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Knocking on the door: Examining the practice of classical singers at a performing arts institution

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Knocking on the Door:

Examining the Practice of Classical Singers at a Performing Arts Institution

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This dissertation is submitted in partial fulfilment of the requirements for the degree of
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Abstract

Practice is a major part of the everyday existence of musicians at a performing arts institution, and is of particular importance for singers, who are not just learning to sing but also building their vocal instrument along the way. The purpose of this study was to examine the practice of classical singers studying at a performing arts institution, through an interpretive case study approach. Participants completed a multi-part survey which asked logistics of their singing practice, their use of practice strategies, how these strategies were acquired, and the influence of various factors related to practice. The quantitative and qualitative data were analysed together with reference to a conceptual framework of self-regulated learning. The study found that singers' practice was affected by a wide range of factors, and many strategies to improve singing were employed both within and beyond the practice room. The study also found that singing lessons were a major resource for singers to learn skills to develop into well self-regulated musicians.

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Introduction

When studying music at a performing arts institution, practice is a given – it is the everyday existence of the aspiring professional. But practice is private and personal, and whilst the cumulative effect is evident in lessons and in performance, only the individual has true insight into their vocal development between lessons.

Practice is particularly important for the tertiary singing student, who is not only acquiring the technique necessary 'to play' their instrument, but also actually "building their vocal instrument along the way" (Chapman, 2012, p. xviii). Practice efficiency is particularly relevant to singers in a tertiary setting – whilst a tertiary instrumentalist can be expected to practice for more than four hours a day, the nature of the vocal instrument precludes the luxury of long practice sessions.

There is extensive research into music practice. The majority of the literature is situated in the classical music domain, with a significant portion researching students in the tertiary setting (eg. Barry, 2007; Burwell & Shipton, 2011; Duke, Simmons, & Cash, 2009; Jørgensen, 2002; Kostka, 2002; Nielsen, 2004; Smith, 2005), yet very few studies relate to singers specifically. The nature of vocal practice differs from instrumental practice not just in terms of work on the instrument itself and of time constraints, but also because of the additional linguistic and dramatic demands of singing, making it a subject worth examination in its own right.

Purpose

The purpose of this study was to examine and explore the practice of classical singers studying in the Music Department of the Western Australian Academy of Performing Arts (WAAPA). Emphasis was placed on the factors influencing practice, the practice strategies employed and how these strategies are acquired. Whilst the focus was on formal practice – that is, practice carried out alone, with the intention of working on the voice and/or directly on repertoire – information about the various other forms of practice that students engage in was also captured. Using a mixed methods approach, this study aimed to explore the diversity of practice in the population under examination through a multi-part survey. This included a quantitative section assessing attitudes and behaviours related to practice as outlined in the literature, and a qualitative section that captured 'thick' data around these areas. The data were collected, analysed and interpreted in relation to self-regulated learning theory (McPherson & Zimmerman, 2002; Pintrich, 1995; Zimmerman, 1990; Zimmerman & Campillo, 2001).

Research Questions

The central question of this research was:

How do classical singers at a performing arts institution practise?

The study was guided by the following research questions:

1. *What factors affect the practice of classical singers?*
2. *What strategies do classical singers employ in practice?*
3. *How do classical singers acquire practice strategies?*

Background: Practice in the Literature

Defining Practice

Within the context of the arts, the word *practice* has two related, but distinct definitions: on the one hand, the learning, refining and maintenance of the skills required to engage in the creative activity; on the other, the overall creative activity and output of an artist. In the case of classical singing these two definitions are quite different: regular practice to refine technique and learn repertoire is generally carried out in a formal manner, in a private room; the creative activity of a singer is normally observed in performance or recording, when the singing is "distributed" to an audience. Contrast this with a visual artist, for whom a "study" or a work that experiments with a new technique may form part of their creative output – practice in both senses simultaneously.

In the literature, music practice is often defined as it relates to expert performers in the Western classical music tradition. One of the seminal works on this subject is the study by Ericsson, Krampe, and Tesch-Römer (1993). These researchers distinguish between work, play, and *deliberate practice*, which they define as: "a highly structured activity the explicit goal of which is to improve performance" through systematically addressing weaknesses and monitoring task performance; a process that is effortful and not "inherently enjoyable" (p.368). The study concludes that it is the amount of deliberate practice alone that determines expertise.

Subsequent research has questioned whether deliberate (or formal) practice is too narrow a definition, particularly when considering non-experts, such as children, who may not have yet developed the maturity to sustain this kind of practice. Sloboda, Davidson, Howe, and Moore's (1996) study of young instrumentalists at various levels posits that informal practice (Ericsson et al.'s [1993] "play") builds expressivity, whilst formal practice is technical. This highlights a tension, particularly during training, between short-term achievement and long-term goals. Interestingly, Ericsson et al. (1993) comment that the performances of children are judged mainly on technical accuracy, whilst adults are judged on musical expression, noting that this is often cited as the reason for child prodigies not transitioning into adult experts.

A broader definition of practice has also been suggested in a few studies of expert performers. One is Hallam's (1995) study of professional orchestral musicians' orientations to practice, which found that even at the highest level, there is an extreme variation in practice amount, content, strategies and motivation. Another is Harnum's thesis (2013) examining the practice of eight professional musicians across four genres (classical, pop, jazz and Indian classical). When examining music practice outside the Western classical tradition, the definition of practice expands greatly, and indeed, Harnum asks: "[w]here is the line drawn in the definition of what practice is and what it is not, and who gets to draw that line?" (p. 52)

Perhaps it is best to consider the term *effective practice*, defined by Hallam (1997) as "that which achieves the desired end-product, in as short a time as possible, without interfering negatively with longer-term goals" (p. 181). Indeed, Duke et al. (2009) note, "making practice assignments in terms of 'time practised' instead of 'goals accomplished' remains one of the most curious and stubbornly persistent traditions in music pedagogy" (p. 311)

Influence of Various Factors on Practice

Ericsson et al. (1993) outline three constraints that limit practice – resources, effort and motivation. The article discusses the *resource* constraint in terms of a child in the family context – resources are a major factor at any age however, especially with regard to time and space. The *effort* constraint recognises that deliberate practice consumes mental and physical energy, and requires recovery time. The capacity for deliberate practice develops with maturity and experience. The *motivation* constraint acknowledges that motivation, whether intrinsic or extrinsic, is necessary in order to engage in deliberate practice which, according to the definition by Ericsson et al. (1993), is not enjoyable. They note that motivation to practise can be achieved through short-term goals, but eventually becomes ingrained in the daily life of the individual with a long-term goal of expertise.

Motivation is the most complex of the three constraints, and considerable research has examined the relationship between motivation and practice. Hallam's (2002) article on musical motivation reviews motivation theory generally before moving into the musical context. It highlights the environmental factors of family, teacher, and in the case of students, the institution, in shaping motivation, as well as touching on personality traits. Also addressed is the role of metacognitive strategies in managing motivation, and the effect on motivation of attributing failure to inadequate learning versus lack of ability.

A study that examined motivation in relation to goal orientation and the concept of ability is Smith's (2005) study of undergraduate instrumentalists. Ability can be conceived as a fixed, innate entity or as a malleable trait that can be increased incrementally through effort. This study found that participants who viewed ability as an incremental trait were more likely to be motivated by task-oriented goals leading to greater adoption of effective practice strategies.

Researching Practice – The Role of Self-Regulation

Self-regulation is a well-established theory of learning, particularly in the tertiary education context (Pintrich, 1995; Zimmerman, 1990). Rather than assessing learning through performance outcomes, this theory seeks to examine the process of learning itself. Self-regulation has also emerged as a valuable tool for analysing musicians' practice (McPherson & Zimmerman, 2002; for review see Varela, Abrami and Upitis, 2014).

McPherson & Zimmerman's (2002) framework of musical self-regulation consists of six dimensions that influence a three-part self-regulatory process. The first dimension, *motive*, examines the role of self-motivation in practice, encompassing goal setting, self efficacy, and the role of the learner's attitudes, beliefs and emotions. *Method* relates to the strategies employed at every stage of practice, whilst *behaviour* covers the effect of metacognitive strategies and self-evaluation on practice. The effect and control of the *physical environment* in practice is another dimension, along with the planning and management of *time*. The last dimension, *social factors*, looks at the effect of others on practice, particularly in relation to help-seeking behaviour.

The three-part cyclic process of self-regulation used in this framework is taken from Zimmerman & Campillo's (2003) model of the phases and sub-phases of self-regulation. As in self-regulation theory more

generally, this framework, displayed in Figure 1, combines the strategies and mechanics of practice with motivational aspects. *Forethought* refers to pre-practice behaviours and influences, namely task analysis and self-motivation beliefs. *Task analysis* involves goal setting (choosing outcomes for which to aim) and strategic planning (deciding on how to approach a task and situation). *Self-motivational beliefs* involve self-efficacy ("the conviction that one can successfully execute the behaviour required to produce the outcomes" [Bandura, 1997, p. 79]), intrinsic interest (finding value in a task itself, rather than what may result from it), outcome expectations (beliefs about the result of performing a task), and goal orientation (either mastery or performance goals, focussing on long-term competence or short-term performance success, particularly in relation to other performers). *Performance/volitional control* during practice is the second phase, involving self-control and self-observation. *Self-control* includes self-instruction (running oneself through a procedure during execution), imagery (visualising the task), attention focussing (using techniques to aid concentration and limit distraction), and task strategies (reducing a task to its elements, and organising these to create a method). *Self-observation* involves tracking one's progress over time, and may take the form of self-recording (documenting prior attempts at the task, from which progress may be tracked), and self-experimentation (cogent variation of elements of task performance). The third phase, *self-reflection*, involves assessment of achievement through self-judgement and self-reaction. *Self-judgement* occurs through self-evaluation (comparing an outcome with some goal or standard) and causal attribution (whether success and failure is attributed to effort or ability). *Self-reaction* takes the form of self-satisfaction (the level of satisfaction, and related affect, due to task execution) and adaptive or defensive inferences (decisions about how the approach should be altered for further attempts). This third phase then feeds back into the forethought stage, completing the cycle.

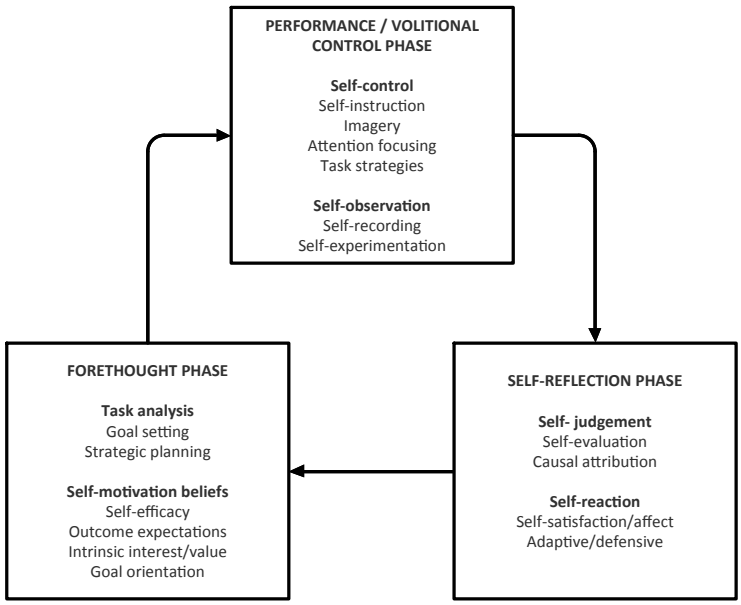

Figure 1. Self-Regulated Learning Cycle Phases

Reprinted from "Self-regulation of music learning: A social cognitive perspective," by G. E. McPherson and B. J. Zimmerman, in *The new handbook of research on music teaching and learning* (p. 340), R. Colwell and C. Richardson (Eds.), 2002, New York, NY: Oxford University Press.

Measuring Practice

A performance exam mark is a measure of a student's expertise in performance on their instrument, which indirectly and to a varying degree incorporates their practice, but also many other related factors including their technical prowess, musicianship, musicality, expressivity, personality, self-esteem, and ability to manage performance anxiety. To directly examine a student's expertise in practice, however, is another matter entirely.

Many studies use a survey approach to measure practice. This is often quantitative, using a Likert scale to measure attitudes and/or strategy adoption (eg., Baughman, 2015; Burwell & Shipton, 2011; Hallam et al., 2012; Jørgensen, 2002; Miksza, 2012; Nielsen, 2004; Smith, 2005). Other studies combine a quantitative section with written responses (eg., Austin & Berg, 2006; Kostka, 2002).

Another approach is to use interviews (eg., Hallam, 1995; Hallam, 2002; Harnum, 2013; Sloboda, Davidson, Howe, & Moore, 1996), or to observe practice itself, either live or via recording (eg., Ali, 2010; Barry, 2007; Duke et al., 2009; Ericsson et al., 1993). These methods are often triangulated with survey data or practice diaries.

Practice Strategies

Many studies classify the types of strategies that may be employed in practice. Smith's (2005) study outlines six main types of practice strategies: mental practice, organization of practice, identification and manipulation of musical elements, overlearning, whole to part analysis, and prioritising and monitoring. Nielsen's (2004) study of higher education music students used a modified version of *The Motivated Strategies for Learning Questionnaire* (Pintrich, Smith, Garcia, and McKeachie, 1991), which groups strategies as cognitive (rehearsal, elaboration, organisation, critical thinking), metacognitive (metacognitive self-regulation) and resource management (time and study environment, effort regulation, peer learning, help seeking). Oare (2012) found the factors that influenced the use of practice strategies in novice band players were knowledge of strategies, ability to use them appropriately, and motivation to apply them. Hallam et al.'s (2012) study of a large sample of young musicians found that a lack of ineffective practice techniques was a strong indicator of expertise.

Hallam (2001) found that with developing expertise came skilled metacognition – allowing musicians to decide on practice strategies based on the task and on an in-depth knowledge of their strengths and weaknesses. This suggests that there is no one way of classifying effective practice – it is highly individual.

Role of the Teacher

Varela, Abrami and Upitis' (2014) review of self-regulation and music learning found that there is a notably strong relationship between instruction on self-regulated learning and self-regulatory behaviour in practice. Baughman's (2015) survey of tertiary singing studios found that teachers were modelling a variety of strategies for students, particularly in relation to repertoire. Kostka (2002) found that there was a disconnect between teacher and student expectations with regard to practice, with teachers expecting greater amounts of practice and stricter routine in practice. Barry's (2007) study of the college instrumental lesson and practice

relationship found that what was said in lessons had less influence on student practice than the actions of the teacher and student in lessons, and that practice techniques that were emphasised regularly and vividly in lessons were much more likely to be utilised.

Music Practice at a Tertiary Institution

Several studies have specifically examined the practice of tertiary music students. Many studies examine students across several institutions (eg. Barry, 2007; Kostka, 2002; Nielsen, 2004; Smith, 2005). In contrast, Burwell and Shipton (2011) looked solely at the music department of Canterbury Christ Church University. Students completed a quantitative questionnaire developed from the literature on practice and the institution's curriculum, and the data was then explored and interpreted in relation to year groups, age, instrumental groups and performance examination marks. The findings of this Canterbury study included a correlation between organisation of practice and performance marks, a lack of correlation between practice time and performance marks, and variation in the relationship between lessons and practice for different instruments. There were tangible outcomes resulting from this research, in terms of the application of the findings to teaching and curriculum development, as well as an effect on individuals through increasing awareness of, and reflection upon, practice behaviours. As a side note, singers were found to be more conscious of their health than instrumentalists.

The most comprehensive study of classical singing practice in the literature is a thesis by Ali (2010), which examined self-regulation in the singing practice of six tertiary singing students. These singers were taught to use *verbal protocol* in their practice – speaking their thoughts aloud, and prompted to set goals and reflect on their practice. The study triangulated the singers' written planning and reflection with qualitative questionnaires and researcher observation of practice sessions in which the singers used verbal protocol. The study found that self-efficacy and self-regulation play an important role in building healthy vocal technique and correcting technical issues. The study also claims a strong link exists between student self-rankings in relation to their peers, and self-efficacy and self-regulation, with self-ranked top students exhibiting much more efficient self-regulation.

Methodology

Design

Based on the preceding literature review, this study was situated within a framework of self-regulated learning theory (McPherson & Zimmerman, 2002; Zimmerman & Campillo, 2003), facilitating a thorough examination of practice, and allowing the research to capture the diversity and complexity of the practice of singers at a performing arts institution.

This study used a single case study design, examining a representative case of singers' practice at a performing arts institution. A concurrent embedded strategy of mixed methods (Creswell, 2013, pp. 214-215) was used, with the intention of interpreting the qualitative and quantitative data together to create a more complete picture.

Merriam (1988) says of the case study:

> "Its strengths outweigh its limitations. The case study offers a means of investigating complex social units consisting of multiple variables of potential importance in understanding the phenomenon. Anchored in real-life situations, the case study results in a rich and holistic account of a phenomenon. It offers insights and illuminates meanings that expand its readers' experiences. These insights can be construed as tentative hypotheses that help structure future research; hence, case study plays an important role in advancing a field's knowledge base" (p.32)

Participants

Fifty-five classical singers studying at the Western Australian Academy of Performing Arts (WAAPA) participated in this research. The cohort of 65 classical singing students at WAAPA were given verbal and written information relating to the study, and consent was obtained from those who wished to participate. 85% of the cohort participated in the survey.

Classical singing at WAAPA may be studied in a Diploma year, a four-year Bachelor of Music, Postgraduate Diploma, Master of Performing Arts, or within a Bachelor of Education. The transition to a four-year Bachelor from a three-year degree occurred in 2014, so the only fourth-year Bachelor students in 2016 are students in the end-on Honours course, currently in its last year. These students were grouped with Postgraduate students, as both groups had already graduated with the three-year Bachelor of Music.

Of the participants, there were 3 (5.5%) Diploma students, 9 (16.5%) first-year Bachelor students, 15 (27%) second-year Bachelor students, 14 (25.5%) third-year Bachelor students, and 14 (25.5%) Honours/Postgraduate students. Participants were made up of 14 (25%) male and 41 (75%) female students, with 17 (31%) students aged 18-19, 22 (40%) aged 20-22, 11 (20%) aged 23-25, 4 (7%) aged 26-30, and 1 (2%) student over 30 years of age. Participants reported having singing lessons for an average of 8.3 years (*SD*=3.8 years), with a range from 1.5-17 years, and had an average of 5.1 years (*SD* = 3.6 years) of singing lessons before commencing singing studies at a tertiary level. Notably, 5 (9%) participants reported less than a year of singing lessons before commencing tertiary level singing study. 52 (94.5%) said they were aspiring to become professional singers. Singers reported their average performance marks as follows: 2 (4%) pass (P) marks, 15 (27%) credit (CR) marks, 31 (56%) distinction (D) marks, and 7 (13%) high distinction (HD)

marks.

Methods – Instruments

The survey was developed specifically for this research, in consultation with a tertiary singing teacher. Several tertiary singing students from other institutions were asked to comment on it, and their suggestions were incorporated into the final version (see Appendix A).

Demographic and Practice Logistics Questionnaire

Participants were asked to provide their demographics, information relating to their singing and musical studies to date, details about their practice relating to time and place, an assessment of their practice effectiveness, their perceived ranking within their cohort, and were also asked to report their average performance mark.

Measure of Self-Regulated Practice Behaviour Questionnaire (MSRBQ)

Miksza's (2011) questionnaire *Measure of Self-Regulated Practice Behaviour for Beginning and Intermediate Instrumental Students* was adapted and extended for use with classical singers, with permission from the author. This quantitative questionnaire uses a 5-point Likert scale, assessing self-regulation using the theoretical framework of McPherson and Zimmerman (2002), with the dimensions of self-efficacy, method, behaviour, time management and social influences. As the survey was originally written for children, the dimension of physical environment was not included, as children do not have much control over this factor. Whilst written for children, the survey's assessment of self-regulatory skills is sufficiently broad to assess adult participants, with a minor adjustment of language.

The *Implicit Theory of Ability Subscale* used by Smith (2005) was appended to the modified Miksza (2011) questionnaire. This section of Smith's survey was included because the phenomenon of fixed vs. growth mindset has been shown to affect some aspects of self-regulation, notably goal orientation (Dweck, 2000). Items in all scales were randomised for each participant by Qualtrics.

Open-Ended Questionnaire

Questions were developed in relation to the research questions, the theoretical framework, and the literature, with the aim of collecting 'thick' descriptive data related to the many facets of practice. Participants were asked about the factors affecting their practice – these were divided into three categories: resources, effort, and motivation, as suggested by Ericsson et al. (1993). This was done to encourage participants to reflect broadly on the factors that affect their practice. Participants were also asked about any practice planning or routines, whether they keep a practice journal, and any other work they do to improve their singing besides lessons and practice.

They were asked to reflect on the aspects of their practice that work well or that could be improved upon, what they would teach their younger self about practice, and the relationship between their singing lessons and their practice.

Table 1. Research Questions and Related Survey Questions

Research Question	Survey Questions
1	Resources: 21, 24 Effort: 22 Motivation: 15, 23 Other singers: 25
2	Before practice: 26, 26a During practice: 11,12, 16, 17, 17a, 27, 29, 29a, 34, 35 After practice: 37, 38, 39 Besides practice: 30
3	Qs 13, 13a, 14, 36

Procedure

Collection

Data were collected anonymously through an online survey in Qualtrics, on the participants' own devices (smartphone, tablet, laptop). The survey was administered to singers during a vocal workshop class in second semester. It began with demographic and practice logistics questions, followed by a block of qualitative questions, then the *Measure of Self-Regulated Practice Questionnaire* (MSRBQ), followed by a second block of qualitative questions.

Analysis

Quantitative data were imported from Qualtrics into SPSS (Statistical Packages for the Social Sciences) for analysis. For definitions of statistical terms used in this thesis, see Appendix B. The qualitative data were analysed using inductive coding procedures, guided by Saldaña (2016). This involved a first stage coding to find themes, then a second stage to condense these into overall themes. Mixing occurs in the discussion section where the findings of the each data set are combined.

Research Rigour

The researcher is a recent graduate of the vocal program at WAAPA. This study was essentially conducted on her peers, meaning that the researcher had the participants' trust from the beginning. The use of an anonymous questionnaire encourages greater honesty in responses, and administering it during a class encouraged a high response rate, which minimised participation bias.

A self-report questionnaire can result in inaccurate reporting from participants. Maintaining anonymity, having students reflect on current context-specific behaviour, and attempting to minimise response bias maximises confidence in data reliability (Schunk & Meece, 2006).

Prior to the collection of data examined in this research, ethics approval was obtained from the Edith Cowan University WAAPA/SAH Ethics Sub-Committee.

Results

Quantitative Results

Before quantitative analysis, one case was deleted due to missing data and three monotone cases were removed, leaving 51 cases.

Table 2 presents the descriptive statistics and reliability coefficients for each subscale of *Measure of Self-Regulated Practice Behaviour Questionnaire* (MSRBQ). The Behaviour and Social influences subscales did not achieve an acceptable Cronbach alpha coefficient of .7 (Pallant, 2011), with α = .475 and α = .609 respectively. The Cronbach alphas of the other subscales achieved acceptable levels (α = .78 to .89) and were in a similar range to Miksza's (α = .76 to .85).

Table 2 also displays descriptive statistics of the MSRBQ subscales and practice information questions. Despite the relatively small sample, items were normally distributed with the exception of self-reported practice time per week and self-reported intended practice time per week, which both show moderate skew and peakedness. This is perhaps due to the difficulty of providing a good estimate of one's practice time over a week, especially given the degree to which it may vary from week to week.

Table 2. Descriptive Statistics and Reliability Coefficients for Subscales and Practice Information Questions

Variables	*M*	*SD*	Skewness	Kurtosis	α
Self Efficacy° (SelfEff) (10 items)	3.75	0.52	0.32	0.01	.849
Method[x] (METH) (16 items)	3.65	0.46	–0.32	–0.39	.816
Behaviour[x] (BEH) (7 items)	3.75	0.40	0.08	0.23	.475
Time management[x] (TIME) (6 items)	3.05	0.79	0.01	–0.77	.893
Social influences[x] (SOC) (11 items)	3.61	0.44	0.39	–0.41	.609
Implicit Theory of Ability° (ITA) (8 items)	2.32	0.54	0.12	–0.02	.783
[49 cases]					
Reported practice time per week (hours)	6.54	4.09	1.73	3.64	NA
Reported intended practice time per week (hours)	9.02	4.75	1.56	2.74	NA
Sessions per day	1.71	0.76	0.84	0.29	NA
Practice effectiveness^	6.73	1.48	–0.73	0.65	NA

°Range on this item was 1 (*strongly disagree*) to 5 (*strongly agree*)

[x]Range on this item was 1 (*never*) to 5 (*always*)

^Range on this item was 0 (*extremely inefficient*) to 10 (*extremely efficient*)

The items with the strongest individual scores are presented in Table 3. The criterion for strongest agreement items was $M>4.1$; the criterion for the strongest disagreement was $M<2.5$. To the extent that these items represent the attitudes of the singers, these results indicated a confidence in their singing lessons and their teacher, a confidence in their ability to improve their singing, and a commitment to applying themselves to their practice. There was strong agreement on warming up, but not many actively cool down after practice.

Table 3. Strongest Scores for Individual Items

Items with strongest agreement	*M*	*SD*
SelfEff4 - I believe I can become outstandingly good at singing	4.18	0.68
SelfEff9 - I am confident in my ability to improve my singing	4.20	0.63
METH4 - I come well prepared to rehearsals and lessons	4.14	0.69
METH6 - I begin practice with a warm-up	4.43	0.78
METH7 - I practise the day after a lesson	4.12	1.01
METH8 - I work to improve whenever practising	4.49	0.67
METH13 - I work hard when practising	4.12	0.68
BEH4 - I think about pieces I'm practising by singing them through in my mind	4.14	0.85
SOC1 - I think about things I learn in lessons when practising	4.47	0.58
SOC3 - I listen carefully to my singing teacher's practice advice	4.61	0.53
SOC4 - I use my singing teacher's advice when practising	4.61	0.57
Items with strongest disagreement		
METH6A - I finish practice with a cool-down	1.96	1.00
SOC8A - I ask a peer for help practising difficult music	2.43	0.92
SOC10 - I look to books for information on singing that helps me learn	2.49	1.10

Table 4 presents the factors from the MSRBQ, practice information questions, and their Pearson correlations. Statistical significance was not found in relationship to time management, nor between self-efficacy and method. The *Implicit Theory of Ability* subscale added in this research to Miksza's (2011) survey was theorised to be related to self-efficacy – the results showed a moderately significant correlation between the two subscales ($r = –.326$). A low score in the *Implicit Theory of Ability* subscale is indicative of a growth mindset, suggesting a link between growth mindset and higher self-efficacy. There was a moderate significant correlation between the self-reported practice time per week and the method subscale ($r = .492$), and a weak correlation between method and self-reported intended practice time per week ($r = .293$). There was also a weak significant correlation between the behaviour subscale and the reported average performance marks ($r = .278$) – the only relationship found between performance mark and an aspect of practice. These results suggest that singers who practice more have a greater repertoire of practice techniques, and that singers who achieve better performance marks are slightly more likely to have better metacognitive practice skills.

Table 4. Pearson Correlations among Self-Regulation Subscales and Practice Information Questions

Variables	1	2	3	4	5	6
1. Self Efficacy	–	.251	.304*	.005	.446**	–.326*
2. Method		–	.531**	.192	.541**	–.111
3. Behaviour			–	.260	.407**	.108
4. Time management				–	.213	–.177
5. Social influences					–	–.176
6. Implicit theory of ability						–
6. Reported practice time per week (hours)	.188	.492**	.201	.138	.265	–.053
7. Reported intended practice time (hours)	.109	.293*	.116	.139	.119	–.005
8. Practice effectiveness	.245	.095	.145	.210	.055	.045
9. Performance mark	.269	.150	.278*	–.038	.136	.036

* Significant at $p < .05$

** Significant at $p < .01$

Research Question 1: "What factors affect the practice of classical singers?"

Table 5 presents Pearson correlations relevant to the first research question, particularly in relation to motivation. The data indicates a moderate significant relationship between self-efficacy and social influences ($r = .446$) and a strong significant relationship between self-efficacy and where singers rank themselves amongst their singer peers ($r = .586$). There was a moderate significant correlation between how effective singers reported their practice to be and where they felt they ranked ($r = .399$). There was also a moderate significant relationship between being self-conscious when practicing within earshot of others and both age ($r = –.321$) and self-efficacy ($r = –.332$) – that is, older and more self-efficacious singers were less likely to feel self-conscious when practicing.

Table 5. Pearson Correlations Relevant to Research Question 1

Variables	1	2	3	4	5	6
1. Age	–	.238	.155	–.129	.213	–.321*
2. Self Efficacy		–	.446**	.245	.586**	–.332*
3. Social influences			–	.055	.138	–.048
4. Practice effectiveness				–	.399**	–.096
5. Self-rank within year group					–	–.220
6. Self-consciousness in practice						–

* Significant at $p < .05$

** Significant at $p < .01$

Research Question 2: "What strategies do classical singers employ in practice?"

Table 6 presents Pearson correlations relevant to the second research question. There was a strong significant correlation between method and behaviour (r = .531), and a moderate correlation between method and self-reported practice time per week (r = .492). Practicing daily was moderately strongly correlated with method (r = .462), self-reported practice time per week (r = .482), and reported practice effectiveness (r = .442). There was also a moderate significant relationship between reported practice effectiveness and self-reported practice time per week (r = .430). These results suggest that there is a complex relationship between practice strategies, practice effectiveness and time spent practicing, but that on the whole singers who practice more have access to a wider range of practice strategies and more developed metacognitive skills, and feel that they practice more effectively.

Table 6. Pearson Correlations Relevant to Research Question 2

Variables	1	2	3	4	5	6	7
1. Method	–	.531**	.192	.492**	.462**	.347*	.095
2. Behaviour		–	.260	.201	.127	.075	.145
3. Time management			–	.138	.209	.349*	.210
4. Reported practice time per week (hours)				–	.482**	.169	.430**
5. Practices daily					–	.151	.442**
6. Has a regular routine						–	.006
7. Practice effectiveness							–

* Significant at $p < .05$

** Significant at $p < .01$

Research Question 3: "How do classical singers acquire practice strategies?"

Table 7 presents Pearson correlations relevant to the third research question. The number of years studying singing at a tertiary level was moderately related to both method (r = .395) and behaviour (r = .439). Perhaps unsurprisingly, this suggests that singers who have been studying singing at tertiary level for longer have a better repertoire of practice strategies and a more developed understanding of when to use them.

Table 7. Pearson Correlations Relevant to Research Question 3

Variables	1	2	3	4	5
1. Method	–	.531**	.192	.462**	.395**
2. Behaviour		–	.260	.127	.439**
3. Time management			–	.209	.020
4. Practices daily				–	.020
5. Years of tertiary singing study					–

* Significant at $p < .05$

** Significant at $p < .01$

Qualitative Results

All 55 participants' comments were included in the qualitative analysis. When quoted, a singer is represented by their case number (1-55) and year level (Diploma = D, first year = B1, second year = B2, third year = B3, postgraduate = PG).

Research Question 1: "What factors affect the practice of classical singers?"

Resources

Place

Table 8. Collated Responses to the Question: 'Where do you practise?'

Practice Venue	Number of Students
WAAPA and home (some also elsewhere)	34
Only at WAAPA	11
Only at home	8
WAAPA and elsewhere	1
Home and elsewhere	1
Elsewhere:	
Singing teacher's studio	3
Whilst travelling	2
Work	1
Friend's house	1

Having an appropriate space in which to practice was a major concern for the singers. Table 8 outlines singers' practice venues. At WAAPA there are 20 practice rooms that classical singers, along with everyone else across the music department, may book for a maximum of two hours a day. Bookings can be made through the online system up to a fortnight in advance. There are also about 20 other rehearsal and performance spaces that can be used when available, but the singers cannot book these. Of the 46 singers who practised at WAAPA, 22 participants discussed the unavailability of practice rooms at university as having a negative impact on their practice:

> "*If there are no rooms available at WAAPA in the morning then I don't get to practice*" (20, B3; only practises at WAAPA);
>
> "*Access to space greatly affects my practice as I don't have a space at home to do so*" (45, B3; only practises at WAAPA).

Some students were able to structure their day around availability constraints:

> "*…they are hard to book so I usually only use them after 4 p.m.*" (36, B2; practises at WAAPA and at home).

Others did not manage this:

"*Even booking in advance there are times that would be optimal for practice but I cannot book or find a room*" (10, B3; only practises at WAAPA);

"*Booking rooms affects my practice especially when they get cancelled and I have to try search for another room*" (20, B3; only practices at WAAPA).

There were, however, some students who did not find WAAPA practice room availability to be an issue:

"*I will just go find somewhere quiet and read the score and listen if I don't have access to a practice room*" (6, B1; practises at WAAPA and at home);

"*If I need to practise I will find a way. The car is a final option lol*" (37, B3; practises at WAAPA and in the shower);

"*I practice mostly at home these days so have no constraints on space*" (38, PG; practices at WAAPA and at home).

Not all of the practice rooms have pianos, which was another issue for the singers:

"*If I'm without a piano, learning new music is difficult*" (27, B3; only practises at WAAPA);

"*Without a piano at my disposal I can't learn new music thoroughly on my own and I have to use YouTube which is good as a resource but not the only way I want to learn my music (certainly isn't helping my musicianship and learning skills*" (8, B3; practices at WAAPA and at home);

"*If I don't have access to a piano I would usually wait until there's a free one*" (32, B2; practises at WAAPA and at home).

The use of a piano app was discussed by two students, both expressing a dislike for using it:

"*A piano in the room is fundamental. Without it I have to use a piano app on my phone – it doesn't work*" (13, B3; only practices at WAAPA);

"*Having a room without a piano can also affect my practice as I can't play out any melodies giving me trouble and trying to use piano on iPad mini is annoying*" (20, B3; only practises at WAAPA).

A few students also discussed the usefulness of a mirror in the room:

"*It can be annoying to practice without a mirror 'cause I feel like it's not as effective*" (14, B1; only practises at WAAPA).

Some students expressed a preference for certain room characteristics:

"*Practicing in a loud acoustic makes it difficult for me to hear problems in my technique as well*" (12, PG; only practises at WAAPA);

"*Lots of floor space is needed to lie down and wall space to lean against to help with breathing and alignment*" (13, B3; only practises at WAAPA).

Amongst the singers, there were mixed emotions about practising at home:

"*I hate practicing at home*" (11, B3; only practices at WAAPA);

"*I'm really lucky to have a rehearsal space at home to practise at*" (18, PG; practices at WAAPA and at home).

"*I do not like to practice at home at nighttime as my family/neighbours may find it annoying as I live in a very tight suburb.*" (20, B3; only practises at WAAPA)

Whether at home or at university, there was a desire for a private space free of interruptions:

"*I cannot practice properly without a private space. I often have to use the park across the road or find a quiet corner which I find tends to annoy people and is not conducive to focussed practice.*" (8, B3; practices at WAAPA and at home);

"*If at home, I prefer for there to be no one in or if they are, when they're busy with another task and preferably away from the room*" (23, B2; practices at WAAPA and at home).

Time

The time demands of the classical singing course vary greatly depending on course and year. Most classes are scheduled for the morning, so that during production rehearsal periods, students involved may be called 2-6 p.m. daily on top of their normal class schedule. Some students discussed the difficulty of managing practice time:

"*Busy timetables at uni affect the amount of time I can spend practicing singing*" (28, B2; only practices at home);

"*I have work commitments on Saturdays, which stops me from being able to practice, as well as many contact hours at university, which can often leave little time to practice*" (19, PG; practices at WAAPA and at home);

"*Inconsistency of schedule makes practicing difficult*" (9, B2; only practices at WAAPA).

Other students just expressed a desire to practise in the breaks between classes:

"*Often we have classes scheduled early in the day, and then gaps before afternoon activities. These breaks would be an ideal time to practice however finding a space to practice is often difficult and will stop me from practising*" (19, PG; practises at WAAPA and at home);

"*It's better at home where I have my own office to practice in, which I can't do if I have to be at uni all day*" (30, B3; practices at WAAPA and at home);

"*I live too far away from home to make practice at home between classes an option*" (8, B3; practices at WAAPA and at home).

Practice tools

In terms of other tools for practice, a few students commented on their use of the internet:

"*I use the internet for sourcing music scores, IPA, poetry and backing tracks*" (7, B1; practises at WAAPA and at home);

"*I also use imslp for most of my music or buy the necessary scores, which means I have it all with me*" (38, PG; practises at WAAPA and at home).

A few also mentioned physical tools:

"*The use of certain things that my teacher uses I think improves my singing but I don't have them at home*" (22, B2; practises at WAAPA and at home);

"*My physical stuff (roller etc.) is at home*" (55, PG; practises at WAAPA and at home).

With regard to the resource constraint, singers were affected mainly by the availability of appropriate practice spaces at convenient times, access to the tools they need for practice, and time limitations. Many singers discussed the unavailability of practice rooms at WAAPA during peak times, notably in the mornings when they have gaps between classes, and expressed frustration with the room booking system. Some students solved this issue by engaging in other forms of practice, or practicing in unorthodox locations, such as their car. Several students lamented the lack of a mirror and a piano in many of the rooms, and expressed a dislike for using a piano app on their phone. A few students expressed a preference for rooms with certain acoustics and physical properties (wall space, floor space). Some students mentioned having the facilities to practice at home, but 84% of singers practice at WAAPA at least some of the time, including 25% who practice solely at WAAPA. Whether at WAAPA or at home, singers recognised the importance of having a private space to allow them to focus, but also in order not to annoy others. A few singers discussed the difficulty of time constraints and negotiating a variable timetable, and a few others mentioned their access to other tools for practice as a hindrance.

Effort

There is a physical limit on how much practice a musician may undertake in a day, particularly as a singer, where practice affects not just the body, but also the instrument itself. Singers recognised this limitation, which had a larger effect on some than others:

> "*Oftentimes due to my constant vocal tension and lack of vocal self awareness I get tired quickly and must rest*" (39, PG);
>
> "*I often feel 'low energy' when practicing, and have to conjure this energy and exert myself*" (42, B1).

Some students commented on making adjustments to account for the effort of singing:

> "*It affects the techniques I focus on during my practice*" (24, PG);
>
> "*If I'm too tired I won't practice full voice singing I'll work on line, style or memorising text*" (38, PG).

For others, the thought of sustained effort delayed their practice:

> "*To start off practising sometimes can be difficult*" (35, B2);
>
> "*Sometimes the thought of working hard for a prolonged period of time prevents me from actually practising*" (34, B3).

However, about a tenth of students felt that they were not affected by effort constraints:

> "*I work with what I have and accommodate the issues with ease*" (45, B3);
>
> "*I have quite a lot of energy*" (48, B1).

For others, the effort was a tangible measure of their work, and had a motivating effect:

> "*The effort is worth the result*" (7, B1);
>
> "*I find it rewarding to put in a big effort as I am confident this will give better results*" (33, B2).

About a quarter of singers discussed the issue of fatigue even before practice and how this deterred them:

> "*If I don't practice in the morning, chances are I won't practice. I find by the time I get home from uni, I am mentally and physically too tired to do effective practice*." (18, PG);

"*Sometimes if I'm too tired or exhausted I just won't sing for that day, even if I really needed to*" (32, B2);

"*If I have sung a lot at uni due to rehearsals etc I will be vocally tired so might prefer not to practice so as not to harm my voice in any way*" (35, B2).

Again the issue of practice rooms arose:

"*I can pretty much only get a room at times when I am tired*" (55, PG).

The effort of organising themselves was another aspect participants considered:

"*Booking rooms affects my practice especially when they get cancelled and I have to try search for another room*" (20, B3);

"*It is tiresome and in organising all of these things I feel I just could have been doing something better*" (13, B3);

"*If I can't find a room or have something else on, I generally don't practice properly*" (9, B2);

"*It is sometimes hard to maintain a good practice routine when my energy levels are low. Balancing various commitments means that my own personal practice often takes last place in a lot of competing priorities.*" (19, PG).

For one student, the effort of learning music was a concern:

"*A lack of theoretical knowledge and ability makes it a little more difficult to approach new things as it takes more effort to work them out*" (1, B2).

Monitoring effort and fatigue are particularly vital for the singer, whose instrument and sound are so closely entwined that psychological or somatic tiredness can affect both sound production and the physical instrument itself. For some singers, the effort of singing was not an issue, but for many, the physical effort of singing affected the amount and type of practice they could do. Some found the thought of prolonged effort in practice to be a reason for procrastination, whilst others recognised the reward for such effort. About a quarter of singers noted that they would not practice if they were too tired. Besides the effort of undertaking singing practice, students also commented on how taxing they found the effort required to organise their time and practice environment. Students recognised that knowledge and musical skills also affect the amount of effort required in practice, though only one student discussed this in relation to learning music.

Motivation

On the whole, participants were very aware of the effect of motivation on their practice. Some discussed needing motivation to practice:

"*Motivation makes me look for rooms to practice instead of just doing other homework or just sitting in Grindhouse [the café]"* (20, B3);

"*If I'm feeling motivated I'm more likely to practice*" (51, PG).

Others discussed what happens when they did not have motivation:

"*It can be hard to find the motivation to get up and practice*" (16, PG);

"*If I'm lacking motivation on a particular day I am likely to not practice or practice less than I should*" (1, B2).

A fifth of singers discussed how motivation affected the effectiveness of their practice:

"*I practice more often, for longer, and more effectively when I am motivated*" (24, PG);

"*Motivation definitely improves my singing practice, if I am feeling especially motivated I feel more determined to get the right technique and sing the piece correctly etc.*" (22, B2);

"*No motivation means no effort is put into the piece*" (53, D).

A few students recognised a relationship between psychological affect, practice effectiveness and motivation:

"*I feel good about my singing sound and progress if I'm feeling particularly motivated, positive and inspired*" (11, B3);

"*When I'm highly motivated, practice is productive and enjoyable. Without motivation, I get frustrated and feel like I can't sing at all*" (42, B1).

The singers reported many sources of motivation to practise. The most common drive was improvement:

"*I like having tangible evidence of my improvement which isn't possible without practice.*" (8, B3);

"*Improving my technique… becoming a 'better' singer overall*" (19, PG);

"*I want to improve, so generally I am pretty motivated*" (46, D).

There was also the desire to fulfil potential:

"*I want to be the best I can*" (14, B1);

"*To perfect a skill*" (7, B1);

"*Sound as good as I can*" (15, B2);

"*The more I progress, the more I can tell stories through what I'm trying to do*" (18, PG);

"*I want to be exceptionally good. I want to have the freedom to sing and express anything*" (55, PG).

and a curiosity about singing:

"*I also like to try different things I've heard about from my teacher or others in this time to see what works… I find this kind of exploration interesting*" (8, B3);

"*The challenge of finding new things in my voice is exciting*" (15, B2);

"*To discover more about my voice*" (46,D).

Another source of motivation participants referred to was inspiration from other singers:

"*When I hear someone else that sounds, well, better than me, my competitive instincts kick in and I have to continually improve*" (3, B1);

"*Hearing other people sing really well, seeing a show/opera always motivates me, hearing professionals sing*" (20, B3);

"*Some days I'm unmotivated but then I listen to recordings of great singers and realise I want to achieve half of what they have*" (45, B3);

"*Listening to beautiful music – which then motivates me to create it*" (42, B1).

Some students used the idea of a career in singing as a motivator:

"*If I want to get paid one day in the industry I will have to be on the top of my field.*" (6, B1);

"*I'm told daily practice is … vital for a singing career*" (11, B3);

"*The fact that I want to be a professional and to be professional you need to practice"* (17, PG);

whilst one student expressed a performance motivation much closer to home:

"*Become a more reliable performer for WAAPA's productions*" (21, B2).

Lessons and assessments were major motivators for many:

"*Passing uni*" (41, B3);

"*Fear of looking stupid or unprepared in front of peers or teachers*" (24, PG);

"*The need to be prepared for upcoming lessons/performances*" (13, B3);

"*If I don't need to prepare for something I often lack the motivation to practice.*" (2, PG).

Repertoire appeared to play an important role:

"*If I have the right songs, motivation isn't a problem*" (28, B2);

"*If I have big and high arias I need to learn I feel like I need to be motivated more*" (21, B2);

"*I practice because I love the music I sing*" (38, PG);

"*I want to… be able to sing more difficult repertoire*" (5, B2).

For many singers, the enjoyment of singing and performance motivated them to practise:

"*I have always loved performing*" (25, B1);

"*Music and the love of hearing and performing it*" (23, B3);

"*Mostly I just enjoy singing so I want to practice*" (8, B3);

whilst some singers simply enjoyed practice:

"*I enjoy practicing, it's my favourite part of singing*" (40, B2);

"*I need to. There is literally nothing else I would rather do. I love practice.*" (10, B3).

Fluctuating motivation

The main demotivator reported by singers was tiredness:

"*My motivation to practice is often tied to my energy levels. When I am tired/overcommitted I feel less motivated to practice.*" (19, PG);

"*When I'm tired, I know my voice won't be as responsive – which is demotivating*" (55, PG);

"*If I am particularly tired, I feel particularly unmotivated because I know my practice will be unproductive*" (9, B2).

A few singers flagged the effect of mental health issues:

"*Due to mental health issues, I struggle with motivation, even with the things I love. While I love singing/performing, I find it difficult to work up the requisite motivation to practice*" (25, B1);

"*If my anxiety is playing up then motivation is hellish*" (52, B3).

Several postgraduate singers discussed strategies they used to overcome fluctuating motivation:

"*Usually I will coerce myself into practice by … bargaining with myself (eg. I'll practise if I can have a coffee first!)*" (16, PG);

"*Previously it used to affect me a lot but now I rarely struggle with motivation because I'm in a routine*" (17, PG);

"*I found that habit helps when motivation isn't there*" (18, PG).

To summarise, singers recognised the need to be motivated in order to practice. Furthermore, some also noted that motivation affects the effectiveness of their practice, and can be related to how they feel emotionally in relation to singing practice. Singers recognised many sources of motivation, both extrinsic (lessons and assessment, performances, career goals, competition with other singers) and intrinsic (improvement, fulfilling potential, a curiosity about singing, an enjoyment of performing, of repertoire, and even of practice itself). Senior students offered techniques they use to overcome fluctuation motivation.

Other Singers

The presence of other singers whilst practising at university had various effects on the participants, spanning the three factors of resources, effort and motivation. 11 (20%) of the singers said the presence of other singers did not affect their practice at all. For 7 (13%) singers, their only concern was the issue of finding a practice room:

> "*The more people wanting to practice at the one time lowers the availability of rooms to practice in*" (25, B1);
>
> "*It only affects it if they steal my room!*" (44, PG);
>
> "*They use the practice rooms I have booked and I don't have the heart to kick them out.*" (46, D).

7 (13%) singers found having other singers around affected their practice positively:

> "*Listen to them a little while may give me more idea of working on my own voice*" (Singer 4, Postgraduate student);
>
> "*It's heartening to know you are surrounded by singers who are trying to improve their craft just as I am. It almost encourages me more to practice harder due to their presence*" (35, B2).

For 30 (55%) of the singers, however, the presence of other singers negatively affected their practice. 10 (18%) singers discussed how other singers distract and interrupt them:

> "*When people come and interrupt my practice, it negatively affects the amount of time I spend practicing*" (14, B1);
>
> "*I find it annoying at uni that a friend will hear you singing in a practice room and take it as an opportunity to come and chat. Especially when you're doing good work. I find more often than not at uni this happens and my practice is interrupted.*" (18, PG);
>
> "*I get distracted and sometimes socialising seems more interesting than practicing*" (34, B3);
>
> "*I tend to listen to what they do instead of focusing on my own singing. I also tend to just chat and I get a lot less done in the amount of time I have*" (32, B2).

21 (38%) singers reported that the presence of other singers made them feel self-conscious. Some discussed feeling the need to be in performance mode:

> "*Sometimes I find myself reverting to old habits around others singers, I assume this is as I am most comfortable and happy with 'this' sound subconsciously*" (39, PG);
>
> "*If people I know are around or people who are knowledgeable in singing are around I find it negatively affects my practice. I feel more pressured to be 'good' and am less willing to do things that might be helpful, but that I feel make me look or sound stupid.*" (24, PG).

Many had a fear of being judged:

> "*I feel like they are listening and judging when I am working on what they might think are basic things*" (13, B3);
>
> "*sometimes I am afraid of judgement from the passerby*" (16, PG);
>
> *"I want to be able to experiment and make mistakes in practice. If I can be heard, I will be judged"* (55, PG);
>
> *"I feel like everyone is listening and judging so I don't try things I would normally try in self practice"* (33, B2);
>
> *"I feel intimidated and judged, so I usually practice at home"* (15, B2);

some to the point that they tried not to be heard:

> *"I feel judged by other singers. I also compare myself to them, and am less likely to project and feel okay to make mistakes if I know they could be listening"* (42, B1);
>
> *"If there are people better than me next door or hanging around outside I tend to practice quietly as I don't want them to hear my mistakes and judge what I sound like"* (47, B1).

Competitive practice had a positive effect on some, and a negative effect on others:

> *"Being around everyone definitely is another layer of motivation to be better"* (6, B1);
>
> *"Sometimes if I hear someone really great I get jealous and a little sad – which doesn't make practice as fun"* (12, PG);
>
> *"I also don't like hearing other singers belting Sondheim or Mozart while I'm trying to get practice done as it starts to become a competition of 'who can sing the loudest' "* (18, PG).

Four-fifths of singers reported that the presence of other singers affects their practice. For some, having other singers around was comforting, and their presence could be used as a learning tool. For most however, it negatively affected their practice – though for some this was only on the level of finding a practice room. Students discussed the annoyance and distraction of being interrupted by other singers, and just under two-fifths of singers reported feeling self-conscious in their practice, accompanied by a fear of being judged. Some younger singers even reported practicing quietly to avoid being heard. Competitive practice can result in ineffective practice, but others suggested that it also acts as a motivator.

Research Question 2: "What strategies do classical singers employ in practice?"

Before Practice

41 (75%) of the singers said that they planned aspects of their practice. The discussion of time organisation arose in varying degrees, from deciding which pieces were most urgent, to planning time within a session, through to planning the whole week:

> *"What needs the most work and what is the most urgent"* (29, B3);
>
> *"I usually decide beforehand what I want to focus on during any given practice session, especially when time is limited"*(19, PG);
>
> *"I plan out different days of the week to spread out practising for different performance projects"* (40, B2).

Of the practice itself, a few singers spoke of goal setting in the short term – deciding what they wanted to achieve in a single practice session:

> *"Whether it will be a technical or repertoire practice"* (51, PG);
>
> *"What repertoire I will look at in the next practice session"* (14, B1).

Many singers reported planning and prioritising which repertoire they would look at in a particular practice session, and some discussed analysing which parts of a piece need to be practiced:

> *"I'll know what I have to work on for upcoming events"* (44, PG);
>
> *"Mental lists of what needs to be worked on with each piece"* (16, PG);
>
> *"Figure out what I need to go over, like rhythms and vocal runs"* (21, B2).

Many singers planned the vocal exercises and aspects of technique they would work on, some for an individual practice session, others with a much longer-term focus:

> *"A few key things I'm going to try and improve and work on that day such as breath control"* (22, B2);
>
> *"Planning exercises to do. I have a list of exercises I do regularly. Usually I focus on a specific problem per week"* (12, PG);
>
> *"Writing down ideas to fix and further my technique"* (39, PG).

Some asked for advice to aid this process:

> *"Sometimes I will ask my teacher or other singing professional questions or do some research into solving my problems"*(14, B1).

For most students, their practice was planned at least partly around their previous singing lesson:

> *"Listen to lesson recording made, pick out key elements that need work"* (52, B3);
>
> *"Recording lessons and listening back to them to help me remember what I should be doing and aiming to do"* (14, B1).

Before practicing, singers reported planning and prioritising their time. There was discussion of both short- and long-term goal setting, in terms of both repertoire and technique – though the idea of long-term technical development was a much more common discussion point for postgraduate students. Many singers noted the influence of singing lessons on the structure of their practice.

During Practice

Routine

In the practice room, 41 (75%) reported practising daily, and 32 (58%) singers followed a regular practice routine. This generally began with a warm up, which could be differentiated into a general physical warm up, a voice specific physical warm up, breathing exercises, vocal warm up, technical exercises, and vocalises; although not all singers performed all of these:

> *"Physical warmup, gentle warm ups of humming, lip trills, tongue trill etcs. Then I'll do some technique warmups"* (10, B3);
>
> *"Massage my jaw, stretch my tongue, loosening tongue and jaw exercises, breathing exercises, then body exercises. Then I will start with basic warmups like connecting the voice to the breath and lip trills and will slowly move to more melodic and melismatic exercises"* (22, B2);

"Warm up with lip trills, breathing practice, Vaccai" (27, B3).

Repertoire then was addressed:

"Go over each piece at half speed until I feel solid with it. Then I'll take a break and do something else. Then I'll come back and go over the part again and keep adding more until I've got the whole thing down" (6, B1);

"Pick a song, sing it the whole way through and then break it down and work on smaller parts. Do this and then eventually sing it through again. … Recently started to try to introduce just working on the text itself bland, saying the text in English to the melody of the song" (20, B3);

"Work on challenging parts of songs; Practice one song the whole way through; perform one song the whole way through" (23, B2).

Some singers engaged in listening:

"Normally I listen back to my singing lessons and practice while listening to them" (2, PG);

"I will sit down with the score and listen to it a few times without singing" (6, B1).

Several singers mentioned taking breaks during a practice session, and a few mentioned finishing with a cool down.

Piano skills

37 (67%) singers reported having piano skills. Most saw the benefit of this in terms of their ability to learn music:

"Helps with checking intonation when learning new repertoire" (27, B3);

"It allows me to play my part with efficiency so I can hear it if I am struggling" (29, B3);

and to accompany themselves to some degree:

"Is beneficial in understanding the harmonies that accompany me" (6, B1);

"Get a sense of the chords underneath the melody" (8, B3);

"Allows me to sing with accompaniment without having to rely on a recording" (35, B2).

Some also discussed the use of piano skills for warming up, as well as a tool for working on aural skills and theory:

"Helped me with aural skills and pitch over the years" (37, B3);

"Theory training, harmony, compositional skills" (31, B2).

Of the 18 (33%) who reported not having piano skills, most still had a basic ability to play:

"I know enough to play melodies whilst I sing, but it would be easier if I was more proficient" (9, B2);

"I can find the notes on the piano but if I want to do the whole song I would have to sing acapella [sic]" (43, D).

Some said that not having piano skills did not affect their practice:

"It doesn't affect me too much" (3, B1);

"Not much. I have very basic piano skills which suit fine at the present moment" (46, D).

But for most, it did:

"I feel certain elements of practice eg. note learning would be more effective/able to be achieved more quickly if my piano skills were stronger" (19, PG);

"Negatively. I wish I was better" (38, PG);

"I find that not being able to play harmonies and chords can narrow my understanding of pieces in their full context unless I have access to a recording" (24, PG).

Several mentioned that they were actively working to improve their piano skills:

"My skills are minimal but I work on them and I must say that as they improve, certain aspects of practice become easier ie. playing a melody line" (10, B3);

"I spend an awful lot of time trying to play through songs and enjoy this but it is very distracting" (39, PG).

Singing lessons and practice

Singers were asked to reflect on the relationship between their singing lessons and their practice. Many singers discussed how their lessons informed their practice:

"My singing lesson is where I discover new techniques to practice, and practice sessions are where I get them into my body and make them feel natural" (40, B2);

"I try to go over things my teacher has said in my lesson in more detail" (41, B3);

"My singing lesson determines extra stuff my teacher has identified I need to practice on" (34, B3).

For some students, this relationship between lessons and practice seemed to be reversed:

"Practice is the ground work and my lesson is reinforcement" (16, PG);

"Find issues in that I might specifically need help with in lessons" (24, PG);

"Each singing lesson is a taste of the fruit of my practice" (4, PG).

Some students saw little difference between lessons and practice:

"They are basically the same just without the teacher" (22, B2);

"I try to make them as similar as possible" (38, PG).

Others commented on differences between lessons and practice:

"I feel I can't recreate the same things at home that I do when I'm working with my teacher. And then I get distracted by enjoying the sound of my own voice and do ineffective practice" (51, PG);

"Harder in practice because you don't have the guidance of your teacher to tell you if you are doing the exercises or singing the song correctly" (15, B2).

Recording practice

Only 8 (15%) of the singers kept a practice journal, but another 4 (10%) singers discussed recording themselves in practice:

"I practice performing by recording myself" (8, B3);

"Finding practice rooms with pianos can often be a problem, I end up overemphasising recording and playing back myself and I don't spend enough time looking at text" (39, PG);

"Recording each time of practise is vital" (4, PG);

"Perform small sections of my singing and record and listen back and reflect on it" (36, B2).

Working on repertoire without singing

As a classical singer, a lot of work may be done without having to sing. 27 (49%) singers reported always working on repertoire without singing, 27(49%) reported sometimes working on repertoire without singing, and there was only one person (2%) who reported never working on repertoire without singing. Nearly every singer discussed the study of text – language, pronunciation, translation, and literal and idiomatic meaning; some using IPA transcriptions for foreign languages:

"I do a lot more work on the text of a piece wayyyyy more than I actually do singing it as such" (20, B3);

"Write the IPA and translation down so that the language and text is cemented before approaching the notes" (45, B3);

"I work on language and text. How to speak something and to give the text some more meaning to me" (3, B1).

Many singers conducted research to contextualise a piece with information on the poet and composer, as well as background on the piece itself:

"Research on composer (and author if different) such as: composition style, life, and other works" (9, B2);

"Historical perspective" (26, PG);

"Background of the song/composer" (33, B2).

There were also many aspects of music learning that singers carried out without singing, from learning rhythms and speaking the text in rhythm, singing pieces in one's head, playing melodies at a piano, or transcribing into music notation software. Some also analysed the harmony of a piece:

"I speak the text in rhythm" (15, B2);

"I look at the music and sing it in my head" (37, B3);

"Look at it while I'm at the piano. Note bash and sightread through it. Look at all parts" (14, B1);

"Often I transcribe music into MIDI files to use as a backing for practice. Through this, I study the music up close and I believe it assists with memory of rhythm" (25, B1);

"Musical analysis; thematic analysis" (9, B2).

Singers addressed characterisation and expression, though most seemed to approach this from an acting perspective rather than a musical one:

"Figure out dramatic aspects and try to make meaning from the text" (14, B1);

"Dynamics and any other expressive thoughts (which I then try to put into practice)" (12, PG);

"Performing text as if monologue" (11, B3);

"How to convey text while keeping the sound of singing" (46, D).

Again, some singers reported listening to and watching recordings:

"Watch videos or recordings of professionals singing it to try and get an idea of what I should aim for or how I will perform it" (14, B1);

"Reading through music along with recordings (both of myself and others)" (24, PG).

Memorisation was also carried out without singing – a few singers discussed this:

"Memorising lyrics" (43, D);

"Counting through repertoire for memorisation and learning purposes" (24, PG).

One singer was a particular fan of mental practice:

"Sometimes I find my singing is better if I don't sing for a while and then come back to it and my voice has more depth and ease" (37, B3).

What would you teach your younger self about practice?

When asked what they would teach their younger self about practice, for many the response was "do it":

"You just have to do it and had I done it more I think I would be a lot better now" (22, B2);

"You can get by without doing it, but you will hate yourself for not trying" (42, B1);

"Do small bits everyday" (41, B3);

"You can go far if you practice – it does help!!" (35, B2).

Some flagged planning:

"Laying out a good routine would be important and helpful" (31, B2);

"Set practice goals and stick to them" (19, PG).

A few reflected on technical things:

"You need to warm up your body as well as your voice" (22, B2);

"Breathing is really really important" (40, B2);

"Rolling Rs!!!" (31, B2).

Others considered the mechanics of music learning:

"Actually go through something more than once. Just because you can get through it doesn't mean it's perfect" (3, B1);

"Take your time. It's better to go slowly than to rush through for the sake of it" (44, PG);

"Repetition, repetition, repetition" (45, B3);

"Be thorough… work on the bits that are the hardest… don't let anything slide" (13, B3);

and working on pieces:

"WORDS AND RHYTHMS ARE IMPORTANT!" (18, PG);

"Learn to translate and transcribe more effectively" (34, B3);

"The actual singing part is only a fraction of the work that you need to do. There is so much more that helps you to really learn a piece" (36, B2);

"Being prepared takes away a lot of anxiety" (52, B3).

Others discussed vocal fatigue:

"Don't push it when it isn't working or it hurts, take a break!" (8, B3);

"Don't overstress your voice with practice" (38, PG).

Some discussed effective practice more generally:

"There is such a thing as bad practice. Be more specific." (33, B2);

"Do it effectively – get off your phone" (20, B3);

"Make sure you do it properly because it makes everything easier" (48, B1);

"Don't be absent. Always be aware of what you're doing" (13, B3);

"Consistency is key" (25, B1);

"Talk to your teacher about doing quality practice… they'll help you" (55, PG).

One singer suggested reframing practice in a different way:

"…it doesn't need to be a chore to do each day, and that it doesn't need to be a set amount of time. So long as something, anything really, productive is accomplished then you've done good practice, and if that small amount is all you can do that specific day then that's it. Don't force yourself to practice if it's going to make you worse or make you dislike making music" (24, PG).

Many emphasised staying positive:

"A great deal of what it takes to overcome barriers is mental fortitude/confidence. Don't be afraid to try, and you will learn considerably more." (25, B1);

"Don't judge yourself too much. Be positive" (10, B3);

"Make mistakes… enjoy the process" (29, B3);

"Have faith in your abilities" (35, B2);

highlighted the importance of patience:

"Take your time" (53, D);

"Patience. Dedication. Perseverance." (6, B1);

and offered support to their impatient self:

"Believe that improvements are happening – because they are" (16, PG);

"It's slow, get used to it" (39, PG).

After Practice

Improving practice

When asked to reflect on how they could improve their practice, a significant number of singers thought they should "do more":

"Practice for longer and be more dedicated to how many hours I put in" (15, B2);

"Do it more? Although I've been told I work too hard" (52, B3).

Some suggested better planning:

"Be more specific in a routine and setting very clear goals/criteria to work on in every session. Being more organised" (49, B3);

"Set goals" (55, PG);

"Try to learn my music way earlier than I need to perform it" (6, B1).

Others suggested working on focussing their attention:

"Not get distracted as easily and sometimes when I'm by myself I tend to slack off" (36, B2);

"Not daydream" (45, B3);

"Be more focussed" (24, PG);

and focussing more on certain aspects of their singing technique:

"Be more bodily self aware, find tension and ease it out" (39, PG);

"Take more time with warmups" (29, B3).

Some thought about finding a more methodical approach to practice:

"Create a routine and stick to it" (25, B1);

"Have a more methodical way of approaching practice" (16, PG);

and some suggested specific things for their practice:

"Make sure I get things right more than once before I move on" (48, B1);

"Start sight singing regularly" (2, PG);

"Make sure I take my time. There's no need to rush through at the detriment of technique" (44, PG).

What works well in practice

When reflecting on what worked well in practice, many singers reported confidence in their methods:

"I feel I learn repertoire quite well, and am able to do effective practice without devoting excess time to it. (24, PG);

"My practice routine works pretty well for me at the moment" (44, PG);

"I learn things very well and am slowly improving" (40, B2);

"Working on a broad range of things and not dwelling on certain issues" (16, PG).

Some highlighted aspects of their singing they were managing well:

"Not over singing" (37, B3);

"The new warm up technique I've learnt allows me to get the desired vocal range much quicker than past exercises" (45, B3);

"Song choice is comfy in voice range" (31, B2);

"The practice of breathing" (17, PG).

A few highlighted their memorisation; others their work on music and dramatic expression:

"Characterisation helps me memorise" (29, B3);

"Getting into the meaning of a piece and applying this to my investigation of harmony and melody, etc. to make musical choices." (42, B1).

One highlighted the management of their mood:

"Not being tired or flustered and being generally in a good mood." (27, B3).

Does anything bother you?

30 (55%) singers said there was something about their practice that bothered them. Some were concerned about their motivation:

"I sometimes find it difficult to work up the motivation" (25, B1);

"I'm not very motivated and I'm struggling to find ways to become motivated" (47, B1);

and others were concerned about their self-doubt:

"Uncertainty and self doubts about my ability" (46, D);

"The little voice in my head says that I'm not good enough almost constantly" (55, PG).

Some were bothered by how practice made them feel:

> *"I sometimes feel upset, and find that focussing on one thing can sometimes create problems for other important things. I also get emotional when I don't sound as good as I would like"* (12, PG);
>
> *"I get easily anxious and frustrated"* (18, PG);
>
> *"It bothers me that I don't enjoy it, and it stresses me out"* (42, B1).

A few were bothered by slow progress:

> *"I don't make significant improvement quickly"* (8, B3);
>
> *"I feel like I'm not improving and all my tension is not going away"* (39, PG);
>
> *"I can't see the improvements others can"* (52, B3).

Some were concerned about what they did in practice:

> *"Sometimes I belt"* (29, B3);
>
> *"I feel like I don't do it well, and that I'm trying to reach one ideal of perfection"* (42, B1);
>
> *"I'm not sure when I'm doing things right or not and I'm not always sure how to fix things"* (13, B3);
>
> *"Not having my teacher there"* (23, B2).

Others were concerned about their attention:

> *"I sometimes don't stay focussed and don't practice for long enough"* (15, B2);
>
> *"My lack of attention"* (27, B3);
>
> *"Getting distracted"* (41, B3).

A few singers expressed vocal concerns:

> *"Sometimes if my voice gets tired I'm worried I'll lose my voice and won't be able to sing"* (37, *B3);*
>
> *"I sometimes oversing and fatigue, when I'm frustrated"* (55, PG).

Besides Practice

Beyond singing and the practice room, there were many other things respondents did to improve their singing. Singers recognised the importance of maintaining a healthy lifestyle:

> *"Looking after my health"* (16, PG);
>
> *"Balanced life making time for self care, rest, friends, family, leisure"* (11, B3);

with an emphasis on physical health and exercise:

> *"I workout at the gym"* (38, PG);
>
> *"Fitness and body care – yoga and massage"* (51, PG);
>
> *"Pilates, yoga"* (55, PG);
>
> *"Exercise. Swimming is the best way for improving singing skill"* (4, PG).

Some also discussed aspects of mental health:

> *"Psychological work (meditation etc.)"* (9, B2);
>
> *"Relaxation"* (43, D).

Voice care rated a mention, including a few singers who mentioned speech pathology:

"Keep hydrated/steam when necessary. I try to maintain general vocal health as much as possible" (19, PG);

"Speech pathology" (46, D);

"Limiting things like shouting and alcohol" (16, PG);

"Go to yoga and ballet lessons to keep my posture and alignment in check. I have also recently started seeing a physiotherapist every week as I sustained an injury a month ago which has been affecting my singing" (40, B2).

Singers discussed other skills and training which they sought out to improve performance:

"I do dancing which helps with learning how to perform on stage" (15, B2);

"Performing at karaoke, performance classes" (31, B2);

"Choirs and extra curricular activity" (29, B3);

"I read books about singing and performance, and vocal related stuff if I can. I am trying to get as familiar with a wide range of works and ideas as possible and as early as I can" (14, B1);

whilst some prepared for performance in other ways:

"I practice singing in different outfits, so when a performance comes I know what I prefer to sing in" (47, B1);

"Go to a lot of arts related shows/events/galleries, read, listen to other music; I basically try to experience new and different things to enrich my resources for performance" (10, B3).

A few discussed networking:

"Be involved with composers/instrumentalists; make connections" (33, B2);

"Take advice from different lecturers and successful singers who are at where I wanna be" (37, B3).

Many discussed watching performances and listening to singers:

"Watch operas and other singers" (21, B2)

"I watch other professional performers. I take note of what I like or don't like in fellow students' performances and professional performers" (8, B3);

"I do a lot of musical listening, and although a majority of the music I listen to is in other genres, I feel that my knowledge of and ability to embrace other forms of music allows me to take a more relaxed and maybe less formal approach to my singing, which I feel greatly improves my performance and allows me to do work in a less restrained way" (24, PG).

Research Question 3: "How do classical singers acquire practice strategies?"

Instrumental versus singing practice

The instruments learnt by singers and length of time learnt are presented in Tables 9 and 10. The most common instruments were piano (13), guitar (10), flute (9), and violin (7). Thirteen singers had learnt multiple instruments.

Table 9. Years of Learning Instruments

Years of Learning	Number of Students
More than 8 years	21
Less than 8 years	11
No instrument	18
Incomplete time information	5

Table 10. Instruments Learnt

Instrument	Number of Students
Piano	13
Bowed strings	11
Plucked strings	11
Brass	5
Woodwind	14
Percussion	4

Singers who had learnt instruments were asked reflect on whether their instrumental practice and singing practice were related. Table 11 details their responses.

Table 11. Question: 'Does the way you practice your instrument relate to the way you practice singing?'

Response	Number of Students
Yes	25
No	11
NA (no instrument)	17
Incomplete	2

Many singers noted a difference in their commitment to their instrument compared to singing:

> *"I don't practice my instrument. My skills are not very good. I practice singing regularly"* (2, PG);
>
> *"Other instruments are just for fun and I don't practice them much"* (31, B2);
>
> *"My priority is with singing so I don't put much focus into my piano practice"* (6, B1);
>
> *"I wouldn't call myself a pianist"* (37, B3).

Pianists again discussed how they use their skills in singing practice:

> *"I use piano to help me in my singing"* (31, B2);
>
> *"I do my piano before I sing so I can play the accompaniments"* (48, B1).

For many, their instrumental skills helped their musicianship:

> *"Playing an instrument generally will let your brain latch on to the scales, arpeggios, pentatonics and strange harmonies that you may hear in vocal works because you play them thousands of times over on an instrument"* (3, B1);

"Piano or violin fingering to assist my pitch in sight reading or difficult passages" (8, B3);

"Easier to practice rhythm" (34, B3).

Others recognised an expressive influence:

"I approach the music sometimes from an instrumentalist's perspective as opposed to as singer perspective. This means a more note/rhythm based approach instead of a focus on the text." (35, B2);

"I find the more I sing, the more I find I imitate my instrument. It's a hard habit to get out of" (18, PG);

"I sometimes use violin bow techniques and physicality to work on legato line and phrasing" (8, B3).

Some wind and brass players commented on transferable skill development and awareness of breathing:

"It helped with my breathing and support and being able to have a long phrase" (20, B3);

"*Breathing and posture*" (23, B2);

Breathing is important, shape of mouth and deep long breaths" (29, B3).

Many singers recognised the influence of learning an instrument on the way they approach practice:

"From the mistakes I made learning my instruments, I better know how I learn, and may apply that knowledge to make my singing practice as efficient as possible" (9, B2);

"It relates to the way I tackle a piece. I break down a melodic phrase in voice the same way I would when playing an instrument." (16, PG);

"It instilled a good work ethic and practicing habits that I might not have gained if I'd just begun with singing" (18, PG);

whilst others found little relation between the two:

"I find the way that I approach guitar practise and the way I approach vocal practise is very different" (24, PG);

"Regarding piano practising, I need to practise everyday in order to exercise the muscle of each finger, and promote muscle memory. However for singing, emotion leads voice, so it's unnecessary to practice everyday" (4, PG);

"Flute more music theory, singing more technique and meaning" (11, B3).

Given the age of the participants, most singers learnt their instrument during childhood; their practice would have been scaffolded to a greater or lesser extent, allowing their development of self-regulatory practice skills as they matured. Contrast this with the singer who has not learnt an instrument and has been singing for only a short amount of time before entering university – a big gap in knowledge exists between two such students. Addressing this generally falls on the teacher.

Influence of teacher on singing practice

In reflecting on what their singing teacher had taught them about practice, many singers discussed singing technique and practice content:

"Taught me new technique to apply in all singing I do" (6, B1);

"*She has told me problems I need to work on and exercises I can do to improve my bad vocal habits and to make sure I do them every day to ensure success*" (15, B2);

"All about the vowels, the consonants and the in betweens" (32, B2);

"How to warm up in the classical style, vowel shapes/placement, required volume etc." (25, B1);

"Focussing more on legato and character to inform technique" (44, PG).

A few mentioned an emphasis on the importance of practice:

"It is a vital part of being successful. Do the work and reap the rewards" (45, B3).

Many discussed elements of effective practice:

"To be thorough. Fully aware always." (13, B3);

"I didn't have a process for how to practice I just winged it but now I have strategies on how to practice effectively" (36, B2);

"It's better to do a short amount of really good than a large amount of not so good" (48, B1);

and actual practice techniques:

"Do everything via repertoire" (8, B3);

"You have to practice what's wrong, not learn what you already know how to do" (18, PG);

"Diligence and a keen ear for the little things" (29, B3);

"To set a routine, and focus on the text of a piece before trying to learn it" (49, B3);

"Take your time, be thorough, be constant, do it a lot!" (39, PG).

Of vocal health, they reported learning:

"Not to vocalise too much, look after the voice" (16, PG);

"Don't oversing" (49, B3);

and in terms of practice on the whole:

"To enjoy it" (26, PG);

"To not be too hard on myself all the time" (46, D).

The range of what singers felt they had learnt from their teacher is extreme:

"Everything!" (10, B3);

"That I have to teach myself, she won't do it for me" (34, B3);

"Honestly not a huge amount" (24, PG);

"Nothing" (38, PG);

and even:

"That she doesn't notice when I don't practice" (42, B1).

Discussion

The aim of this research was to examine and explore the practice of classical singers studying at the Western Australian Academy of Performing Arts (WAAPA), from the perspective of self-regulated learning. Emphasis was placed on the factors influencing practice, the practice strategies employed and how these strategies were acquired. The focus was on formal practice – that is, practice carried out alone, with the intention of working on the voice and/or directly on repertoire. Some data on other forms of practice were also collected.

Research Question 1: "What factors affect the practice of classical singers?"

The availability of resources emerged as an important factor affecting singers' practice, particularly in relation to the physical environment. The availability of practice rooms at WAAPA arose as a significant concern for many singers. Whilst the majority of singers reported that they practised both at university and at home, a fifth of students relied solely on WAAPA practice rooms. Many singers expressed their frustration at not being able to find a room between morning classes, for which there is a degree of inevitability, as it is the peak time of day. Many also expressed frustration at organising room bookings, with some students complaining that bookings were hard to come by and often cancelled. Some students expressed a preference for certain room characteristics, including acoustics, floor space, wall space and generally "nice" rooms. For many, however, all they wanted of a room was a piano and a mirror, the combination of which is not necessarily a given in WAAPA practice rooms. Many singers implicitly defined practice in terms of their presence within a practice room, whilst the students who did not find room availability to be an issue found other places to practice. Whether in a practice room or not, singers desired a space where they would not be interrupted, with singers who practised at university complaining that other singers disturbed them when practising. This preference for a distraction-free practice environment was also described by Harnum (2013), who noted that the effect of the practice environment was rarely addressed in the literature. Harnum also found a two-fold desire for privacy in practice – creating a safe place to experiment and make mistakes, and so as not to annoy other people. This is also reflected in the findings of the current study. Research exploring classical singers' preferences for practice room acoustics by Sinal (2015) is one of the only studies to examine the effect of the environment on singers, and found that experienced classical singers had a preference for less reverberant acoustics and that singing effort was significantly less in the preferred room conditions. The effect of the environment on practice is an interesting topic for further research, and could draw from the field of environmental psychology to examine the role the practice environment may play in practice effectiveness, and the various factors that influence this.

Singers reported tiredness, particularly mental fatigue, to be a major demotivating factor in their practice. Whilst it was expected that exertion would limit practice time, the link with motivation was an unexpected finding. Marcora, Staiano, and Manning (2009) reported that mental fatigue affects physical performance and increases perception of effort. Boksem, Meijman, and Lorist (2006), however, found that motivation can be used to overcome mental fatigue. Then, perhaps, the way singers frame the relationship between tiredness and motivation can affect outcomes.

Without motivation, students are unlikely to successfully navigate the demands of practice in the midst of a busy student life. Singers reported a wide range of intrinsic and extrinsic motivators for their practice. Despite Ericsson et al.'s (1993) claim that deliberate practice is not "inherently enjoyable" (p.368), there were singers that reported enjoying practice. This notion is also supported by other studies, including Harnum (2013), who found all eight professional musicians interviewed enjoyed their practice. Other intrinsic motivators for singers in this study were a curiosity about singing, enjoyment of performance and repertoire, and the drive to improve and fulfil potential. This was balanced with several external motivators including lessons and assessment, performances, career goals, and competition with other singers. Singers reported several different strategies used to overcome fluctuating motivation, including setting up a practice routine and rewarding themselves for practising. Many reported attending performances and listening to professional singers as a method to increase motivation – Zimmerman and Campillo (2003), however, note that this kind of motivation boost is short-lived.

Self-efficacy is an important aspect of motivation. On the whole, singers in this study exhibited relatively high self-efficacy, which was found to be linked to a growth mindset. Singers who perceived themselves to be higher ranked among their peers had higher self-efficacy, something founding common with the findings of Ali's (2010) study of classical singers. A higher self-rank was also associated with greater reported practice effectiveness. This aligns with Nielsen (2004), who found that students with higher self-efficacy were more likely to apply cognitive and metacognitive skills to their practice. Many singers recognised a link between motivation and practice effectiveness.

Research Question 2: "What strategies do classical singers employ in practice?"

Three quarters of singers surveyed planned aspects of their practice, though this ranged from deciding which piece to focus on before a practice session, through to timetabling and setting goals related to upcoming performance requirements. Many singers also decided aspects of technique to work on, which was often based on the previous singing lesson. Some senior students reported making much longer-term goals for their technical development. Goal setting is closely linked to motivation, and is an important stage of self-regulated learning, as it is an effective way of measuring achievement in the practice room. Indeed, Oare (2012) found that measuring practice through goals rather than time resulted in more motivated and focussed practicing.

This study found that singers who reported higher weekly practice times and practised daily were also likely to feel that their practice was more effective. Jørgensen (2002) concluded that daily practice was a good indication of the time and effort students invested in practice. The strategies most often discussed in relation to music learning were repetition and breaking down music into sections. An analytic approach, such as the latter, was found by Hallam et al. (2012) to be the preferred strategy when music had to be memorised. Important to note, however, is that students are individuals, and perhaps more important than actual strategies is the way that they are applied – determined by the singer's metacognitive skill. Harnum (2013) found that, in his case studies, expertise was reflected in a creative approach to practice: adapting practice to

effectively solve their specific problems. Singers who reported a greater repertoire of practice strategies were also more likely to report more developed metacognitive skills. The relationship between metacognitive skills and performance marks observed in the current study reflects the finding of Burwell and Shipton (2011) that students' exam success was related to greater planning and organisational activities.

Both in the practice room and beyond, singers engaged in a variety of other activities connected to their singing, particularly in relation to their health. Many singers reported doing a general and/or vocal-specific physical warm up before practising, and several reported an awareness of monitoring and maintaining their vocal health. Beyond the practice room, there was an emphasis on physical exercise, particularly yoga and dance. Some also discussed their mental health, particularly in relation to its effect on motivation. Such discussion is supported by Burwell and Shipton (2011), who found that singers tend to be more conscious of their health and wellbeing than instrumentalists.

Research Question 3: "How do classical singers acquire practice strategies?"

Singers cited their singing lesson as a major source for learning the strategies and skills of practice. Some singers used lesson recordings as a tool to help plan their practice, whilst some practised with a recording of their lesson. For most singers, the content of lessons determined the content of their practice, but a few students saw their lesson as a secondary tool to their practice. Some singers bemoaned the lack of their teacher in the practice room to keep them motivated and on task, others recognised that their self-regulatory skills had to take over. From their teacher, students reported learning about elements of effective practice and practice strategies, as well as the importance of practice – though what students felt they had learnt about practice from their teacher covered an extremely large range, from nothing to everything. Interestingly, whilst nearly all singers reported warming up, very few cool down after practice – perhaps because the latter is almost never accomplished in a singing lesson. In the literature, several studies have examined the teaching of practice strategies in lessons. Kostka (2002) found a disconnect between the amount of teaching of practice skills a teacher thinks they are doing, and the amount picked up by the student. Barry's (2007) study echoed this sentiment, finding that the college students who participated in her research used only a small range of strategies from the selection presented in lessons, and that strategies imparted orally to students were not adopted as readily as those enacted by students during lessons.

Of the singers who had learnt an instrument, several recognised an influence of this experience on their singing practice. For some this was expressed in terms of their musicianship or expressive ideas, and a few wind and brass players commented on transferable physical skill development, especially in relation to breathing. Whilst many singers noted significant differences between their instrumental and singing practice, both in terms of content and commitment level, several were aware of the development of metacognitive practice skills that they transferred to their singing practice. The range of practice knowledge and expertise of singers entering the institution is extreme, but the results of this study suggest that as students study at tertiary level, this gap decreases as all students continue to develop their cognitive and metacognitive practice skills. This study highlights potential for further research comparing an individual's self-regulatory skill and development across music performance and academic or sporting pursuits.

Music institutions present an opportunity for students to learn not just from their teachers, but also from their peers. The results of this study indicate that there is still much potential for peer learning at WAAPA. One way of addressing this could be through running small group student-centred tutorials during non-production periods. These could function essentially as a "practice" class – covering topics such as goal setting, music preparation and learning strategies, managing motivation, and ways to reflect on practice – ideally with mixed year groups, spreading the responsibility of practice instruction from the singing teacher to the wider community of singers.

Limitations and Further Research

Singing practice is a private and personal phenomenon, and only the individual has true insight into their practice. A self-report, however, depends on the singer's awareness of their practice. This is an aspect of self-regulation in and of itself, meaning a less self-aware, less self-regulated singer is less likely to satifactorily report on their practice in detail.

In a larger or more in-depth study of practitioners, the combination of self-reports with practice observation and reflective journaling would provide a more comprehensive picture of singing practice. The current study acknowledges much potential for future research examining the relationship between practice and performance, as well as the relationship between singing practice, singing teaching and the institution.

There is no one "right" way to practice – the diversity of practice is as great as the diversity of the singers themselves. What is important, however, is that students with professional aspirations learn how to become effective, self-regulated learners, able to adapt with ease to the various challenges in a life of singing.

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Appendix A

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Knocking on the Door:
Examining the Practice of Classical Singers
at a Performing Arts Institution

My name is Laura Pitts and I am undertaking a BMus (Hons) degree at Edith Cowan University in Perth, Western Australia. You are invited to take part in this research project, which I am conducting as part of the requirements of my degree. The research project has ethics approval from the WAAPA/SAH Ethics Sub-Committee.

This project aims to document and examine the practice habits, practice strategies and factors that affect the practice of classical singers studying at a performing arts institution. If you choose to take part in the project you will be asked to complete a 20 minute online survey.

All information collected during the research project will be treated confidentially and you will remain anonymous – **your responses can never be linked back to you**. All data collected will be stored securely on ECU premises for a minimum of five years after the project has concluded. The results will be presented in a written report, in which no participant will be identified. You may be sent a summary of the final report on request. The data will be retained and may be used in future research.

I do not anticipate any risks associated with participating in this research project.

Participation in this project is voluntary and you are free to withdraw at any time and there will be no penalty for doing so. If you would like to take part in the project, please fill in the consent question below.

If you have any questions about the research project or require further information you may contact the following:

Student Researcher: Laura Pitts
Email: lpitts0@our.ecu.edu.au

Supervisor: Ms Linda Barcan
Telephone: +61 8 6304 6448
Email : l.barcan@ecu.edu.au

If you have any concerns or complaints and wish to contact an independent person about this research project, you may contact:

Dr Matthew Styles
Chair of the WAAPA/SAH Ethics Sub-Committee
Phone: (+61 8) 9370 6065
Email: m.styles@ecu.edu.au

Thank you for your time.

Yours sincerely,

Laura Pitts

Knocking on the Door: Examining the Practice of Classical Singers at a Performing Arts Institution

1. What is your age?
- ❍ 18-19
- ❍ 20-22
- ❍ 23-25
- ❍ 26-30
- ❍ Over 30

2. What is your gender?
- ❍ Male
- ❍ Female
- ❍ Other

3. What is your year level?
- ❍ Diploma
- ❍ First year
- ❍ Second year
- ❍ Third year
- ❍ Honours/Postgraduate

4. For how many years have you been having singing lessons (including this year)? _____

5. For how many years have you been studying singing at a tertiary level (including this year)? _____

6. For how many years have you been learning from your current teacher (including this year)?_____

7. In relation to the other singers in your year, where do you feel you rank?
- ❍ I am at the bottom level of singers in my year
- ❍ I am in the bottom third of the singers in my year
- ❍ I am in middle of the singers in my year
- ❍ I am in the top third of the singers in my year
- ❍ I am one of the top singers in my year

8. In relation to the other singers across all year levels, where do you feel you rank?
- ❍ I am at the bottom level of singers here
- ❍ I am in the bottom third of the singers here
- ❍ I am in middle of the singers here
- ❍ I am in the top third of the singers here
- ❍ I am one of the top singers here

9. Are you aspiring to be a professional singer?
- ❍ Yes
- ❍ No

10. What grade do you normally get for performance?
- ❍ P
- ❍ CR
- ❍ D
- ❍ HD

11. Do you have piano skills?
- ❍ Yes
- ❍ No

12. How does this affect your practice?

13. Regardless of your piano skills, do you play an instrument (including the piano)?
- ❍ Yes
- ❍ No

13a. If you do, which instrument(s)? How long have you been playing?

14. Does the way you practise your instrument relate to the way you practise singing? How?

15. What motivates you to practise singing?

16. Do you practise singing daily?
- ❍ Yes
- ❍ No

17. Do you follow a regular singing practice routine?
- ❍ Yes
- ❍ No

17a. If you do, please describe your routine:

18. In a normal week, how many hours do you aim to practise singing? _____

19. In a normal week, how many hours do you actually practise singing? _____

20. Do you normally practise in one session or in several blocks throughout the day?
- ❍ One session
- ❍ Two blocks
- ❍ Three blocks
- ❍ Four or more blocks

20a. On average, how long is each practice session? (in minutes)

21. In which ways (if any) do access to and use of resources affect your singing practice? [time, space, tools etc.]

22. In which ways (if any) does the effort required to practice affect your singing practice?

23. In which ways (if any) does motivation affect your singing practice?

24. Where do you normally practise singing? (please list)

25. If you practice at university, does the presence of other singers affect your practice? How?

26. Do you plan aspects your practice?
- ❍ Yes
- ❍ No

26a. If so, what planning do you do?

27. Do you keep a practice journal?
- ❍ Yes
- ❍ No

28. Hallam (1997) defined effective practice as "that which achieves the desired end-product, in as short a time as possible, without interfering negatively with longer-term goals." Where 0 is extremely ineffective, and 10 is extremely effective, how effective do you feel your practice?

0 1 2 3 4 5 6 7 8 9 10

29. Do you work on repertoire without singing it?

- ❍ Yes, always
- ❍ Yes, sometimes
- ❍ No, almost never

29a. If so, what do you do to work on repertoire without singing?

30. Besides singing practice and lessons, is there anything else you do to improve your singing and/or performance?

31. The following questions ask about your attitudes and strategies related to singing practice.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No singing task is too difficult for me	❍	❍	❍	❍	❍
Compared with others in the classical vocal program, I think I am a good singer	❍	❍	❍	❍	❍
I believe I can become outstandingly good at singing	❍	❍	❍	❍	❍
When I set singing goals for myself, I am sure I can achieve them	❍	❍	❍	❍	❍
I expect to be known as a good singer	❍	❍	❍	❍	❍
I feel I can solve any vocal problem I encounter	❍	❍	❍	❍	❍
I expect to do well in singing in the future	❍	❍	❍	❍	❍
I am confident in my ability to improve my singing	❍	❍	❍	❍	❍
Compared with others in the classical vocal program, I expect to do well	❍	❍	❍	❍	❍
I do not feel confident in my ability to sing	❍	❍	❍	❍	❍

32. The following questions ask about your attitudes and strategies related to singing practice.

	Never	Rarely	Sometimes	Often	Always
I mark trouble spots in my music when practising	❍	❍	❍	❍	❍
Thoughts about non-musical things run through my head while I practise	❍	❍	❍	❍	❍
I daydream when practising	❍	❍	❍	❍	❍
I practise difficult spots slowly	❍	❍	❍	❍	❍
I ask my singing teacher for help practising difficult music	❍	❍	❍	❍	❍
I practise challenging music	❍	❍	❍	❍	❍
I use my singing teacher's advice when practising	❍	❍	❍	❍	❍
I carefully look through a new piece before practising it	❍	❍	❍	❍	❍
I set specific practice goals	❍	❍	❍	❍	❍
I am mindful of my own singing while I practice to make sure I am not reinforcing bad habits	❍	❍	❍	❍	❍
I am easily distracted when practising	❍	❍	❍	❍	❍
I work hard when practising	❍	❍	❍	❍	❍
I spend time each practice session reviewing music	❍	❍	❍	❍	❍
I make time in my practice to sight-read new music	❍	❍	❍	❍	❍
I ask a peer for help practising difficult music	❍	❍	❍	❍	❍
I try to get one section of music perfect before practising the next section	❍	❍	❍	❍	❍
It is easy for me to remain focused on my music when practising	❍	❍	❍	❍	❍
I look up definitions for unfamiliar terms and symbols when practising	❍	❍	❍	❍	❍
I come well prepared to rehearsals and lessons	❍	❍	❍	❍	❍
I practise to see how much better I can actually get at singing	❍	❍	❍	❍	❍

	Never	Rarely	Sometimes	Often	Always
I think about pieces I'm practising by singing them through in my mind	❍	❍	❍	❍	❍
I look to the internet for information on singing that helps me learn	❍	❍	❍	❍	❍
I finish practice with a cool-down	❍	❍	❍	❍	❍
I practise every day	❍	❍	❍	❍	❍
I use practice tools (metronome, pilates band, recordings, etc.)	❍	❍	❍	❍	❍
I listen to musical recordings to help me learn	❍	❍	❍	❍	❍
I have difficulty concentrating when practising for extended periods of time	❍	❍	❍	❍	❍
I talk to my singing teacher about how to practise	❍	❍	❍	❍	❍
I spend practice time on things I cannot do very well	❍	❍	❍	❍	❍
I can only concentrate for short periods of time when practising	❍	❍	❍	❍	❍
If I can't sing a piece correctly, I stop to think about how it should sound	❍	❍	❍	❍	❍
I listen carefully to my singing teacher's practice advice	❍	❍	❍	❍	❍
I work to improve whenever practising	❍	❍	❍	❍	❍
I begin practice with a warm-up	❍	❍	❍	❍	❍
I practise the day after a lesson	❍	❍	❍	❍	❍
I ask for feedback on my practice from my singing teacher	❍	❍	❍	❍	❍
I record and listen back to my practice	❍	❍	❍	❍	❍
I think about things I learn in lessons when practising	❍	❍	❍	❍	❍
I look to books for information on singing that helps me learn	❍	❍	❍	❍	❍
When I am practising, I stop singing and try to think about the best way to work out a vocal problem	❍	❍	❍	❍	❍

33. The following questions ask about your beliefs about learning to sing.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No matter who you are, you can significantly change your vocal aptitude	❍	❍	❍	❍	❍
You have a certain amount of singing ability, and you can't really do much to change it	❍	❍	❍	❍	❍
You can learn new things, but you can't really change your basic singing ability	❍	❍	❍	❍	❍
You can change your basic vocal aptitude level considerably	❍	❍	❍	❍	❍
You can always substantially change how vocally talented you are	❍	❍	❍	❍	❍
Your vocal potential is something that you can't change very much	❍	❍	❍	❍	❍
You can't really change how vocally talented you are	❍	❍	❍	❍	❍
No matter how much vocal potential you have, you can always change it quite a bit	❍	❍	❍	❍	❍

34. What would you teach your younger self about practice?

35. What is the relationship between your singing lesson and your practice?

36. What has your current singing teacher taught you about practice?

37. What aspects of your practice work well for you?

38. What could you do to improve your singing practice?

39. Is there anything about your practice that bothers you?

40. Any other comments about practice you would like to share?

Appendix B

Statistical terms

Mean (*M*)	the average score
Standard deviation (*SD*)	a measure of the spread of scores relative to the mean
Skewness	a measure of the symmetry of a distribution relative to the normal curve
Kurtosis	a measure of how peaked a distribution is relative to the normal curve
Likert scale	a widely-used quantitative method for measuring attitudes directly, through the use of a scale encompassing the full range of attitudes (ie. strongly disagree – strongly agree)
Cronbach alpha coefficient (α)	a measure of internal reliability of an instrument, indicating the degree to which items are measuring a common factor
Pearson correlation coefficient	a statistic indicating the degree of linear relationship between two measured variables

These definitions are adapted from Vogt and Johnson (2015).