

The Effects of Quartz Crystal Singing Bowl Music and Guided Relaxation on Mood and Sleep in Young Adults

Study Protocol

Version 1

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1. Key Contact Details / Study Team

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2. Background

The number of people reporting poor mental wellbeing is increasing, with rates exceeding 25% of the population. Rates of psychological distress in young people (aged 15-24 years) increased from 19.7% to 26% between 2019 and 2021, with one in five (21.2%) reporting high or very high levels of distress [1]. Whilst several treatment options are available, the most accessible are pharmacological interventions which take time to be effective, have unwanted side effects, and fail to take into account cultural beliefs and practices [2]. Access to professional help and support for psychological distress is also an issue with young adults reporting the highest rates of unmet need in the population (15.5% for 15–24 years and 11.5% for 25–34 years) [3]. Meditation and mindfulness are reported to be effective in decreasing stress and enhancing mood [4, 5] but time, practice, self-motivation and patience are required to fully realise the benefits. Indeed, some authors suggest that the adhering to the meditation sessions or mindfulness programs may become a source of stress [6]. Given the high rates of distress, and difficulties accessing professional mental health support, there is a need to explore alternate options that are easily accessible and can be made readily available to young people to improve their mental health and wellbeing.

Music and sound have been used for centuries to aid relaxation and improve mood [7]. Many people use music to help them relax and sleep better, which has been confirmed as effective in studies with general population and clinical samples [8-11]. Music has long played a key role in young peoples' lives, and serves a variety of purpose including helping to regulate emotions, expressing ones identity and relating to others [12]. Young people tend to choose music to match the context or situation with high- arousal music chosen for exercise and low arousal music for relaxation [13]. Listening to music prior to classes at school, led to improvements in mood, motivation, concentration and learning [14]. These effects were explained by the music creating positive emotions, increasing attention, and providing routine and rest between classes [14]. Music based therapies are also reported to reduce depression and anxiety in adolescents [15], and in university students listening to music had significant effects on both subjective stress and salivary cortisol levels, with the most profound effects being seen when using relaxation music [16].

Sounds with a repetitive beat are traditionally used by Shamans to enter trance like states, and Tibetan monks also use sound when practicing meditation. Sound healing has been used by cultures across the world, for example, the Didgeridoo has been used by aboriginal tribes in Australia for over 40, 000 years [7]. Relaxation music played on “singing bowls” (Himalayan or Tibetan metal bowls or quartz crystal bowls) is readily available and is reported to have rapid, remarkable benefits on stress, mood and sleep. One clinical study in adults, using a pretest-post-test design, reported that an hour-long session of listening to metal and quartz crystal singing bowls resulted in an immediate mean 71% reduction in negative mood scores on the Profile of Mood States [16]. Another study used a randomised sequential crossover design to test the effect of adding either a 12 minute session of silence or listening to Himalayan singing bowls, prior to a 20 minute session of directed relaxation; the singing bowl intervention produced greater beneficial effects on physiological stress measures and mood [17]. In addition, another study reports that a single session of listening to Tibetan singing bowls led to greater physiological and psychological relaxation response (as shown by EEG and heart rate variability) compared with progressive muscle relaxation [18]. There is also preliminary evidence of the efficacy of Tibetan singing bowls in improving mood in young people; using a pre -test post-test design, one 25 minutes session of relaxation music played on quartz crystal singing bowls to a small group (n=11) of NZ adolescent males significantly reduced depression scores (on the Profile of Mood States) immediately after the session, as well as lowering tension scores [19].

Taken together these findings suggest that relaxation music played on singing bowls may be beneficial in improving mood, decreasing stress, and improving sleep. Extending the previous work by co-PI Jameson [19], this study seeks to compare the effects of listening to quartz crystal singing bowl music with guided relaxation on mood, stress and sleep in a larger sample of young adults. Participants will be randomly assigned to either the singing bowl (SB) or guided progressive muscle relaxation (PMR) condition. Participants will be asked to listen to singing bowl music or complete the PMR exercises for 10 minutes three time a week for four weeks (delivered online via the Qualtrics platform) and will then be given free access to the music or guided meditation for another four weeks whilst their use is monitored. Ratings of mood, stress and sleep will be completed at baseline, 4 weeks and 8 weeks. For one session per week, participants will be asked to complete visual analogue rating scales of their mood/stress immediately before and after the session to determine the acute effects of the intervention.

3. Study Design and Method

a) Hypothesis

Listening to singing bowl music will result in equivalent improvements in mood, stress and sleep compared with guided relaxation immediately after the session, and at 4- and 8-weeks post-intervention.

b) Design

Randomised controlled trial.

c) Intervention

Singing bowl music (SB)

The singing bowl relaxation music ('Tranquility' available on Spotify) was played by Annie Jameson and professionally recorded. The sound is produced by tapping the bowls and rubbing them with a rubber mallet. Each session took approximately 10 minutes.

Guided relaxation (PMR)

A guided progressive muscle relaxation audio (recorded by the NZ Cancer Society <https://www.youtube.com/watch?v=Zydrp3rfJdY>) and similar to the PMR script from the Anxiety and Phobia Workbook by Edmund Bourne [20]) was used. The session took approximately 12 minutes. Participants were instructed to start by sitting or lying comfortably, taking some deep breaths and then tense and relax muscles in a sequential manner from the head to the feet (see Appendix 6 for an example of the PMR script).

d) Outcome measures

Profile of Mood States Abbreviated [21]. Participants are presented with a list of 40 words that describe feelings people have. They are asked to circle the number that best describes how they feel right now from 0 (not at all), 1 (a little), 2 (moderately), 3 (quite a lot) to 4 (extremely). Alogue scales - . A Total Mood Disturbance score (TMD) is also calculated by summing the totals for the negative subscales (Tension, Depression, Anger, Fatigue, Confusion), and subtracting the totals for the positive scales (Vigour, Esteem-related Affect [Note that 2 item are reverse scored for the ERA subscale]). See Appendix 3. The primary outcome measure is the TMD, but we will conduct secondary analyses to examine the effects of the interventions on the subscale scores.

Modified Auckland Sleep Questionnaire [22]. The Auckland Sleep questionnaire was developed to diagnose common sleep disorders in primary care. We will use the items about current sleep and asked participants to rate them in reference to the previous week (rather than the previous month as in the original questionnaire). The overall sleep quality rating will be used in the analysis (Appendix 4).

Visual Analogue Scales

To assess the acute effects of the intervention, participants will be asked to complete ratings of overall mood, relaxation, and stress before and after one session each week. Participants are asked to rate how they are feeling *right now* using a visual analogue scale (VAS) from 0 (worst I've ever felt not relaxed, not stressed,) to 100 (very stressed, very relaxed, best I've ever felt)[23, 24] see Appendix 5.

e) Objectives

Primary Objective

To determine if the effects of listening to singing bowl music are equivalent to that of progressive guided muscle relaxation on self-report measures of mood in young adults (Total Mood Disturbance of the POMS) at 4- and 8- weeks post intervention.

Secondary Objectives

To compare the effects of the interventions on:

- Profile of Mood States-Abbreviated (POMS) subscale scores
- Overall sleep quality from the Auckland Sleep Questionnaire
- VAS ratings of mood, stress and relaxation

Exploratory analyses will be undertaken to determine i) how frequently the participants use the interventions in weeks 4-8, and ii) the acceptability of the interventions.

4. Study population

Members of the general population aged 16-25 years will be recruited to participate in the study. To be eligible to take part, potential participants need to have good hearing, good understanding of English and have a mobile phone or computer to access the intervention and questionnaires via the Qualtrics application. Participants will be excluded if: they are regular users of relaxation music from quartz crystal singing bowls or progressive muscle relaxation, have an untreated mental health diagnosis, or are receiving treatment from a psychologist or psychiatrist. (See Appendix 1 for the eligibility questionnaire).

Participants will initially be recruited from the first-year psychology participant research pool (IPRP) and will receive up to 10% course credit for participation (as outlined in the flyer and participant information sheet (PIS) appendices 7 and 8. Study flyers will also be posted around the University to recruit more widely (participants can choose to enter a prize draw). In the next stage of the study, we will approach secondary schools to advertise the research to their students (subject to additional ethics approval).

We aim to recruit at least 100 participants, with a minimum of 50 university students.

5. Study Procedures

The study/questionnaires will be delivered via the Qualtrics software. Those interested in participating will contact the researchers via a study email address singingbowls@waikato.ac.nz. Each participant will be allocated to one of the students who will be responsible for monitoring the participant's completion of the questionnaires and sending reminders to complete the intervention as needed. Participants will be sent an individual link to the information sheet, consent form, and eligibility form (Appendices 1, 8). Those meeting the eligibility criteria will automatically be directed to complete the demographic questionnaire (Appendix 2), and the mood (POMS) and sleep measures (modified Auckland Sleep questionnaire) Appendix 3 & 4, (T1).

Participants will then be randomised to either the singing bowl (SB) (Tranquility by Annie Jameson) or the guided relaxation group (PMR; example script is in Appendix 6) and given access to the relevant audio on the qualtrics platform (to allow us to monitor when and for how long participants engaged with the intervention). Participants will be asked to listen to the relevant intervention 3 times a week for four weeks (each session is approximately 10 minutes). Before and after one session each week, participants will be asked to complete the visual analogue ratings scales to assess the acute effects of the intervention on their mood, stress and relaxation (Appendix 5). Participants will be sent reminders 3 x per week to complete the intervention.

Participants will be asked to complete the mood and sleep measures again after 4- (T2) and 8-weeks (T3)

The students will actively monitor participant's engagement in the study and send email reminders to complete the intervention sessions (Qualtrics is set up to automatically send email notifications to the study email address when participants complete each session so we can keep track of where they are up to) and the questionnaires at 4 and 8 weeks after the start of the study. After the first four weeks, participants will have free access to either the SB or PMR audio to use as much as they like, and we will monitor the frequency of use via the qualtrics app for the next four weeks. We will send out the link to the intervention weekly in weeks 4-8.

After completion of the 8 week questionnaire (T3) participants will be provided unlimited (and unmonitored) access to both audio tracks and will be asked to provide any feedback on the study.

6. Statistical Analysis

Primary outcomes

Difference scores between baseline (T1) and T2 (4 weeks), and T3 (8 weeks) for the POMS TMD will be calculated.

Secondary outcomes

- a) Difference scores between baseline (T1) and T2 (4 weeks), and T3 (8 weeks) for the POMS subscale scores and Auckland Sleep questionnaire will be calculated.
- b) The number of intervention sessions completed between T1 and T2, and T2 and T3.
- c) Feedback on the acceptability and effectiveness of each intervention.

Sample size

A previous study examining the effects of an in person Tibetan singing bowl (n=62) session showed mean reductions of 0.49 to 1.23 (SD 0.19-1.05) in five POMS subscale scores [16]. A study with a much smaller group of teenage males (n= 11) showed significant reductions in POMS depression scores post-intervention [19]. In person PMR or Autogenic relaxation sessions in young soccer players (n=8) produced significant reductions in four of the six POMS-A subscales (mean difference 2.13 to 4.25; SD 2.38 to 4.47) [25]. As the current study is online rather than in-person, and the sessions are shorter, the effects may be somewhat smaller. Given this we are aiming to recruit a minimum of 100 participants (50 per group). This will provide > 90% power (2-sided $\alpha=0.05$) to detect a medium size effect of the intervention on the POMS subscales.

Analysis Plan

Univariate repeated measures ANOVA will be used to examine the effects of the intervention on the overall TMD score from the POMS, VAS scores and sleep scores. Repeated measures MANOVA will be used to examine changes in the POMS subscale scores.

Participants will be excluded from the analyses if they have not completed at least one intervention session per week for the first four weeks. The number of sessions completed during the first four weeks may be included as a covariate in the analyses.

7. Safety Concerns

Participants will be encouraged to contact us if they have any concerns. We will discuss the issue with the clinical advisor (with the participants consent) and encourage the participants seek support from their GP in the first instance. We will also have a list of support organisations available for participants.

8. Publication

All listed investigators will be co-authors on any presentation or manuscript published from this study. The principal investigators will be the first authors on the study manuscript.

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Appendix 1

Eligibility Questionnaire

The next few questions are to confirm that you are eligible to participate in the study. After that we will ask you to provide some information about you, and answer some questions about your mood and your sleep. You can then complete the first relaxation exercise, so make sure you are somewhere comfortable and quiet and have some headphones.

How old are you?

16 (16) ... 25 (25)

Do you have access to a mobile/tablet or laptop, and headphones so that you can access the intervention?

No (1) Yes (2)

Do you use singing bowls music regularly (more than once a month)?

No (1) Yes (2)

Do you use guided meditation regularly (more than once a month)?

No (1) Yes (2)

Are you currently receiving treatment from a psychologist or psychiatrist?

No (1) Yes (2)

Appendix 2

Demographic questionnaire

Now we want to know a little bit about you... What gender do you most identify as?

Male (1)

Female (2)

Non-binary/third gender (3)

Prefer to self-describe: (4) _____

Prefer not to say (5)

Q4.3 What is your ethnicity? (Select all those that apply)

New Zealand European (1)

Maori (2)

Samoan (3)

Cook Island Maori (4)

Tongan (5)

Niuean (6)

Chinese (7)

Indian (8)

Other, such as Dutch, Japanese, Tokelauan (9)

Q4.4 What is your first language?

Q4.5 Please tell us a bit about your education

Still at secondary school (1)

Completed secondary school (2)

At University/Tec (3)

Completed University/Tec (4)

Q4.6 What qualifications have you completed? (tick all that apply)

Nil (1)

NCEA Level 1 or equivalent (2)

NCEA Level 2 or equivalent (3)

NCEA Level 3 or equivalent (4)

Trade - Specify (5) _____

Professional - Specify (6) _____

Tertiary - Specify (7) _____

Other - Specify (8) _____

Appendix 3

Abbreviated POMS (Revised Version)

Below is a list of words that describe feelings people have. Please **CIRCLE THE NUMBER THAT BEST DESCRIBES HOW YOU FEEL RIGHT NOW.**

		Not At All	A Little	Moderately	Quite a lot	Extremely
1	Tense	0	1	2	3	4
2	Angry	0	1	2	3	4
3	Worn Out	0	1	2	3	4
4	Unhappy	0	1	2	3	4
5	Proud	0	1	2	3	4
6	Lively	0	1	2	3	4
7	Confused	0	1	2	3	4
8	Sad	0	1	2	3	4
9	Active	0	1	2	3	4
10	On-edge	0	1	2	3	4
11	Grouchy	0	1	2	3	4
12	Ashamed	0	1	2	3	4
13	Energetic	0	1	2	3	4
14	Hopeless	0	1	2	3	4
15	Uneasy	0	1	2	3	4
16	Restless	0	1	2	3	4
17	Unable to concentrate	0	1	2	3	4
18	Fatigued	0	1	2	3	4
19	Competent	0	1	2	3	4
20	Annoyed	0	1	2	3	4
21	Discouraged	0	1	2	3	4
22	Resentful	0	1	2	3	4
23	Nervous	0	1	2	3	4
24	Miserable	0	1	2	3	4
25	Confident	0	1	2	3	4
26	Bitter	0	1	2	3	4
27	Exhausted	0	1	2	3	4
28	Anxious	0	1	2	3	4
29	Helpless	0	1	2	3	4
30	Weary	0	1	2	3	4
31	Satisfied	0	1	2	3	4
32	Bewildered	0	1	2	3	4
33	Furious	0	1	2	3	4
34	Full of pep	0	1	2	3	4
35	Worthless	0	1	2	3	4
36	Forgetful	0	1	2	3	4
37	Vigorous	0	1	2	3	4
38	Uncertain about things	0	1	2	3	4
39	Bushed	0	1	2	3	4
40	Embarrassed	0	1	2	3	4

Appendix 4

Auckland Sleep questionnaire (current sleep)

Please answer the following:

a. Do you have problems getting to sleep, staying asleep, poor quality sleep, or waking early such that it affects your functioning the next day – this includes feeling excessively sleepy the next day?

No Yes

b. Does this occur 3 or more times per week?

No Yes

c. Has it been like this for more than one week?

No Yes

d. How long have you had this problem? _____

e. If **yes**, was there some event that caused this? (Please describe.)

Were there specific reasons for your poor sleep? i.e. baby crying, sick family member, partying too late, work/school requirements? _____

f. Do you need medication to help your sleep, mood or stress?

Please tick one:

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

g. If **yes**, what is the name of this medicine(s) _____

h. During the past week, how would you rate your sleep quality overall?

Please tick one:

Very good

Fairly good

Fairly bad

Very bad

Last time point only

Do you have any feedback on the intervention? What did you think about it? Did you like it?

Would you recommend the intervention you experienced to other rangitahi?

Thank you for answering the questions. You've now completed the study. Over the next few days you will receive an email with links to the progressive muscle relaxation and singing bowls tracks so you can use them whenever you like

Appendix 5

Visual analogue scales

Overall, how do you feel right now? Move the slider along the line to indicate your response.

0 = Worst I have ever felt 100 = Best I have ever felt

0 10 20 30 40 50 60 70 80 90 100

Q1.3 How relaxed do you feel right now? Move the slider along the line to indicate your response.

0 = Not relaxed 100 = Very relaxed

0 10 20 30 40 50 60 70 80 90 100

Q1.4 How stressed do you feel right now? Move the slider along the line to indicate your response.

0 = Not stressed 100 = Very stressed

0 10 20 30 40 50 60 70 80 90 100

Appendix 6

Progressive Muscle Relaxation Script (Adapted from *The Anxiety & Phobia Workbook*, by Edmund J. Bourne)

Progressive muscle relaxation is an exercise that relaxes your mind and body by progressively tensing and relaxation muscle groups throughout your entire body. You will tense each muscle group vigorously, but without straining, and then suddenly release the tension and feel the muscle relax. You will tense each muscle for about 5 seconds. If you have any pain or discomfort at any of the targeted muscle groups feel free to omit that step. Throughout this exercise you may visualize the muscles tensing and a wave of relaxation flowing over them as you release that tension. It is important that you keep breathing throughout the exercise. Now let's begin....

Begin by finding a comfortable position either sitting or lying down in a location where you will not be interrupted.

Allow your attention to focus only on your body. If you begin to notice your mind wandering, bring it back to the muscle you are working on.

Take a deep breath through your abdomen, hold for a few second, and exhale slowly. Again, as you breathe notice your stomach rising and your lungs filling with air.

As you exhale, imagine the tension in your body being released and flowing out of your body.

And again inhale.....and exhale. Feel your body already relaxing.

As you go through each step, remember to keep breathing.

Now let's begin. Tighten the muscles in your forehead by raising your eyebrows as high as you can. Hold for about five seconds. And abruptly release feeling that tension fall away.

Pause for about 10 seconds.

Now smile widely, feeling your mouth and cheeks tense. Hold for about 5 seconds, and release, appreciating the softness in your face.

Pause for about 10 seconds.

Next, tighten your eye muscles by squinting your eyelids tightly shut. Hold for about 5 seconds, and release.

Pause for about 10 seconds.

Gently pull your head back as if to look at the ceiling. Hold for about 5 seconds, and release, feeling the tension melting away.

Pause for about 10 seconds.

Now feel the weight of your relaxed head and neck sink.

Breath in...and out.

In...and out.

Let go of all the stress

In...and out.

Now, tightly, but without straining, clench your fists and hold this position until I say stop. Hold for about 5 seconds, and release.

Pause for about 10 seconds.

Now, flex your biceps. Feel that buildup of tension. You may even visualize that muscle tightening.

Hold for about 5 seconds, and release, enjoying that feeling of limpness.

Breath in...and out.

Now tighten your triceps by extending your arms out and locking your elbows. Hold for about 5 seconds, and release.

Pause for about 10 seconds.

Now lift your shoulders up as if they could touch your ears. Hold for about 5 seconds, and quickly release, feeling their heaviness.

Pause for about 10 seconds.

Tense your upper back by pulling your shoulders back trying to make your shoulder blades touch. Hold for about 5 seconds, and release.

Pause for about 10 seconds.

Tighten your chest by taking a deep breath in, hold for about 5 seconds, and exhale, blowing out all the tension.

Now tighten the muscles in your stomach by sucking in. Hold for about 5 seconds, and release.

Pause for about 10 seconds.

Gently arch your lower back. Hold for about 5 seconds, relax.

Pause for about 10 seconds.

Feel the limpness in your upper body letting go of the tension and stress, hold for about 5 seconds, and relax.

Tighten your buttocks. Hold for about 5 seconds..., release, imagine your hips falling loose.

Pause for about 10 seconds.

Tighten your thighs by pressing your knees together, as if you were holding a coin between them. Hold for about 5 seconds...and release.

Pause for about 10 seconds.

Now flex your feet, pulling your toes towards you and feeling the tension in your calves. Hold for about 5 seconds, and relax, feel the weight of your legs sinking down.

Pause for about 10 seconds.

Curl your toes under tensing your feet. Hold for about 5 seconds, release.

Pause for about 10 seconds.

Now imagine a wave of relaxation slowly spreading through your body beginning at your head and going all the way down to your feet.

Feel the weight of your relaxed body.

Breathe in...and out...in...out....in...out

The Effects of Quartz Crystal Singing Bowl Music and Guided Relaxation on Mood and Sleep in Rangatahi (young adults)



What is this study about?

- An increasing number of rangatahi (young adults) report low mood and trouble sleeping but accessing help can be challenging.
- We want to find out if listening to music played on singing bowls or guided relaxation exercises improve mood and sleep
- The study is being led by Professor Nicola Starkey, School of Psychology, University of Waikato and Associate Professor Michael Jameson, University of Auckland and has received approval from the University of Waikato Human Research Ethics Committee (HREC(Health)2024# 03); humanethics@waikato.ac.nz

Am I eligible to take part?

- You are aged between 16-25 years, have a good understanding of English, good hearing and have a mobile phone/laptop to access the internet
- You cannot take part if you already use singing bowls or guided relaxation, or are currently receiving treatment from a psychologist or psychiatrist

What am I being asked to do?

- To complete questionnaires about your mood and sleep at three time points and participate in the online intervention three times a week for four weeks (each session is approximately 10 minutes)
- You can participate in the intervention at a time and place that suits you
- As a thank you for your participation, first-year psychology students can receive up to 10% course credit via the IPRP scheme. Other participants can opt to enter a prize draw to win a \$100 warehouse voucher

Who can I speak with about my participation in this project?

- Contact Nicola Starkey on 07 8379230 or email nstarkey@waikato.ac.nz
- Or scan the QR code / follow the link ([QR code /link to be added](#))

Appendix 8

The Effects of Quartz Crystal Singing Bowl Music and Guided Relaxation on Mood and Sleep in Rangatahi (Young Adults)



Participant Information Sheet (IPRP)

What is this study about?

The number of people reporting poor mental wellbeing is increasing, with rates exceeding 25% of the population. Rates of psychological distress in young people (aged 15-24 years) are rapidly increasing but many cannot access professional help. Meditation and mindfulness are effective but require a lot of practice, so other treatment options are needed.

Music and sound (sound healing) have been used for centuries to aid relaxation and improve mood, and studies have shown that listening to music improves mood and aids relaxation. We want to compare the effectiveness of quartz crystal singing bowl music with guided relaxation on mood, stress and sleep in rangatahi.

The study is being led by Professor Nicola Starkey, School of Psychology, University of Waikato, Associate Professor Michael Jameson, Waikato Clinical School, University of Auckland with the assistance of a Masters student, Kellianne Hamilton and two Honours students, Annalise Bech and Alice Wilson. Jacqueline Woodland is our Māori advisor and Dawn Willix-Payne is providing the clinical psychology support.

Am I eligible to take part?

- You are eligible to take part in this study if you are aged 16 – 25 years of age, have a good understanding of English, good hearing and have a mobile phone/laptop to access the internet
- You cannot take part if you already use singing bowls or guided relaxation (because we won't know if the interventions we are testing are effective), or are currently receiving treatment from a psychologist or psychiatrist (because we do not want to interfere with your ongoing treatment)

What am I being asked to do?

If you agree to take part in this study, we will ask you to answer some questions about you, your mood, and how well you are sleeping. You will then be given a link to access the online intervention (singing bowl music or guided relaxation). We would like you to complete the intervention three times a week for four weeks (each session takes 10 minutes) whenever is convenient for you. We will keep track of how often you complete the intervention and send you reminders. Occasionally we will ask you to complete ratings of your mood at the beginning and end of one of the intervention sessions.

After four weeks we will ask you to complete the mood and sleep questionnaires again and give you free access to the intervention for another four weeks (you can use it as much as you like). We will then ask you to complete the mood and sleep questionnaires again, and ask you for feedback on the

study. You will then be given free access to both the singing bowl music and guided relaxation so you can continue to use it if you wish.

As an acknowledgment of your contribution to the research, first-year Psychology students enrolling in the study through IPRP can obtain up to 10% course credit for participating. Your participation is voluntary (your choice).

What will happen to my information?

Four weeks after you complete the final questionnaire we will download the data from Qualtrics and remove any identifying information (ie it will be anonymised) and the data will be stored on a server in a password-protected file at the University of Waikato. We will send an electronic summary of our findings to the participants who have indicated they would like to receive this information. The study findings will be written up for publication as a journal article and included as part of one Masters thesis and two Honours theses.

This research project has been approved by the Human Research Ethics Committee (Health) at the University of Waikato as HREC(Health)2024#03. Any questions or concerns about the ethical conduct of this research may be sent to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, Human Research Ethics Committee (Health), University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240.

What are the possible benefits and risks of this study?

Taking part in this study will take some of your time. There are no known risks caused by this study, and we hope you find the interventions enjoyable. There is no guarantee that you will benefit directly from being involved in this study, but the results obtained from your participation will help us understand if singing bowl music or guided relaxation improves mood and sleep in rangatahi.

What can I expect from the researchers?

If you decide to participate in this project, the researchers will respect your right to:

- ask any questions of the researchers about the study at any time during participation;
- decline to answer any particular questions or carry out any of the tasks;
- withdraw from the study up to four weeks after completing the final questionnaire;
- provide information on the understanding that it is confidential to the researchers. It will not be possible to identify you in any articles produced from the study;
- be given an electronic summary of the findings

Who can I speak with about my participation in this project?

If you, or anyone you know is interested in taking part in this research, or have any questions please email singingbowls@waikato.ac.nz for more information.

The Effects of Quartz Crystal Singing Bowl Music and Guided Relaxation on Mood and Sleep in Rangatahi (Young Adults)

Consent Form

Please tick to indicate you consent to the following

Yes

I have read, , and I understand the Participant Information Sheet.

I have been given sufficient time to consider whether or not to participate in this study.

I am satisfied with the answers I have been given regarding the study

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study within 4 weeks of the final questionnaire

I understand that my participation in this study is confidential and that no material, which could identify me personally, will be used in any reports on this study.

I know who to contact if I have any questions about the study in general.

I understand my responsibilities as a study participant.

I wish to receive a summary of the results from the study. Yes No

If yes, please provide your name and email address so we can send a summary of the results

Declaration by participant:

I hereby consent to take part in this study.

Participant's name:

By clicking the submit button you give consent to participate

SUBMIT