgrounds so that anyone joining should feel welcome.														
Often	Sometimes	Always	Always	Always	Always	Always	Always	Sometimes		Sometimes	Always	Always	Always	Often	Sometimes	Often	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	
Always	Always	Always	Always	Always	Always	Always	Always	Always		Often	Often	Always	Often	Often	Often	Often	Often	Often	Often	Always	Always	Always	
Sometimes	Rarely	Always	Often	Always	Always	Always	Sometimes	Often	I often use particular rounds and action songs in	Rarely	Rarely	Sometimes	Often	Rarely	Sometimes	Sometimes	Sometimes	Sometimes	Often	Often	Often	Rarely	

									warm ups													
Often	Sometimes	Always	Always	Always	Always	Always	Always	Often		Often	Rarely	Always	Sometimes	Rarely	Sometimes	Often	Often	Always	Often	Always	Often	Often
Sometimes	Never	Always	Always	Always	Always	Always	Always	Always	Songs that follow two short lines and one long line, to give time for inhale, and to extend exhale as much as possible or to adapt songs to include enough time for long steady inhale and exhale.	Rarely	Sometimes	Sometimes	Sometimes	Rarely	Often	Sometimes	Often	Often	Often	Often	Often	Often

Always	Sometimes	Always	Often	Always		Always	Often	Always	I use a variety . Call and response, rounds , songs in unison and songs with easy harmonies.	Rarely	Never	Sometimes	Often	Never	Never	Sometimes	Sometimes	Often	Often	Always	Sometimes	Sometimes
Always	Always	Always	Always	Always	Always	Always	Sometimes	Sometimes		Sometimes	Sometimes	Always	Often	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always	Always	Always	Sometimes
Always	Sometimes	Often	Sometimes	Always	Often	Often	Sometimes	Often	I teach young children, so they tend to like upbeat , jolly songs that they can sometimes sing as rounds . They also love	Sometimes	Sometimes	Sometimes	Sometimes	Rarely	Sometimes	Sometimes	Sometimes	Sometimes	Often	Often	Sometimes	Often

									gentle, though tful songs and songs where they can sing little solos.														
Often	Often	Somet imes	Rarely	Alway s	Alway s	Often	Often	Alway s	I teach both new and familia r songs (somet imes chose n by the group) but always includ e variety . We have a bookle t of familia r songs we revisit regula rly as the singer	Somet imes	Never	Often	Somet imes	Never	Somet imes	Rarely	Often	Never	Somet imes	Alway s	Somet imes	Rarely	

									s like this.													
Often	Sometimes	Often	Often	Often	Always	Always	Always	Often	it's about the rotation of different forms, eg. call and response, longer verse and chorus style, local folk songs, jazz, familiar, new, non-english words, relaxing songs, energising songs etc. But I have my song stash categorised	Rarely	Sometimes	Often	Always	Sometimes	Sometimes	Often	Sometimes	Always	Always	Always	Always	Often

									so I can quickly switch the plan around if everyone is very tired, or full of energy, or very confused, or the meds are slowing everyone down etc.													
Always	Never	Always	Sometimes	Always	Always	Always	Always	Sometimes	It's important to help the participants feel relax and ready to sing	Sometimes	Sometimes	Sometimes	Always	Rarely	Never	Rarely	Sometimes	Often	Rarely	Often	Often	Sometimes

Sometimes	Sometimes	Always	Always	Always	Often	Always	Always	Always	songs they feel connected to, songs that are suitable, songs that uplift, songs that allow progression	Sometimes	Rarely	Often	Often	Sometimes	Often	Often	Always	Always	Often	Always	Often	Often
Often	Never	Sometimes	Rarely	Always	Always	Always	Always	Always	It all depends on the group and how long I'm working with them (if it's a taster it works differently than a group you run for weeks	Sometimes	Sometimes	Always	Often	Rarely	Sometimes	Often	Often	Often	Sometimes	Always	Always	Always

[illegible]

Always	Rarely	Always	Always	Always	Always	Always	Always	Always	The beginning structure of session is always the same. Songs can vary after depending on which participants are attending.	Never	Rarely	Always	Sometimes	Never	Rarely	Often	Often	Always	Always	Always	Often	Often
Never	Often	Sometimes	Sometimes	Often	Often	Sometimes	Never	Often	Accessible to everyone a mix of cultures, styles eg round, simple harmonies, popular songs, unison songs, call	Sometimes	Never	Sometimes	Often	Never	Sometimes	Sometimes	Often	Sometimes	Always	Always	Always	Often

									and respon se														
Always	Never	Sometimes	Rarely	Always	Always	Always	Always	Always	Easy harmony songs	Never	Never	Always	Always	Never	Never	Never	Never	Always	Always	Always	Always	Sometimes	
Always	Never	Always	Always	Rarely	Always	Always	Always	Always	I almost always teach a round in a session as they work very well for my small groups (5-7 most weeks)	Sometimes	Never	Often	Often	Never	Never	Always	Never	Always	Always	Always	Never	Sometimes	
Always	Sometimes	Sometimes	Often	Always	Often	Always	Always	Often	Warm up songs chosen carefully to gradually extend outbreath. Other songs chose	Rarely	Rarely	Often	Sometimes	Never	Never	Sometimes	Sometimes	Always	Often	Always	Sometimes	Sometimes	

									n by groups													
Rarely	Never	Never	Never	Never	Always s	Never	Never	Often	The song list is divided into categories and people can choose a category and a song within the category.	Sometimes	Never	Never	Sometimes	Never	Never	Rarely	Never	Never	Never	Never	Never	Rarely
Always s	Always s	Always s	Always s	Always s	Always s	Always s	Always s	Always s	Songs are carefully chosen to enhance healthy breathing patterns, and can be a variety of styles, languages	Rarely	Sometimes	Always s	Often	Rarely	Rarely	Sometimes	Often	Often	Always s	Always s	Always s	Often

									ges, forms														
Always	Never	Always	Always	Always	Always	Always	Sometimes	Sometimes		Sometimes	Never	Often	Rarely	Never	Rarely	Rarely	Often	Often	Sometimes	Sometimes	Sometimes	Sometimes	
Always	Often	Always	Often	Always	Often	Always	Sometimes	Always	We do a lot of rounds and echo songs	Sometimes	Rarely	Sometimes	Often	Rarely	Sometimes	Sometimes	Often	Often	Always	Always	Always	Sometimes	
Never	Never	Sometimes	Never	Often	Rarely	Always	Never	Always	Round s at start; mix of songs - mood/ vocal range/ emotional tone/	Sometimes	Never	Always	Sometimes	Never	Never	Sometimes	Sometimes	Always	Often	Always	Always	Sometimes	
Often	Never	Always	Always	Always	Rarely	Sometimes	Always	Sometimes		Rarely	Sometimes	Sometimes	Often	Never	Rarely	Rarely	Sometimes	Sometimes	Sometimes	Always	Always	Sometimes	
Sometimes	Often	Rarely	Never	Sometimes	Always	Rarely	Often	Sometimes		Often	Never	Sometimes	Never	Never	Never	Always	Often	Never	Never	Always	Sometimes	Often	
Often	Often	Always	Sometimes	Sometimes	Sometimes	Never	Sometimes	Often	Affirmational songs. Simple songs with simple harmonies.	Rarely	Never	Sometimes	Always	Never	Never	Rarely	Never	Never	Rarely	Never	Never	Rarely	
Always	Always	Always	Always	Always	Often	Always	Always	Often		Sometimes	Rarely	Always	Often	Rarely	Sometimes	Sometimes	Rarely	Sometimes	Always	Always	Always	Rarely	

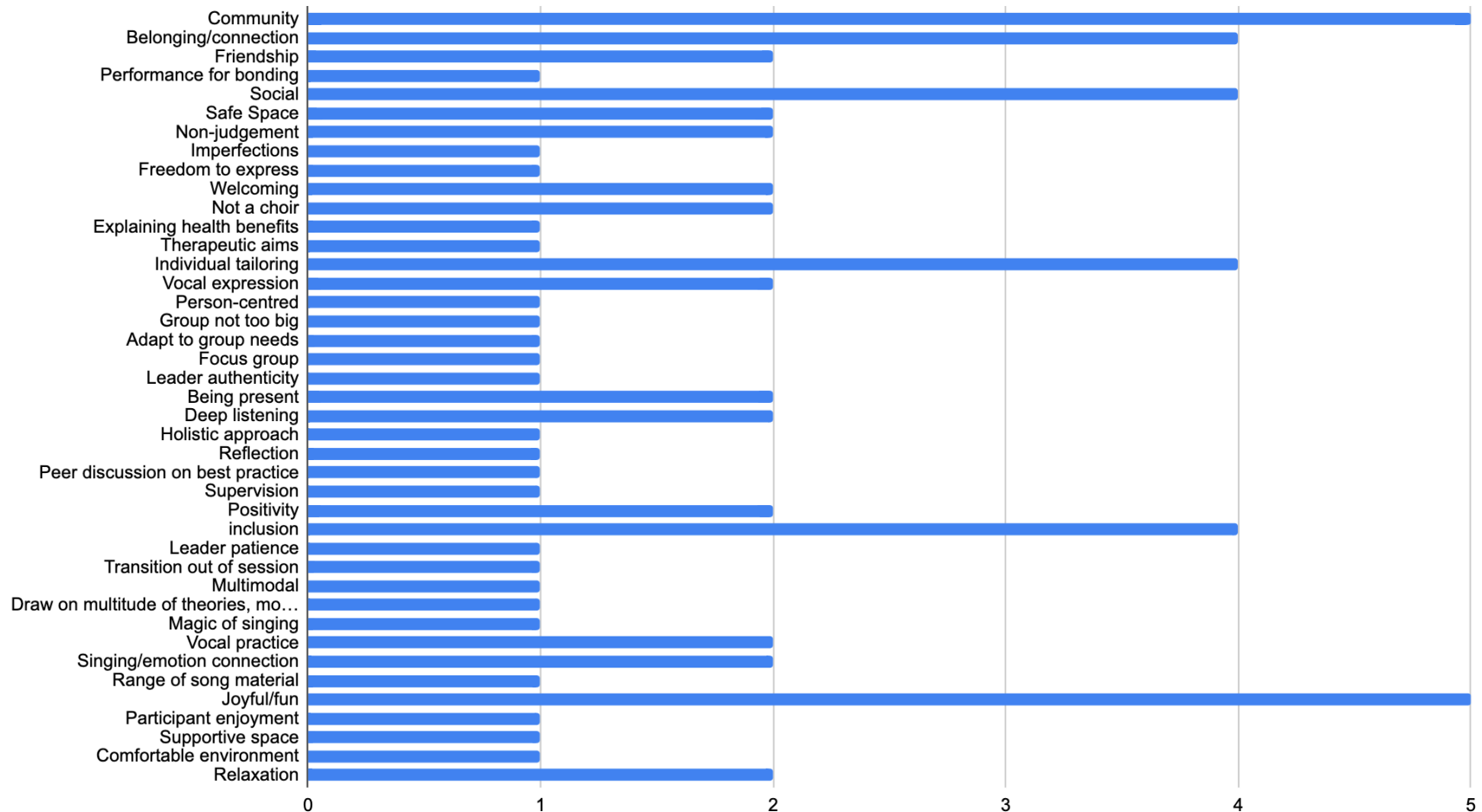
Always	Sometimes	Sometimes	Sometimes	Always	Always	Always	Often	Always	Major keys, 4/4 rhythms	Sometimes	Rarely	Rarely	Always	Rarely	Rarely	Sometimes	Rarely	Sometimes	Sometimes	Always	Always	Sometimes
Always	Sometimes	Always	Always	Always	Always	Always	Always	Always	All of the above, in a blended and carefully crafted journey!	Sometimes	Sometimes	Always	Often	Sometimes	Often	Always	Often	Always	Always	Always	Always	Always
Always	Sometimes	Always	Often	Always	Always	Always	Always	Always	Based on a wide choice of repertoire from folk songs to recently written pieces and including pieces chosen or written by the group	Sometimes	Sometimes	Often	Often	Often	Often	Sometimes	Often	Often	Often	Often	Often	Often
Sometimes	Often	Always	Always	Always	Always	Always	Always	Sometimes		Rarely	Often	Often	Often	Sometimes	Often	Always	Often	Always	Always	Always	Sometimes	Often

Sometimes	Never	Always	Always	Always	Always	Always	Always	Often	Natural voice style repertoire, a few familiar songs, improvisation and occasional song writing activities	Sometimes	Often	Sometimes	Always	Often	Rarely	Always	Always	Sometimes	Always	Always	Always	Sometimes
Always	Often	Often	Often	Often	Often	Often	Often	Sometimes		Rarely	Sometimes	Often	Often	Rarely	Never	Rarely	Rarely		Sometimes	Sometimes	Sometimes	Sometimes
Always	Never	Always	Always	Always	Always	Always	Rarely	Sometimes		Never	Never	Often	Never	Never	Never	Rarely		Often	Sometimes	Often	Often	Sometimes
Sometimes	Rarely	Often	Always	Often	Always	Always	Always	Always	Familiar songs to ground and grow confidence to start	Rarely	Sometimes	Sometimes	Often	Sometimes	Rarely	Often	Often	Often	Rarely	Always		Often
Often	Often	Sometimes	Often	Always	Always	Always	Always	Always	Songs that either enable breathing for breathl	Sometimes	Sometimes	Sometimes	Sometimes	Never	Often	Often	Sometimes	Always	Often	Always	Often	Often

									ess folk, or extend the outbre ath. Avoid songs about certain subjec ts, eg death														
Always	Never	Always	Always	Always	Always	Always	Always	Often	Using awareness of vocal range and phrase length to help support participants to have a positive experience.	Never	Sometimes	Often	Sometimes	Never	Sometimes	Sometimes	Often	Always	Always	Always	Always	Rarely	
Always	Sometimes	Always	Always	Always	Often	Always	Always	Often	Given the age of the group and the short time	Rarely	Rarely	Often	Sometimes	Never	Never	Rarely	Never	Always	Often	Always	Often	Sometimes	

Appendix 7: Practitioner Questionnaire: Section 4 (open qualitative question)

Results of open qualitative question



Appendix 8: Mapping Spreadsheet

Category	Definition	Sub-category 1	Definition	Sub-category 2	Evaluation method (individuals)	Evaluation method (group)
What?	Features relating to the nature of the intervention	Music	Music in different forms, genres, pre-composed or improvised vocal sound, accompanied or unaccompanied.	Song information eg genre, harmony, form, speed, solos		
				Harmony singing		
				Accompaniment instrument eg piano accomp, backing track, unaccompanied		
		Singing	Embodied music-making in all its forms, including somatic aspects relating to singing eg breathing exercises, relaxation, pitch exercises etc.	Performance		
				Posture		
				Breathing exercises		
				Movement		

				Voice exercises		
				Grounding exercise(s)		
				Relaxation		
				Mindfulness exercise(s)		
				Vowel exercises		
				Face stretches		
				Fricatives		
				Humming		
				Dynamics (volume) exercises		
				Rhythm exercises		
				Pitch exercises		
				Improvisation		
		Style of facilitation	Particular techniques employed to facilitate song-learning, engagement or participation eg teaching by ear, lyrics sheets			
		Entrainment and attunement	Coordination of many parts (breath, sound, musical phrases, heart rate variability)			
		Social time	Details of social time if part of intervention eg. 20 minute tea-break in the middle			

		Theoretical framework	Theories as foundation and justification for use of particular interventions			
		Structure of sessions	Having a particular structure or not for sessions eg Individual named welcome			
Who?	People present during SFH intervention or relating to accessing, signposting, supporting participants and facilitator	Facilitator	SFH facilitator/leader who facilitates singing interventions	Leader skills eg relevant music training, SFH training, health training, length of experience delivering SFH.		
				Collaboration with health professionals		
				Having help/support when leading singing for health sessions		
		Participants	Individuals taking part in the activity	Participant demographics eg. Age of participants, employment status, health status inc (dis)ability, diagnoses, singing history, song preferences, level of confidence with singing,		

		Group as an independent 'paramusical' concept (Camlin et al. 2020).	A sense of a group with its own identity to which participants may feel connected	Group size		
		Singing supporter	Carer or person who supports access to the SFH intervention			
		Signposter	Person who informs, signposts or refers intervention			
		Researcher				
		Supervisor	Person who supervises facilitator			
When?	Aspects relating to temporal factors of interventions	Time	Day/time of sessions			
			Duration of individual sessions			
			Duration of intervention			
			Frequency of intervention			
			Music itself taking place over a time period			
Where?	Aspects relating to the setting of the intervention	Space	The physical and cultural environment where interventions take place along with the wider environment a person inhabits.	Geographical location of singing for health sessions eg town centre, close to public transport etc		

				Setting where the singing for health sessions take place eg hospital, community centre		
				Positioning of group eg in rows, in a circle etc		
				Chairs		
				Lighting eg adjustable lighting		
				Disabled access		
				Toilets		
				Kitchen		
				Acoustic eg sympathetic acoustic for singing		
				Comfort		
				Parking		
Why?	Reasons for inclusion of features of intervention	Health symptom management	Specific health condition or general health and wellbeing	Lung health condition(s)		
				Mental health	Kessler-6 for anxiety and depression (Dingle et al. 2018)	
				Parkinson's Disease		
				Dementia/Alzheimer's /cognitive decline		

				Bereavement		
				Neurological conditions		
				Long Covid		
				Pain		
				Postnatal depression		
				Stroke		
				Stress		
				General health and wellbeing	WHO-5 for well-being	
		Safety	Experience of felt safety by participants		Neuroception of Psychological Safety Scale (NPSS) (Morton et al. 2022) 29-item with subscales of compassion, social engagement and body sensations	
		Self-determination/empowerment	Having a sense of agency over what one does	Participants choosing songs	Collective self-esteem scale (Luhtanen and Crocker, 1992). It is Likert-type 7 point scale, consisted of 16-items.	
				Supporting singing outside of intervention eg. Providing teaching/learning aids		

		Participation	The extent to which someone involves themselves in an activity		36-item measure identified five discrete dimensions: mood and coping, esteem and worth, socialization, cognition, and self-actualization (Krause et al. 2018)	
		Relationships: intra and interpersonal, intercultural, inter-musical	Connections between people and themselves, others and their wider context. May be different within intervention from wider context. Musical relations may also be distinct from social relationships		EQ-5D quality of life, from which a health economic evaluation can be derived	Music performance evaluation
		Entrainment/attunement	Coordination of many parts (breath, sound, phrases, heart rate variability)		Entrainment/attunement	Music performance evaluation
How?	How the intervention is accessed, funded and other practical access features of intervention	How did participant find out about intervention?				
		How is intervention funded?				

Appendix 9: Theoretical Framework Version 1

Bridging the gaps: creating a theoretical framework for Singing for Health research and practice

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Glossary of terms/abbreviations:

SFH - Singing for Health

TF - Theoretical Framework

CoMT - Community Music Therapy

MT - Music Therapy

HRV - Heart Rate Variability

SDT - Self Determination Theory

CET - Cognitive Evaluation Theory

Introduction

Singing for Health (SFH) is a developing field with research demonstrating the health benefits of singing for a wide range of health conditions: lung health (Lord et al. 2012; McNaughton et al. 2017), Parkinson's (Evans et al. 2012; Stegemöller et al. 2017), dementia (Osman et al. 2016; Hammar et al. 2011), mental health (Coulton et al. 2015; Tavormina et al. 2014), feelings of belonging (Pearce et al. 2016), social connection (Livesy et al. 2012), improved immunity in cancer patients (Fancourt et al. 2016), postnatal depression (Perkins et al. 2018), increased heart rate variability (HRV) (Bernardi et al. 2017) and mental health and wellbeing (Clift et al. 2017, 2018; Williams et al. 2018).

A theoretical framework for research has been likened to “the blueprint for a house” (Grant and Osanloo 2014), serving as foundation, structure and support for knowledge and research and reflecting the researcher's ontological standpoint (Grant and Osanloo 2014). An identified limitation in SFH research is a lack of agreed or established theoretical framework (TF) (Clift et al 2010, 2012; Hendry et al 2022) with negative implications for the validity of SFH research and the credibility of the field (McCrae 2012). More importantly, a lack of standardised or agreed TF creates a gap between research and practice, with neither informing the other. A TF is also fundamental in providing a lens through which to understand and appropriately evaluate the effectiveness of interventions.

Unlike other health research, the main proportion of SFH research interventions have been carried out among choirs and in group singing settings (Daykin 2012; Camlin et al. 2020). Recognition of social factors' impact on individual health and wellbeing outcomes has led to the introduction of social prescribing in the National Health Service (NHS) in the UK, where the concept of health is regarded as a result of social, economic and environmental factors including self-determination, with “community-centred” health described as a key determinant in reducing health inequalities (Website: gov.uk/social prescribing). This point is also made in the WHO Arts and Health report Fancourt and Finn (2019) which provides extensive evidence that arts participation supports health outcomes as well as being an underutilised resource. Their scoping review of arts and health interventions includes recommendations for more collaboration between culture, health and care, introducing or strengthening communication and referrals from health to arts programmes and including training in

the arts for health professionals. A robust TF is an important step in underpinning these recommendations.

Acknowledging the limitation of individualised medical models in their applicability to a group activity such as singing, as well as the lack of standard TF for SFH, our TF has been developed as follows:

1. Definitions of terms 'theoretical framework' and 'health and wellbeing'. Significantly, we give a definition of SFH which to date has not been done, drawing upon other group-relevant theories from Community Music Therapy (CoMT), Dance therapy, Drama Therapy, Social Models of arts and health, Public Health, Exercise Psychology, Attachment Theory, Polyvagal Theory, Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET).
2. This theoretical basis for defining SFH has been combined with results from a questionnaire of SFH practitioners to ensure relevance and coherence for both research and practice.
3. From our definition of SFH we have identified agents of therapeutic change in SFH.
4. Agents of therapeutic change, which have been mapped onto results from a questionnaire of SFH practitioners regarding their practice to ensure coherence and practicability of our TF.
5. From identified themes proposes means and themes for evaluation of outcomes.
6. Evaluation recommendations have been mapped with recommendations from public health and social prescribing (Daykin 2012).

Definitions

Theoretical Framework

A TF can be defined as a synthesis of established theory derived from relevant research literature to provide a basis for all aspects of research from the question or hypothesis at hand, to the analysis and interpretation of research findings, informing recommendations for future research (Kivunja 2018). It is via a TF that a relationship with practice can be forged and developed with each informing the other to establish, describe and explain phenomena (Varpio et al. 2020). A theoretical framework can also provide a common language for interdisciplinary collaboration (Newman 2003), a pertinent point for SFH which sits among health, community and arts fields (Daykin 2012).

Health and wellbeing

It is essential to define health and wellbeing in order to adequately address them in our TF. Definitions are essential to clarify what we are addressing and evaluating for the purposes of research and practice.

Background

Definitions of health have evolved over time incorporating different concepts, theories and political objectives. An important development in defining health was the World Health Organisation's (WHO) definition of health as extending beyond the traditional biomedical model of health as the absence of disease or ill-health to incorporate physical, mental and social wellbeing (WHO 2024). More recently in a post-Covid context where health inequalities were thrown into stark relief (Kings Fund 2022) the concept of health has been developed to include a social and community context with the idea that a healthy community leads to healthy individuals (Gov.UK, Social Prescribing). Regarding health more holistically as community-centred is seen as a key component to reducing health inequalities and supporting marginalised and vulnerable people (Gov.UK, Social Prescribing).

Wellbeing is a term often used in conjunction with the term 'health' and has no widely agreed definition (Daykin 2012) however it concerns the meaning and definition of what it is to be well and how to live a good life (Ryff et al 2021). The ancient Greek roots of wellbeing describe hedonic wellbeing: the goal of achieving the most pleasure possible and extracting maximum enjoyment from every situation (Ryff et al 2021) in contrast to eudaimonic wellbeing: living a life of the highest virtue and achieving our individual potential (Ryff et al 2021). These approaches and distinctions continue to have resonance, with Deci and Ryan (2001) further clarifying hedonic wellbeing as dealing with happiness and eudaimonic wellbeing addressing human potential. This eudaimonic approach has parallels with Hettler's model: Six Dimensions of Wellness (1976) which views wellbeing as a multidimensional, holistic state of "functioning optimally within your current environment" (National Wellness Institute 2023). Six dimensions of wellness are identified which affect each other with the model hypothesising that improvements in one dimension often relate to improvements in others (National Wellness Institute 2023). Additional dimensions of economic and environment factors can extend this model, recognising their impact on health wellbeing (Wickramaratne 2018).

The WHO definition considers subjective wellbeing as being synonymous with positive mental health defining it as:

"A state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO 2001).

All the above definitions of health and wellbeing consider it a subjective, individualistic state. This is potentially problematic when relating to an activity such as singing and singing for health largely taking place in a group. Traditional health models based on an individual or one-to-one basis are inadequate and incoherent with group processes. Another limitation of these models are that they are underpinned by critical realism and an individualistic ideology where wellbeing is the result of an individual's decisions and behaviours. Correspondingly, ill health and the absence of wellbeing demonstrate a failure to self-govern one's behaviour and body (Hall 2010).

Dynamic, relational and spatial concepts of health and wellbeing

There has been a move away from a phenomenalist, human-centred approach towards social constructivist and non-representational concepts of wellbeing drawn from the fields of geography of health and social sciences (Andrews et al. 2014). Here health and wellbeing are considered dynamic, affective and relational involving people, places and the relations between them (Fleuret and Atkinson 2007; Andrews et al. 2014). This has a theoretical strength in that health and wellbeing are understood through an ongoing interactive engagement with people and places (Andrews et al. 2014) rather than a traditionally competing dualist subjective/objective lens.

Another example of a relational approach to health and wellbeing is Social Identity Theory (Tajfel and Turner 1979) where group identity and a sense of belonging to a group contribute to health benefits for individuals (Hall 2010; Hendry et al 2022). Group identity can be considered more important than self-identity, having a powerful effect on confidence, empowerment and health and wellbeing. CoMT also draws on a similar concept whereby health is an exploration of relations between an individual, their community and environment with each affecting the other.

Spaces of Wellbeing Theory (Fleuret and Atkinson 2007) aims to capture what it is to live within a particular body at a particular time and relationships between individuals and their social and spatial context for a fuller concept of health. Four lenses to understand wellbeing are identified: spaces of capability – how physical and social spaces enable mobility and positive social experiences; integrative spaces – whether/how social networks build self-esteem and interpersonal appreciation; spaces of security – whether/how social networks promote understanding and protection danger (human, environmental); therapeutic spaces– how a place promotes health, healing and wellbeing (Hall 2010 on Fleuret and Atkinson 2007). This approach is gaining traction in public health approaches with recommendations by NHS England that social prescribers evaluate non-clinical interventions by measuring the impact on the person, the impact on the group and the impact on the health system (NHS England, social prescribing summary guide, 2020). An important feature addressed here is the impact of ‘spaces of capability’ on health and wellbeing. It recognises how a physical space may or may not enable access, promote inclusion and a sense of safety, particularly for vulnerable or marginalised groups. It also contains relevant temporal aspects to access and inclusion, such as timing of an intervention, as well as frequency and duration of a health intervention, likely to impact on health and wellbeing outcomes. These factors are significant to addressing health inequalities, which disproportionately affect ethnic minorities, people with disabilities, people with learning difficulties and homeless people (The King’s Fund 2022). Spaces of Wellbeing Theory may also aid in addressing an inherent bias in SFH research and practice which involves people who actively want to take part in singing. Those who feel unable to sing self-exclude therefore barriers to singing participation are not being identified with corresponding limitations to health and wellbeing.

Self-Determination

Another important concept for health and wellbeing referred to in multiple group fields and models of health and wellbeing (HSE Living Well with a Chronic Condition; Hettler’s Six Dimensions of Wellness (Hettler 1976); Social Models (Daykin 2012) Exercise Psychology Frameworks (Biddle et al 2009) and

Community Singing (Hendry et al. 2022), is that of self-determination and how it contributes to health and wellbeing. This is referring to a sense of autonomy and empowerment and is becoming a central tenet of health care and practice in the UK under the term 'personalised care' (NHS England, Personalised Care 2024). Self-Determination Theory describes three fundamental human needs: autonomy, competence and connection (Deci and Ryan 2000) and is a core component of a community group singing model (Hendry et al. 2022) demonstrating how group singing fulfils those needs as well as providing a theme for evaluation. A sub-theory of SDT is Cognitive Evaluation Theory (CET) explaining motivation and how it is affected, positively and negatively by social and environmental factors. Support for autonomy from significant people results in higher intrinsic motivation, as opposed to controlling behaviours such as punishment or rewards which results in lower intrinsic motivation. This is especially relevant to SFH regarding who is motivated to take part in singing and corresponding research.

Participation

Related to self-determination, participation can be understood as a central factor relating to health and wellbeing with increased participation in one's own health and wellbeing and social and cultural context relating to increased health and wellbeing. It ties in with empowerment and social capital with high levels of participation demonstrating shared norms, reciprocal trust, a network of relations and high social capital (Daykin 2012 on Putnam 1995, 2000). This in turn increases access to support and health services which can reduce health inequalities, enhance social role and give a greater sense of control. Participation in arts therapies can also provide opportunities for identity construction, placing an individual within their context, which plays an important part in access to, views towards and participation in arts therapies. Participation can also be a useful way of evaluating health and wellbeing from different perspectives: participant, facilitator, wider community eg health professionals, family (Daykin 2012) as a means of identifying health and wellbeing outcomes relating to personal, interpersonal and environmental aspects.

Safety

Safety emerged as an important theme for arts practitioners working in a mental health setting (Daykin 2012) and when dealing with vulnerable people (Hall 2010) with potentially volatile behaviours and people on medication (Daykin 2012). Safety is also a central feature in Polyvagal Theory (Porges 2009) relating to optimal nervous system functioning. Similarly in Spaces of Wellbeing theory there is the concept of 'Spaces of Security' relevant for participants and practitioners (Fleuret and Atkinson 2007). In our practitioner questionnaire, although not explicitly asked about their attitudes towards safety it did emerge as a theme in the final open, qualitative question by three participants. However, attitudes towards having help/support when leading singing sessions show that the most common response is 'Neutral' by 38% of practitioners. This may reflect a lack of consideration for personal safety or professional insecurity (Daykin 2012).

Drawing from these theories and disciplines we will work with a holistic concept of health and wellbeing relevant to the complex and holistic activity that is therapeutic individual and/or group singing, defining health and wellbeing as:

- a dynamic, multi-dimensional state on a continuum from intrapersonal to interpersonal to intercultural;
- incorporating biological, psychological, social, environmental, cultural and spatio-temporal factors.
- Self-determination, participation and safety are important themes affecting health and wellbeing outcomes with implications concerning evaluation.

Singing for Health

“Men sang out their feelings long before they were able to speak their thoughts” (Jespersen 1922: 434–36 in Monson 2022)

The concept of singing having therapeutic powers has a long history however it is in the last twenty years that there has been a burgeoning of research into whether or not singing improves health and wellbeing outcomes with promising research regarding particular health conditions. The majority of this research concerns clinical care based on individualistic medical models (Daykin 2012) yet conducted in a group singing context. This is demonstrably inconsistent and raises the question of the appropriateness of individual models to accurately understand a group activity (Camlin et al. 2020). Similarly, most of the research has little detail of the specifics of the singing interventions (Routledge 2023). This lack of detail is problematic for isolating research variables, compounded by the complexity of a group setting and the fact that by its nature it is impossible to conduct randomised blind trials, the gold standard of medical research (Clift et al. 2010). (There are some notable exceptions: singing for lung Health, which details a standardised protocol including breathing, relaxation, vocal and music exercises as well as song examples; Hendry et al’s (2022) model for community group singing).

Singing

Singing is obviously central to SFH with a common definition as “the act of producing musical sounds with the voice” (Wikipedia 2024; Cambridge Dictionary 2024) with different genres and cultural contexts in which singing takes place. Pulling this apart we have: the embodied act of musical vocalising involving complex interactions between multiple biological systems: respiratory, laryngeal, resonance, articulation and complex neural networks (Kleber and Zarate 2014). These have significant implications for health, which have been particularly explored in singing for lung health (Lewis et al. 2018), singing for Parkinson’s (Tamplin et al. 2021) and singing for mental health (Shakespeare and Whieldon 2017). We have the music: songs, song forms and genres disseminated via aural and written traditions (Aigen et al. 2018). Finally we have the cultural significance of songs and types of singing which may have particular meaning or reference to life events, self-identification and group-identification (Camlin et al. 2020).

Group

The role of the group with respect to health and wellbeing is important to SFH as much of the research and practice involves group work. Psychodrama is a relevant comparison and more recently

understood as a form of group psychotherapy (Yehoshua and Chung 2013). In group therapy it is the group itself which is considered to be the agent for therapeutic change, in contrast to individual therapy where it is the therapist who is identified as the agent of change (Bakali et al. 2010). There are parallels here with the role and relationship between patient/therapist serving as a differentiator between Music Therapy and CoMT (Aigen et al. 2018) to be discussed further when considering the role of a SFH facilitator.

A definition of group singing by Camlin et al (2020) describes group singing as requiring social engagement within a multifaceted context. It is an act of co-creation and a continuous negotiation to create a collective cultural expression via vocalised, embodied music-making which results in "‘paramusical’" (Camlin et al. 2020) effects. These ‘paramusical’ effects are further described as an ‘adaptive complex’ where single features are amplified in conjunction with others (Camlin et al. 2020 on Whiten 2007); the output is greater than the sum of its individual parts. Hettler (1976) assigns this as a “spiritual” dimension of wellness (Hettler, 1976) further elucidated as an appreciation of and connection with life, natural forces and the universe (Hettler 1976). This may be attributed to the well-documented sense of connection and belonging people feel after singing together (Clements-Cortés 2015; Livesy et al. 2012). This experience goes beyond an emotional or psychological state to have empirically measurable consequences with large group singing resulting in increased pain threshold (Weinstein et al. 2016). An evolutionary explanation is that human survival relied on group membership. A neurobiological explanation is provided by Social Pain/Physical Pain Overlap Theory, originally proposed by Herman and Panksepp (1978) with further research suggesting shared neural underpinnings between hurt feelings and physical pain (Eisenberger and Lieberman 2004) suggesting that feelings of belonging and connection would have a corresponding effect on biological wellbeing. A psychological understanding is provided by attachment and polyvagal theories, where nervous system functioning relates to bonding with secure bonds resulting in ventral vagal nerve functioning and feelings of safety and receptiveness as opposed to fight, flight, feint or freeze responses (Wagner and Hurst 2018).

Facilitator

The role of the singing facilitator/leader/therapist has been shown to have considerable importance by research literature (Daykin 2012) and SFH practitioners (See Table 1). In Music Therapy (MT) (and most medical models) the therapeutic relationship between individual and therapist is understood as the major agent of change. CoMT challenged this perspective believing that music is a “natural agent of health promotion” (Aigen et al. 2018, p141) and defining individual health as being intrinsically connected to their ‘ecology’. Therefore the role of the CoMTherapist is to take people outwards, from individual music-making to group/social music making to extending into public environments. Wellbeing is conferred on all participants from the music-creators and to those participating by listening. This provides a powerful way of understanding the role of a SFH facilitator mediating multiple relationships: intrapersonal within individuals and how they connect to their own vocalising; interpersonal within group members via singing together; musical relations by facilitating and negotiating relationships between individuals to songs and the group’s relationship with music and song; interpersonal within a community context via performance; interspatial by facilitating relations of individuals and the group within their ‘ecology’. It has wider theoretical justification from Spaces of Wellbeing Theory, Psychodrama, attachment and polyvagal theories and SDT.

Leader skills similarly emerged as the most important factor in our SFH practitioner questionnaire with 86.67% respondents considering them extremely important, the response with the smallest variation in responses (Sdev). Given the respondents are themselves facilitators there is undoubtedly bias around their own significance, but overall the role of facilitator plays a central role in the effectiveness or not of a SFH intervention.

Performance

There are theoretical justifications for including performance when considering health and wellbeing relating to community, culture and environment as in social models of health, along with CoMT's recognition that an essential aspect of music is to be expressed as sound and to be heard (Aigen et al. 2018). Cultural anthropology understands performance as an essential element in building community and practising social roles (Camlin et al. 2020), an important factor in our understanding of health and wellbeing. Performance can also play a powerful role in both empowering individuals (Hall 2010) and raising their social capital within their community (Daykin 2012) with corresponding positive effect on health and wellbeing. In contrast, our SFH questionnaire results regarding performances yielded inconsistent results with 50% of practitioners indicating a neutral stance regarding not doing performances compared to 39.47% regarding doing performances. This may reflect some confusion around the questions or reflect concerns around inducing performance anxiety (Shaw et al. 2020). Overall, the theoretical justifications demonstrate performance as an essential feature of SFH practice, as in CoMT, with appropriate sensitivity and support to empower individuals to develop from singing privately within a group to singing within a wider 'performative' community context.

Performance may also provide us with a coherent and relevant group measure relevant to therapeutic group singing, as opposed to measuring individuals.

From the aspects discussed we can define Singing for Health as:

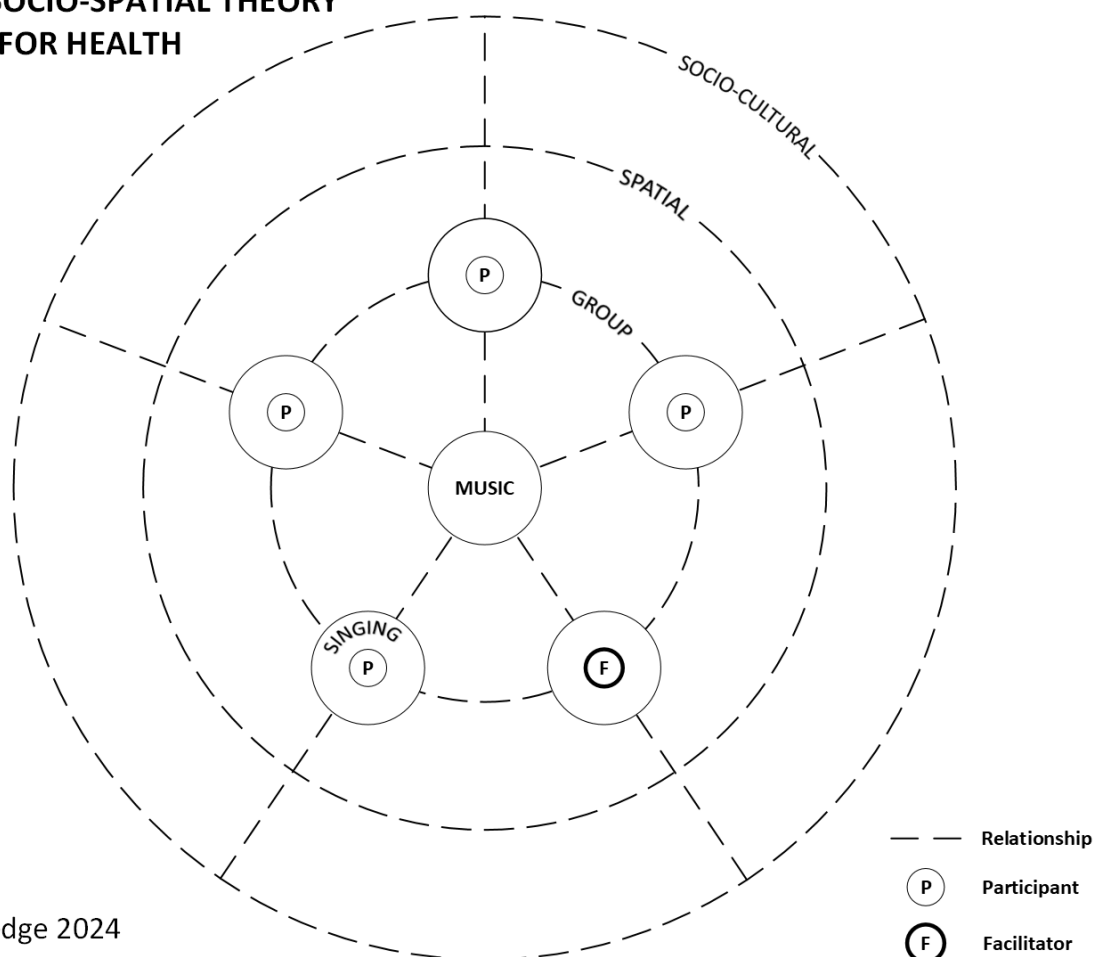
- Embodied, musical vocalising mediated by music and a facilitator which occurs in a one-to-one, group, cultural, social and/or public setting.
- A socio-cultural activity connecting an individual to their own body and identity, other singers in a group context, and their community and cultural context in a performance context;
- A spatio-temporal activity influenced by factors affecting inclusion such as access, timing etc.

Therapeutic agents of change in SFH

Combining our earlier definitions of health and wellbeing and SFH we may identify what are the therapeutic agents of change relevant to SFH with implications for research, practice and evaluation of outcomes to create an Embodied Socio-Spatial Theory of SFH, visualised in the below diagram:

A Theoretical Framework for SFH

EMBODIED SOCIO-SPATIAL THEORY OF SINGING FOR HEALTH



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The theory or model here is describing the relations between different therapeutic agents of change with Performance, Participation and Self-Determination being additional key themes for understanding and evaluating the relations described in the model.

- ☐ Music is at the heart as a concept dependent on its realisation by 'Participants' who create, co-create and interact with music via Singing.
- ☐ 'Singing' is embodied music-making in all its forms, including any of the somatic aspects relating to singing such as breathing exercises, relaxation, pitch exercises etc. In SFH the singing may take place in a one-to-one setting with a facilitator, although more commonly in a Group setting. It has a strong Socio-Cultural component given culture-relevant songs, styles and genres.

- ☐ The Group consists of Participants and Facilitator but exists as an independent 'paramusical' concept.
- ☐ The 'Spatial' context is where the group occurs, taking a wide definition of 'space' to include physical space, functional role, temporal features, access-to and safety within. The 'Spatial' context exists within and relates to a wider 'Socio-cultural' context.
- ☐ The 'Socio-cultural' context has a wide definition to include interpersonal relationships and contexts, cultural contexts, role and environment.
- ☐ The Facilitator moves between the different elements as required to mediate and support the various and varied relationships via the medium of singing: participant - music; participant - singing; participant - participant; participant - group; participant - spatial context; participant - socio-cultural context. The eventual aim being for the Facilitator to no longer be required and all Participants to be interacting with the elements independently or in a mutually supportive capacity.
- ☐ The dotted lines connecting the elements indicate dynamic relationships between them, demonstrating that health and wellbeing are affected by all of them.
- ☐ The overall shape and form of the model is also attempting to represent the way that music and embodied music (singing) is experienced by people in their varied roles and contexts.

Evaluation Recommendations

From identifying the therapeutic agents relevant to SFH and integral features of health and wellbeing, we may now combine these with suggestions for ways in which to evaluate them. Importantly, these may also be mapped to Public Health recommendations that non-clinical interventions are evaluated by measuring the impact on the person, the impact on the group and the impact on the health system (NHS England, social prescribing summary guide, 2020), with an excellent practice example provided by Daykin's (2012) case study of an arts intervention in a mental health setting, with reflective practice identified as an important feature of Facilitator evaluation (Daykin 2012):

Therapeutic Agents	Evaluation means	Measured by:
Music	Performance	Participant(s), Facilitator, Socio-cultural (audience)
Singing (Embodied music-making)	Performance, Biopsychosocial measures.	Participant(s), Facilitator, Socio-cultural (eg. health professional)

Individual	Safety, Participation (ROPP questionnaire), Self-determination, Performance	Participant(s), Facilitator, Socio-cultural (eg.family member, carer)
Group	Safety, Participation, Self-determination, Performance	Participant(s), Facilitator, Socio-cultural (eg. family member, carer)
Facilitator	Safety, Participation, Self-determination, Performance, Reflective practice	Participant(s), Facilitator,
Spatial context	Safety, Participation, Self-determination, Performance	Participant(s), Facilitator, Socio-cultural (eg. family member, carer)
Socio-cultural	Participation, Self-determination, Performance	Participant(s), Facilitator, Socio-cultural (eg. family member, carer, health professional)

Mapping our Embodied Socio-Spatial Model to Practice

Our model has been developed from combining theoretical considerations with data from SFH practitioners. It can in turn be validated by mapping the identified themes and features onto the data from our SFH practitioner questionnaire, which can be seen below in Tables 1 and 2.

Final considerations

The TF developed here is intended to provide the first step in an ongoing dialogue between SFH research and practice so that both may continue to inform each other and the credibility of the field is built and integrated into healthcare.

Specific evaluation tools such as relevant questionnaires need to be identified or developed to ensure the practicality and relevance of the framework for researchers and practitioners, so that their fields are complimenting each other, contributing to research gaps and, fundamentally, so that more people may have access to the potential benefits of SFH.

Appendix 10: Theoretical Framework Version 2

An Embodied Socio-Spatial Framework for Singing for Health

This framework aims to provide a practical framework for Singing for Health (SFH) research, practice and training of SFH practitioners. Additionally it defines the essential components of SFH practice by combining data from research and practitioners on the ground. It draws together findings from three sources:

- SFH research literature;
- SFH practitioners via a questionnaire about themselves and their practice;
- SFH professionals, highly well-regarded in their specialist areas of research, practice and a combination of both, as well as representing expertise in SFH for particular health conditions.

Justification

SFH is an emerging field of research and practise with much development in both areas (Dingle et al. 2019), yet little dialogue between the two sectors. A theoretical framework for research has been likened to “the blueprint for a house” (Grant and Osanloo, 2014), serving as foundation, structure and support for knowledge and research. It can be defined as a synthesis of established theory derived from relevant research literature to provide a basis for all aspects of research from the question or hypothesis at hand, to the analysis and interpretation of research findings, informing recommendations for future research (Kivunja, 2018). It is through a theoretical framework that a relationship with practice can be forged and developed, providing a framework for theory and practice to inform each other. The absence of an agreed or established theoretical framework is an identified limitation in Singing for Health (SFH) research (Clift et al 2010, 2012; Hendry et al 2022) with negative implications for the validity of SFH research and the credibility of the field (McCrae 2012).

For practitioners a TF provides a strong theoretical basis for practice supporting justifications for funders and other stakeholders. Additionally, it defines the boundaries of practice, important for the safety and wellbeing of practitioners and participants in this unregulated and emerging field.

How?

This TF has been created by extracting themes relevant to SFH from research literature, including providing definitions of health and wellbeing and SFH. Additionally essential features of SFH practise were identified. These themes and features were then mapped to data from a questionnaire of SFH practitioners. A TF version 1 was created and sent to three SFH professionals with a feedback questionnaire. The SFH professionals are known as leaders in the field representing SFH research,

SFH practice and SFH research and practise combined. They also have particular expertise relating to singing for lung health, singing for cognitive decline (dementia, Alzheimer's), singing for pain and singing for mental health. Following their recommendations a TF version 2 was implemented, presented here as a '5Ws and 1H' framework: the What? Who? Where? When? Why? And how? For SFH research, practise and training.

Defining Health and Wellbeing

The health and wellbeing definition here moves away from an individualistic concept of health to understanding health and wellbeing as involving a person within their socio-cultural and environmental context in space and time. Drawing from fields of Geography of Health, Psychology, Public Health and Arts and Health it can be defined as:

- A dynamic, multi-dimensional state on a continuum from intrapersonal to interpersonal to intercultural (Spaces of Wellbeing Theory (Fleuret and Atkinson, 2017; Social Identity Theory (Tajfel and Turner, 1979); INNATE framework (Warran et al. 2022)).
- Incorporating biological, psychological, social, environmental (Hettler 1976), cultural and spatio-temporal factors (INNATE framework (Warran et al. 2022; Spaces of Wellbeing Theory (Fleuret and Atkinson, 2017)).
- Safety (Polyvagal Theory (Porges, 2022)) self-determination (SDT (Deci and Ryan, 2000)), and participation (Warran et al. 2022; Daykin, 2012) and relationships (Camlin et al. 2020) are important themes affecting health and wellbeing outcomes with implications concerning evaluation.

Defining Singing for Health

This definition is drawn from SFH literature, acknowledging that it is a holistic, complex and adaptive activity affected by many factors.

Singing for Health is:

- Embodied, musical vocalising mediated by music and a facilitator which occurs in a one-to-one, group, cultural, social and/or public setting.
- A socio-cultural activity to safely connect an individual to their own body and identity, other singers in a group context, and their community and cultural context in a performance context;
- A spatio-temporal activity influenced by factors affecting inclusion such as perceptions of safety, access, timing, physical and social environment.

Active Ingredients in SFH

The following themes have been identified as thematic active ingredients in SFH (Warran et al. 2022), having an impact on health and wellbeing outcomes. This is not an exhaustive list and the different ingredients interact and affect each other. They have been identified from the fields of Community Music Therapy, Psychodrama, Arts and Health research, Geography of Health, Psychology, Trauma, Health and Wellbeing frameworks:

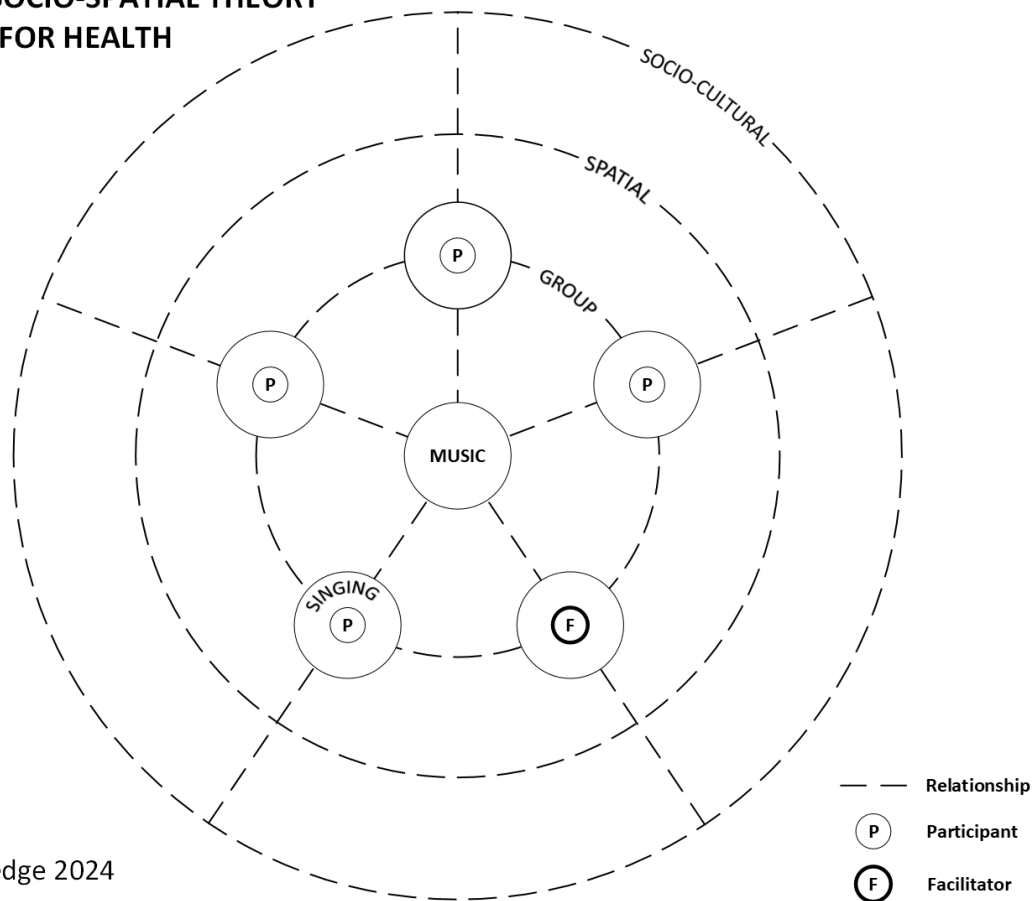
Active Ingredients	Theoretical Justification
Music eg songs, improvisation	Community Music Therapy, Aigen et al. 2018
Participants	Young, 2018; Aigen et al. 2018; Hall, 2010
Singing as embodied music-making	Kleber and Zarate, 2014; Paparo, 2016; Fancourt, 2017.
Entrainment (musical synchrony) and attunement: (neurobiological synchrony) coordination of many parts (breath, sound, phrases, heart rate variability)	Vickhoff et al. 2013; Bernardi et al. 2017; Camlin, 2019.
Group	Psychodrama, Yehoshua and Chung, 2013; INNATE Framework, Warran et al. 2022; Camlin et al, 2020
Facilitator	Dingle et al. 2019
Performance	Community Music Therapy, Aigen et al. 2018
Space eg the physical and cultural environment where interventions may take place along with the wider environment a person inhabits.	Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017; INNATE Framework, Warran et al. 2022.
Time eg as time may affect access, duration of individual sessions, duration of intervention and music itself taking place over a time period	Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017; Hall, 2010.
Safety	Polyvagal Theory, Porges, 2022; Attachment Theory, Howe, 2012) Spaces of Wellbeing Theory, Fleuret and Atkinson, 2017
Self-determination	Self Determination Theory, Deci and Ryan, 2000; Six Dimensions of Wellness, Hettler, 1976

Participation	Daykin, 2012
Relationships: intra and interpersonal, intercultural, inter-musical	Dingle et al. 2019; Social Identity Theory, Tajfel and Turner 1979.

The active ingredients are separated into those which describe what happens in a SFH session (top section) and those active ingredients which are particularly affected by previous experiences and histories (lower section), which also provide lenses through which to understand and evaluate the active ingredients in the upper section.

The framework can be demonstrated in the below diagram with detailed explanations of the different elements following:

EMBODIED SOCIO-SPATIAL THEORY OF SINGING FOR HEALTH



5Ws and 1H: what? who? where? when? why? how?

In finding a suitable framework coherent with research and practice, the '5Ws and 1H' framework taken from journalism has been applied. It has the advantage of making investigative aims explicit by using interrogative questions without complex terminology, so suitable for researchers, practitioners and participants alike. Themes identified above from research literature have been mapped to the 5Ws and 1H, however it is important to acknowledge that the categories are not distinct with some features being relevant to multiple categories, reflecting the holistic nature of SFH as a complex, adaptive process.

What?

- ☐ Music is at the heart as a concept dependent on its realisation by 'Participants' who create, co-create and interact with music via Singing. It may consist of different forms, genres, pre-composed or improvised vocal sound and relates to all aspects in the model.
- ☐ 'Singing' is embodied music-making in all its forms, including any of the somatic aspects relating to singing such as breathing exercises, relaxation, pitch exercises etc. In SFH the singing may take place in a one-to-one setting with a facilitator, although more commonly in a Group setting. It has a strong Socio-Cultural component given culture-relevant songs, styles and genres.

Who?

- ☐ Participants create and co-create music via embodied singing, engaging with each other musically and socially as well as with the facilitator and their wider socio-cultural context of family, health professionals, carers, colleagues etc.
- ☐ The Facilitator moves between the different elements as required to mediate and support the various and varied relationships via the medium of singing: participant - music; participant - singing; participant - participant; participant - group; participant - spatial context; participant - socio-cultural context.
- ☐ The Group consists of Participants and Facilitator but exists as an independent 'paramusical' concept (Camlin et al. 2020).

Where and when?

- ☐ The 'Spatial' context in the diagram is where the group occurs, taking a wide definition of 'space' to include physical space, functional role, temporal features such as how long the

intervention lasts, frequency and duration of each session, access-to and safety within. The 'Spatial' context exists within and relates to a wider 'Socio-cultural' context.

- ☐ The 'Socio-cultural' context has a wide definition to include interpersonal relationships and contexts, cultural contexts, socio-economic context, race, (dis)ability, role and environment.

Why?

- ☐ The dotted lines connecting the elements indicate dynamic relationships between them, demonstrating that health and wellbeing are affected by all of them.
- ☐ Safety, performance, entrainment and attunement, relationships, participation and self-determination/empowerment are additional active ingredients which SFH should incorporate with reference to all other active ingredients. They define lenses through which to evaluate outcomes.

How?

- ☐ Facilitator reflection is a recommended evaluation tool and professional development technique.
- ☐ Peer-to-peer support and supervision of Facilitators is recommended to underpin safety, relationships, participation and evaluation of outcomes.

Defining essential features and considerations for SFH practice

The following elements were identified as important considerations from SFH research literature and validated by SFH practitioners. Certain features from literature were not considered especially important by SFH practitioners, however there is strong evidence to support their inclusion in SFH practice. These features are those which relate to self-determination/empowerment (Hendry et al. 2022), performance (Aigen et al. 2018) and professional development of SFH facilitators through reflection, peer discussion and supervision (Helitzer and Moss, 2022), all of which have been demonstrated to be significant for health and wellbeing outcomes. Essential features of SFH practice have been mapped to the 5Ws and 1H framework and sub-themes in the table below following the mapping process detailed by Warran et al (2022):

Category	Definition	Sub-theme 1	Definition	Sub-theme 2
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What?	Features relating to the nature of the intervention	Music	Music in different forms, genres, pre-composed or improvised vocal sound, accompanied or unaccompanied.	Song information eg genre, harmony, form, speed, solos
				Harmony singing
				Accompaniment instrument eg piano accomp, backing track, unaccompanied
		Singing	Embodied music-making in all its forms, including somatic aspects relating to singing eg breathing exercises, relaxation, pitch exercises etc.	Performance
				Posture
				Breathing exercises
				Movement
				Voice exercises
				Grounding exercise(s)
				Relaxation
				Mindfulness exercise(s)
				Vowel exercises
				Face stretches
				Fricatives
				Humming
				Dynamics (volume) exercises
				Rhythm exercises
				Pitch exercises
				Improvisation
		Style of facilitation	Particular techniques employed to facilitate participation eg teaching by ear, lyrics sheets	
		Entrainment and attunement	Coordination of many parts (breath, sound, musical phrases, heart rate variability)	

		Social time	Details of social time if part of intervention eg. 20 minute tea-break in the middle	
		Theoretical framework	Theories as foundation and justification for use of particular interventions	
		Structure of sessions	Having a particular structure or not for sessions eg Individual named welcome	
Who?	People present during SFH intervention or relating to accessing, signposting, supporting participants and facilitator	Facilitator	SFH facilitator/leader who facilitates singing interventions	Leader skills eg relevant music training, SFH training, health training, length of experience delivering SFH.
				Collaboration with health professionals
				Having help/support when leading singing for health sessions
		Participants	Individuals taking part in the activity	Participant demographics eg. Age of participants, employment status, health status inc (dis)ability, diagnoses, singing history, song preferences, level of confidence with singing,
		Group as an independent 'paramusical' concept (Camlin et al. 2020).	A sense of a group with its own identity to which participants may feel connected	Group size
		Singing supporter	Carer or person who supports access to the SFH intervention	
		Signposter	Person who informs, signposts or refers intervention	
		Researcher	Person interacting with participants/facilitator in a research capacity	
		Supervisor	Person who supervises	

			facilitator	
When?	Aspects relating to temporal factors of interventions	Time	Day/time of sessions	
			Duration of individual sessions	
			Duration of intervention	
			Frequency of intervention	
			Music itself taking place over a time period	
Where?	Aspects relating to the setting of the intervention	Space	The physical and cultural environment where interventions take place along with the wider environment a person inhabits.	Geographical location of singing for health sessions eg town centre, close to public transport etc
				Setting where the singing for health sessions take place eg hospital, community centre
				Positioning of group eg in rows, in a circle etc
				Chairs
				Lighting eg adjustable lighting
				Disabled access
				Toilets
				Kitchen
				Acoustic eg sympathetic acoustic for singing
				Comfort
				Parking
Why?	Reasons for inclusion of features of intervention	Health symptom management	Specific health condition or general health and wellbeing	Lung health condition(s)
				Mental health
				Parkinson's Disease
				Dementia/Alzheimer's/cognitive decline
				Bereavement

				Neurological conditions
				Long Covid
				Pain
				Postnatal depression
				Stroke
				Stress
				General health and wellbeing
		Safety	Experience of felt safety by participants	
		Self-determination/empowerment	Having a sense of agency over what one does	Participants choosing songs
				Supporting singing outside of intervention eg. Providing teaching/learning aids
		Participation	The extent to which someone involves themselves in an activity	
		Relationships: intra and interpersonal, intercultural, inter-musical	Connections between people and themselves, others and their wider context. May be different within intervention from wider context. Musical relations may also be distinct from social relationships	
		Entrainment/attunement	Coordination of many parts (breath, sound, phrases, heart rate variability)	
How?	How the intervention is accessed, funded and other practical access features of intervention	How did participants find out about intervention?		
		How is intervention funded?		

From the identification of overarching themes and sub-themes a worksheet has been developed for use by researchers, facilitators, to create an evaluation toolkit specifically for SFH, allowing effective evaluation and comparison by different stakeholders.

It is hoped that application of this toolkit will enable a continuing dialogue between research and practice and support training of SFH practitioners to facilitate continued development of SFH theory, practice and evaluation tools.

Evaluation Methods

From the identified themes, appropriate evaluation methods are recommended aiming to cohere with existing scales and measures in use and following recommendations from the All Party Parliamentary Group on Best Practice in Arts and health Research (Dingle et al. 2019):

Health condition/theme	Evaluation recommendation
General health and wellbeing	WHO-5 for well-being (Dingle et al. 2019)
Mental health	Kessler-6 for anxiety and depression (Dingle et al. 2018)
Safety	Neuroception of Psychological Safety Scale (NPSS) (Morton et al. 2022)
Self-determination/empowerment	Collective self-esteem scale (Luhtanen and Crocker, 1992), Performance
Participation	36-item measure identified five discrete dimensions: mood and coping, esteem and worth, socialisation, cognition, and self-actualisation (Krause et al. 2018); Performance
Relationships: intra and interpersonal, intercultural, inter-musical	EQ-5D quality of life, from which a health economic evaluation can be derived (Dingle et al. 2019); Performance
Entrainment/attunement	Measure of Heart Rate Variability; Performance

Musical performance evaluation is proposed as a means of measuring group self-determination, group participation, inter-musical relationships and musical entrainment in the form of evaluating the extent of musical synchronicity by evaluating musical features of blend, ensemble and vocal quality.

Appendix 11: Intervention Worksheet

A worksheet has been created for completion by a facilitator, researcher or other people following the 5Ws and 1H framework to support identification of other active ingredients relevant to SFH, including comparison of interventions.

	Intervention Worksheet
	WHAT?
	Describe the features relating to the singing for health intervention?
	Please tell us about the activity, which features are included and give details of those that are not.
1. About the music - what song forms, genres, pre-composed or improvised ?	
Song information eg genre, harmony, form, speed, solos, varied repertoire, songs tempi matching breathing	
Harmony singing or unison?	
Accompaniment instrument, backing track, unaccompanied or a mix?	
Any other musical features - please give details?	
2. About the singing - including any of the physical aspects associated eg breathing exercises, relaxation, pitch exercises etc.	
Please tick aspects that are regularly included and add details of any other exercises	
Performance	
Posture	
Breathing exercises	

Movement	
Voice exercises	
Grounding exercise(s)	
Relaxation	
Mindfulness exercise(s)	
Vowel exercises	
Face stretches	
Fricatives	
Humming	
Dynamics (volume) exercises	
Rhythm exercises	
Pitch exercises	
Improvisation	
Other please give details	
3. Style of facilitation	
Are there any particular techniques for song-learning, engagement or participation? eg teaching by ear	
4. Are any particular exercises used to promote entrainment and attunement (coordination of breath, sound, musical phrases, heart rate variability)?	
Yes - please describe	
No	
5. Is social time included in the sessions?	
Yes - please give details eg duration, before/after session	
No	

6. Is there a theoretical framework to support the use of particular interventions e.g. psychological frameworks or therapeutic frameworks?	
Yes - please give details	
No	
7. Is there a particular structure to the sessions?	
Yes - please give details	
No	
8. Does the intervention take place in-person or online or in any other format? Please give details	
In-person	
Online	
Combination	
Other please give details	
WHO?	
	Describe the people in the SFH sessions including people that support access, management, participation in sessions
1. Facilitator	
Please tick if they have any of the following and give details	
Music training	
Health training	
Singing for Health training	
Length of experience in delivering Singing for Health sessions	
Any other relevant training or experience	

Would you/they like any training? Please give details.	
2. Is there collaboration with health professionals as part of the practice?	
Yes - please give details	
No	
If no, would you like support? Please give details.	
3. Does the facilitator have help/support from anyone else when leading SFH sessions?	
Yes - please give details	
No	
If no, would you like support? Please give details.	
4. Please tell us about the participants in the group?	
Age range	
Gender	
Employment status	
Health status/diagnoses eg if your group is for people with lung health conditions	
Disability status	
Singing background/experience	
Musical preferences	
Level of confidence with singing	
Number of people in the group	
5. Group identity and belonging	
Is there a strong sense of belonging to the group?	
Yes - please describe	
No	

6. Are there any other people who attend the group? eg carer, supervisor	
Yes - please give details	
No	
7. Is there anyone who informs, signposts or refers people to the group?	
Yes - please give details	
No	
8. Is there anyone who does research with the group or helps with evaluations?	
Yes - please give details	
No	
9. Is there supervision of the facilitator or group?	
Yes - please give details	
No	
If no, would you like supervision?	
10. Does the facilitator have peer-to-peer support?	
Yes - please give details	
No	
If not, would they like it?	
	WHEN?
	Please describe aspects of the group relating to time and timing of interventions
1. Day/time of sessions?	

2. How long does each session last?	
3. How long will the whole intervention last? Or is it ongoing?	
4. Is the day/time/duration is suitable?	
Yes	
No - please give details	
	WHERE?
	Please describe aspects relating to the setting of the intervention including the venue and wider socio-cultural considerations
1. Please tell us where the singing for health sessions take place eg town, county, country	
2. Please tell us a bit more about where the venue is eg town centre, close to public transport etc	
3. Please tell us about venue of the SFH sessions eg community centre, church hall etc	
4. Does the venue have parking?	
Yes	
No	
5. Please tell us about the room where the intervention takes	

place. Tick if it has any of the following and give details:	
Chairs	
Lighting eg adjustable lighting	
Disabled access	
Toilets	
Kitchen for tea/coffee/water	
Acoustic eg sympathetic acoustic for singing	
Comfort eg low/medium/high level of comfort in the venue	
Are there any other features which support or affect the group? Please give details.	
6. Please tell us about the positioning of the group in the room eg in rows, in a circle etc	
	WHY?
	Please give details around the reasons why participants attend
1. Health conditions - please tick if the sessions are to address the any of the following particular health conditions	
Lung health condition(s)	
Mental health	
Parkinson's Disease	
Dementia/Alzheimer's/cognitive decline	
Bereavement	
Neurological conditions	
Long Covid	
Pain	
Postnatal depression	

Stroke	
Stress	
General health and wellbeing	
2. The following themes have been identified as important for health and wellbeing outcomes. Are the participant's experience(s) of the following considered:	
Safety	
Yes - please give details	
No	
Self-determination/empowerment eg having a sense of agency eg choosing songs, having a role within the group	
Yes - please give details	
No	
Participation ie how much someone is involved in a particular activity	
Yes - please give details	
No	
Relationships eg connections between people and themselves, others in the group and their wider context.	
Yes - please give details	
No	
Entrainment/attunement eg blend, ensemble to heighten musical synchronicity	
Yes - please give details	
No	

	HOW?
	Please give details of how the intervention is accessed, funded and other practical access features of intervention
1. How do participants find out about interventions?	
Signposted by social prescriber/link worker	
Private advertising	
Charity	
Other please give details	
2. How is the intervention funded?	
Self-funded by participants	
Charity	
Funded by research grant	
NHS funding	
Other please give details	
3. Please give any other details relevant to how participants know about and access the intervention	
	OTHER
	Are there any other features of the group or intervention that are relevant?
Please describe any other features relevant to this singing for health intervention	

