APPENDIX A

Things to Do Before Each Session:

A. Arrive at the session at least 5 minutes early to set up.
B. Things to do before attaching sensors:
    a. Make sure the room temperature is set to 70 degrees (use the thermostat in the room and outside of the room in the hallway - make sure they are set the same).
    b. Ask participant if they need to use the restroom or get a drink before getting started.
    c. Have the participant put their phone in their bag and take their smart watch off to eliminate distractions.
    d. Ask participant not to cross their legs so as to not interfere with blood pressure readings. Instruct them to limit movement so the sensors don't get tugged on.
C. **First Visit:** Set up a new participant in Biotrace. The last name slot is the only slot that needs to be filled (with the participant ID, not their last name), and should follow the convention: BCS000 (depending on the participant's 3 digit identifier). **All Visits:** At the end of the session, when saving, put the session number in the description (e.g., Session 1, Session 2, etc.).

Visit 1 - Find Resonance Frequency

1. Introduce yourself to the client and briefly get to know them. Go through the verbal consent steps. **Check the MIBS ID number sheet to make sure they have done the initial Qualtrics surveys, and have them do them if not.**
2. Take height and weight and record this info in the Qualtrics link titled "*Height, Weight, and BP.*"
3. Hand the participant the iPad to fill out the brief SPANE survey (Qualtrics link). Then, when they are finished, say:

    "*With your permission I will help you attach each sensor to your body and will take a baseline measurement of your physiology"*

4. Attach sensors (ECG, respiration belt, and blood pressure cuff) and check accuracy of measurements. If the breathing signal is noisy, check the belt is not too tight or too loose. **If the ECG signal is noisy, check all sensors are firmly attached and attach new sensors if needed.**
5. Say:

    "Is it okay if we take a 10 minute baseline measurement? Please sit quietly as we take it. I will let you know when we are done. We will take several blood pressure measurements as well, so you will feel the blood pressure cuff squeeze from time to time."

6. **Take a 10 minute baseline measurement.** Remember to set markers for when the baseline starts and ends. Refrain from talking and keep the room quiet during baseline. Take a blood pressure reading at minute 4, 6, and 8 (and record these in the *Height, Weight, and BP* Qualtrics survey).
7. Use the **MI Script** to introduce biofeedback. This should take about 5 minutes. After this, say:

   "Is it okay if we teach you more about biofeedback and how to do it at home?"

8. Start the second monitor and introduce the participant to the signals (respiration, heart rate, and pacer) on the screen. Make sure to check the screen before proceeding. Say:

   ''In this top graph, the red line represents your heart rate, and the blue line shows your breathing. You'll notice that the blue line moves up as you breathe in and moves down as you breathe out. The line at the bottom of the screen is the breathing pacer.

9. Introduce resonance frequency. Say:

   "With your permission, we'd like to discover the best breathing rate for your body. This breathing rate (called 'resonance frequency') is unique to you and can significantly impact how your body handles stress and emotional challenges. Your resonance frequency breathing rate has its influence in large part because it is the breathing rate at which your heart rate varies the most. A heart rate that varies is a sign of a healthy heart.

   Is it okay if we help you find your optimal breathing rate? Imagine you're on a swing set. When you push the swing, you can choose how often and how hard you push. If you push in sync with the swing's natural rhythm, it goes higher and higher. What we are doing is like finding that perfect rhythm for your body's internal swing. It's the breathing rate that aligns with your body's natural rhythms, helping you feel calmer and more balanced.

   With your permission, we'll have you breathe at five different rates for about two minutes each. If you ever feel uncomfortable, you can stop anytime and let us know. After we try all the different breathing rates, we will determine which breathing rate engages your body most effectively. This will be your personal breathing rate that will have the greatest impact on your stress and well-being. Breathe naturally and comfortably, not too deeply. Do you have any questions?"

10. Say:

    "Would it be okay if we started breathing at 6 breaths per minute? You can follow the pacer at the bottom of the screen, breathing in as it goes up and breathing out as it goes down. We will have you follow this breathing rate for 2 minutes. Breathe into your nose and out through your mouth, breathing into your belly. Let yourself breathe comfortably and naturally."

11. After the participant begins breathing at 6 breaths per minute, **set a marker named "6"** and start the stopwatch. After 2 minutes, instruct the participant to breathe normally again and **set a marker "6 end."**
12. After 2 minutes, press Tab, highlight the 2 minute segment, and click Analysis Functions -> HRV Analysis. Record the variables on the *Finding Resonance Frequency* datasheet (LF power, max-min, and the appearance of peaks).
13. Have the participant take a one minute break and ask the participant how they felt. Ask if they feel lightheaded, dizzy, or if their heart is pounding. If so, instruct them to breathe less deeply, not to try too hard, and to breathe out more slowly.
14. Repeat this procedure at 4.5, 6.5, 5, and 5.5 breaths per minute. **Leave markers at the beginning and end of each 2 minute segment,** and continue to record data on the '*Finding Resonance Frequency'* datasheet.

    Before each new breathing rate, say: *"Now you can try breathing at this new rate for 2 minutes, following the pacer. Breathe in through your nose and out through your mouth. Let yourself breathe naturally and comfortably"*

15. Estimate resonance frequency based on whatever rate their LF % and max-min are the greatest and where they have a single LF peak. If you are having a hard time deciding which frequency is the best, look first at LF %, then single LF peak, then max-min to determine. Tell the participant what their optimal breathing rate is. Then, help them download the Inner Balance app and connect it to an ear clip sensor. Help them set the

app at this rate using the 'cheat sheet' on the wall. Input the earclip number into the check-out sheet.

16. At-Home Practice:
    a. Tell them:

> *"We see the most benefits when people practice consistently. We invite you to practice twice a day for 20 minutes at a time. Breathe easily and comfortably when you practice at home. Don't try too hard. If you notice yourself feeling lightheaded or dizzy, you can try breathing more naturally, shallowly, and exhaling more slowly."*

    b. **Then, use the MI Script to talk about their home practice.** This should take 5 minutes or less.
    c. Schedule follow up visits for the next 4 weeks. This will require knowing your partner's schedule well and having checked the Basecamp calendar beforehand. Make sure to put that time slot in Basecamp **(make sure you add it to the RF schedule, not your personal schedule)** so we don't have multiple visits scheduled at once.
    d. Tell them to bring their phone to each visit to record practice sessions. Tell them not to erase the app with their data until we have recorded it.

Visit 2 - Teach Abdominal (Belly) Breathing and Fine Tune Resonance Frequency

1. First, ask how the participant is feeling about their breathing practice and whether he or she has any questions. **Use the MI Script to discuss their at-home practice** (less than 5 minutes). Ask the participant to send a screenshot of their practice log on Inner balance. When you receive the screenshot one of the RA's will fill out the "adherence" qualtrics link on the iPad.
2. Hand the participant the iPad to fill out the brief SPANE survey (Qualtrics link). Then, when they are finished, say:

> "*With your permission I will help you attach each sensor to your body and will take another baseline measurement of your physiology"*

3. Attach sensors (ECG, respiration belt, and blood pressure cuff) and check accuracy of measurements. If the breathing signal is noisy, check the belt is not too tight or too loose. **If the ECG signal is noisy, check all sensors are firmly attached and attach new sensors if needed.**
4. Say:

> *"Is it okay if we take a 10 minute baseline measurement? Please sit quietly as we take it. I will let you know when we are done. We will take several blood pressure measurements as well, so you will feel the blood pressure cuff squeeze from time to time."*

5. **Take a 10 minute baseline measurement.** Remember to set markers for when the baseline starts and ends. Refrain from talking and keep the room quiet during baseline. Take a blood pressure reading at minute 4, 6, and 8 (and record these in the *Height, Weight, and BP* Qualtrics survey).
6. After baseline, start the second monitor so the participant can see their respiration and heart rate on screen.
7. Say:

   "Is it alright if we fine-tune the speed of your optimal breathing rate from last week? This pace will be beneficial for you and help you regulate stress."

   "*With your permission, we will now have you follow this pacer at your optimal breathing rate for 2 minutes *(*point to the pacer).* *You can breathe in when the pacer goes up and breathe out when it goes down. Don't feel like you need to try too hard - let your breath feel natural and easy.*

8. Set a marker "RF" when they begin following the pacer correctly and a marker "end" after 2 minutes. Press tab and select this two minute segment, marking LF Power, Max-Min, and the appearance of LF peaks on the *"Finding Resonance Frequency"* sheet.
9. Instruct the participant to breathe at 0.5 breaths per minute faster than their RF (for 2 minutes), followed by a 1 minute break. Say:

   "*Now you can breathe at a rate slightly faster than your optimal breathing rate for 2 minutes, followed by 1 minute break. You can start following the pacer now. Remember to breathe in a relaxed, normal way."*

10. Adjust the pacer to be 0.5 bpm faster. Set a marker "+0.5" at the start of the new breathing rate and set a marker "end" after 2 minutes.
11. Mark the 'Finding Resonance Frequency' sheet with the values from the new breathing rate. Say:

    "Feel free to breathe normally for 1 minute."

12. Instruct the participant to breathe at 0.5 breaths per minute slower than their RF (for 2 minutes), followed by a 1 minute break. Say:

    "*You can now breathe at a rate slightly slower than your optimal breathing rate for 2 minutes, followed by 1 minute break. You can start following the pacer now. Remember to breathe in a relaxed, normal way."*

13. Adjust the pacer to be 0.5 bpm slower than their RF. Set a marker "-0.5" at the start of the new breathing rate and set a marker "end" after 2 minutes.
14. Mark the 'Finding Resonance Frequency' sheet with the values from the new breathing rate. Say:

    "Feel free to breathe normally for 1 minute."

15. Determine if the participant has a new RF. If they do, inform them what this new rate is. Set the pacer accordingly and teach them abdominal breathing, saying:

    "Would it be okay if we give you some training in relaxed abdominal breathing at your [new/same] optimal breathing rate?

    Abdominal breathing is important to biofeedback training and can help with stress. When you are relaxed, your chest and your abdomen relax and you begin to breathe more naturally, so that your abdomen expands when you inhale and goes back in when you exhale. Let me show you what I mean.

    *Breathe easily and naturally rather than deeply. Inhale through your nose; exhale through your mouth with pursed lips as if you were blowing through a straw *(*demonstrate this to the participant)*.* This will help to slow down the flow of air as you breathe out. Let yourself relax and feel comfortable.*

    Then say: *"The main muscle we use for breathing is our diaphragm* (point to your diaphragm)*. When we breathe in, the diaphragm moves down and creates a vacuum that draws air into the lungs. When we are relaxed, the diaphragm moves more easily."*

16. Demonstrate abdominal breathing. Point to the position of your diaphragm in your own body. Say:

    ''Try to breathe into your abdomen, below your belly button. This will help you breathe in a more relaxed way.''

    *Place one hand on your chest and the other on your abdomen, just below your navel. Say:**

    *"In relaxed breathing, as I inhale and exhale, the bottom hand moves up and down, and the top hand doesn't move much at all.'' **Say:* *''Do you see that? Now you try it, just to get the feel of it. Relax and place one hand on your chest and the other on your abdomen. Now breathe in through your nose **(let the participant try it a few times, offering feedback)*.* Good. And now breathe out through pursed lips, like this. Okay, good. Now breathe so that just your abdomen moves in and out, while your chest stays still. Keep breathing in through your nose and out through pursed lips* (let them try a few more times while you model abdominal breathing, offering feedback)*.''*

17. Let them know about symptoms of breathing too deeply/trying too hard (light-headedness, tingling, pounding heart, feelings of breathlessness, dizziness, and/or anxiety) and instruct the individual to breathe more shallowly, to breathe out more slowly, and breathe more naturally if they are present.

18. Have the participant practice abdominal breathing at their RF for the next 5 minutes. Say:

    "Would you like to try breathing at your optimal breathing rate for 5 minutes using the relaxed belly breathing we just learned? Remember to breathe in through your nose and out through pursed lips, letting your stomach rise and fall. Let your breathing feel natural and comfortable. Don't try too hard; no need to force the breath."

19. After the participant practices for 5 minutes, tell them they can breathe normally. Then, if needed, help them set the Inner Balance app at their new resonance frequency using the 'cheat sheet' on the wall.
20. At-Home Practice:
    a. Tell them:

       "We see the most benefits when people practice consistently. We invite you to practice twice a day for 20 minutes at a time. Breathe easily and comfortably when you practice at home. Don't try too hard. If you notice yourself feeling lightheaded or dizzy, you can try breathing more naturally, shallowly, and exhaling more slowly."

    b. **Then, use the MI Script to talk about their home practice.** This should take 5 minutes or less.
    c. Remind about the follow up visit for the next week and reschedule if needed. This will require knowing your partner's schedule well and having checked the Basecamp calendar beforehand. Make sure to put that time slot in Basecamp **(make sure you add it to the RF schedule, not your personal schedule)** so we don't have multiple visits scheduled at once.
    d. Tell them to bring their phone to each visit to record practice sessions. Tell them not to erase the app with their data until we have recorded it.

Visit 3 - Review breathing mechanics and introduce breathing in phase with heart rate to maximize heart rate variability

1. First, ask how the participant is feeling about their breathing practice and whether he or she has any questions. **Use the MI Script to discuss their at-home practice** (less than 5 minutes). Ask the participant to send a screenshot of their practice log on Inner balance. When you receive the screenshot one of the RA's will fill out the "adherence" qualtrics link on the iPad.
2. Hand the participant the iPad to fill out the brief SPANE survey (Qualtrics link). Then, when they are finished, say:

   "*With your permission I will help you attach each sensor to your body and will take another baseline measurement of your physiology"*

3. Attach sensors (ECG, respiration belt, and blood pressure cuff) and check accuracy of measurements. If the breathing signal is noisy, check the belt is not too tight or too loose. **If the ECG signal is noisy, check all sensors are firmly attached and attach new sensors if needed.**
4. Say:

   > *"Is it okay if we take a 10 minute baseline measurement? Please sit quietly as we take it. I will let you know when we are done. We will take several blood pressure measurements as well, so you will feel the blood pressure cuff squeeze from time to time."*

5. **Take a 10 minute baseline measurement.** Remember to set markers for when the baseline starts and ends. Refrain from talking and keep the room quiet during baseline. Take a blood pressure reading at minute 4, 6, and 8 (and record these in the *Height, Weight, and BP* Qualtrics survey).
6. After baseline, start the second monitor so the participant can see their respiration and heart rate on screen. Ask how the participant is feeling and if they have any questions.
7. Review pursed lips abdominal breathing at the participant's resonance frequency. Say:

   > "*Let's review resonance frequency breathing (which is just a term for your optimal breathing rate). Breathe easily and comfortably, not too deeply. Focus on using your diaphragm* *point to your diaphragm**—*inhale through your nose and feel your abdomen fill with air like a balloon. Exhale through pursed lips, making sure to breathe out longer than you breathe in. Concentrate on your abdomen moving as you breathe, and allow yourself to relax. Can you feel your abdomen expanding and the breath reaching lower in your body?*

8. Have them breathe at resonance frequency for 5 minutes with pursed lips. **Make sure to set markers (RF start and RF end) for the start and end of resonance frequency breathing** (afterwards, pull data from the last 2 minutes of resonance frequency - see Step 13). Say this to the participant:

   > *"Start by breathing at your optimal breathing rate using the pacer for 5 minutes. Breathe in when the pacer goes up and out when it goes down."*
   >
   > *Set a timer for 5 minutes and let the participant know when they can take a break and breathe normally.*

9. Give the participant a 2 minute break.
10. Instruct the participant to maximize HRV by breathing in phase with heart rate changes for the next 5 minutes. **Make sure to set markers for when this starts and ends (Phase Start and Phase End).** Say:

    > *"Is it okay if we teach you something new? You can begin by breathing at your optimal breathing rate following the breathing pacer for 1 minute."*

Have them follow the pacer for 1 minute.

"*Now*, *look at the red heart rate line* *point to this on the screen*. When it goes up, breathe in. When it goes down, breathe out. Continue to match your breathing to your heart rate, not to the breathing pacer. Allow your heart rate to swing up as far as possible when you breathe in and down as far as possible when you breathe out. Remember to still breathe easily and comfortably rather than deeply. Try to breathe into your abdomen like before. Let yourself relax as you breathe. Let it be natural, without trying too hard. Take full, smooth breaths."*

Watch the participant do this for a minute, offering feedback and helping them maximize the variability in their heart rate (highest increases and decreases in heart rate are due to breathing).

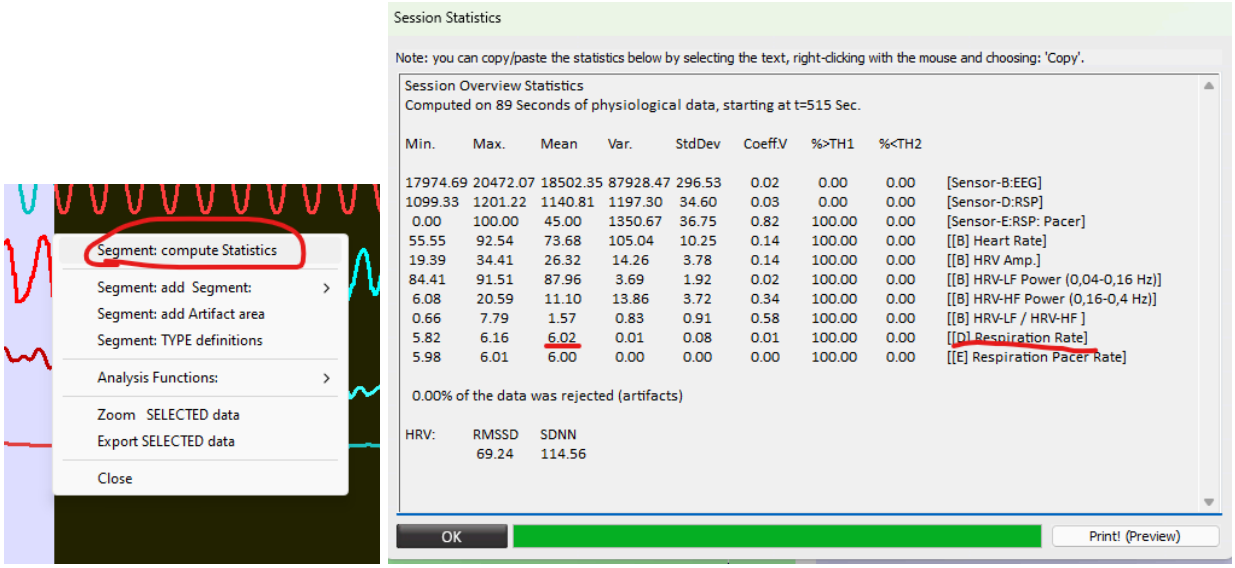
Say: *"You've got the hang of it. It should feel natural and almost automatic. Keep breathing following your heart rate, trying to make the heart rate swing up as much as possible when breathing in and swing down as much as possible when breathing out. We will do this for another 5 minutes."*

Set a timer for 5 minutes and let the participant know when they can breathe normally when it goes off.

11. Say:

    "The reason we do this is to help you learn to maximize the variability in your heart rate. This training will help you be able to continue practicing without relying on a pacer when we are no longer meeting regularly. We will continue to have you use a pacer at home for now, so you can keep using the app and ear clip."

12. Find the participant's respiration rate during the last 2 minutes of breathing in phase with heart rate changes. To do this, highlight the last 2 minutes of their breathing and click "Segment: Compute Statistics" and looking under the column "Resp" (see picture below).



13. Record the variables from the last 2 minutes of a) resonance frequency breathing (from earlier in the session) and b) breathing in phase with heart rate on the "Finding Resonance Frequency" sheet (LF %, single LF peak, and max-min). If their new breathing rate is better than their current resonance frequency (i.e., higher LF %, etc.), inform the client and help them adjust their Inner Balance app accordingly.
14. At-Home Practice:
    a. Tell them:

> *"We see the most benefits when people practice consistently. We invite you to practice twice a day for 20 minutes at a time. Breathe easily and comfortably when you practice at home. Don't try too hard. If you notice yourself feeling lightheaded or dizzy, you can try breathing more naturally, shallowly, and exhaling more slowly."*

    b. **Then, use the MI Script to talk about their home practice.** This should take 5 minutes or less.
    c. Remind about the follow up visit for the next week and reschedule if needed. This will require knowing your partner's schedule well and having checked the Basecamp calendar beforehand. Make sure to put that time slot in Basecamp **(make sure you add it to the RF schedule, not your personal schedule)** so we don't have multiple visits scheduled at once.
    d. Tell them to bring their phone to each visit to record practice sessions. Tell them not to erase the app with their data until we have recorded it.

Visit 4 - Maximize HRV by Breathing in Phase with Heart Rate

1. First, ask how the participant is feeling about their breathing practice and whether he or she has any questions. Ask permission to look at their practice log and go over this with them non-judgementally. **Use the MI Script to discuss their at-home practice** (less than

5 minutes). Ask the participant to send a screenshot of their practice log on Inner balance. When you receive the screenshot one of the RA's will fill out the "adherence" qualtrics link on the iPad.

2. Hand the participant the iPad to fill out the brief SPANE survey (Qualtrics link). Then, when they are finished, say:

   "*With your permission I will help you attach each sensor to your body and will take another baseline measurement of your physiology"*

3. Attach sensors (ECG, respiration belt, and blood pressure cuff) and check accuracy of measurements. If the breathing signal is noisy, check the belt is not too tight or too loose. **If the ECG signal is noisy, check all sensors are firmly attached and attach new sensors if needed.**
4. Say:

   "Is it okay if we take a 10 minute baseline measurement? Please sit quietly as we take it. I will let you know when we are done. We will take several blood pressure measurements as well, so you will feel the blood pressure cuff squeeze from time to time."

5. **Take a 10 minute baseline measurement.** Remember to set markers for when the baseline starts and ends. Refrain from talking and keep the room quiet during baseline. Take a blood pressure reading at minute 4, 6, and 8 (and record these in the *Height, Weight, and BP* Qualtrics survey).
6. After baseline, start the second monitor so the participant can see their respiration and heart rate on screen.
7. Ask how the participant is feeling and if they have any questions. Review pursed lips abdominal breathing at the participant's resonance frequency. Say:

   "*Let's review resonance frequency breathing (your body's optimal breathing rate). Breathe easily and comfortably, not too deeply. Focus on using your diaphragm—inhale through your nose and feel your abdomen fill with air like a balloon. Exhale through pursed lips, making sure to breathe out longer than you breathe in. Concentrate on your abdomen moving as you breathe, and try to relax."*

8. Have them breathe at resonance frequency for 5 minutes with pursed lips. **Make sure to set markers (RF start and RF end) for the start and end of resonance frequency breathing** (afterwards, pull data from the last 2 minutes of resonance frequency - see Step 13). Say this to the participant:

   "Start by breathing at your optimal breathing rate using the pacer for 5 minutes. Breathe in when the pacer goes up and out when it goes down."

Set a timer for 5 minutes and let the participant know when they can take a break and breathe normally.

9. Give the participant a 2 minute break.
10. Instruct the participant to maximize HRV by breathing in phase with heart rate changes for the next 5 minutes. **Make sure to set markers for when this starts and ends (Phase Start and Phase End).** Say:

    "Let's review our practice from last week.

    Look at the red heart rate line *point to this on the screen*. *When you breathe in, the line goes up. When you breathe out, it goes down. Continue to match your heart rate to your breath without following the breathing pacer. Allow your heart rate to swing up as far as possible when you breathe in and down as far as possible when you breathe out. The goal is to increase your heart rate as much as possible when breathing in, and decrease it as much as possible when breathing out.*

    Remember to still breathe easily and comfortably rather than deeply. Try to breathe into your abdomen like before. Let yourself relax as you breathe. Let it be natural, without trying too hard. Take full, smooth breaths. You can pay attention to the trend of the heart rate line rather than following the line exactly."

    Watch the participant do this for a minute, offering feedback and helping them maximize the variability in their heart rate (highest increases and decreases in heart rate are due to breathing).

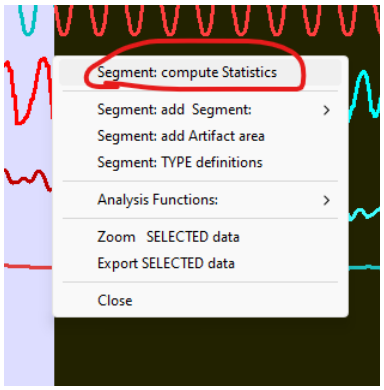
    Say: *"You've got the hang of it. It should feel natural and almost automatic. Keep breathing following your heart rate, trying to make the heart rate swing up as much as possible when breathing in and swing down as much as possible when breathing out. We will follow the pacer for 1 minute, then we will hide the pacer and you will breathe to maximize variability in your heart rate like before."*

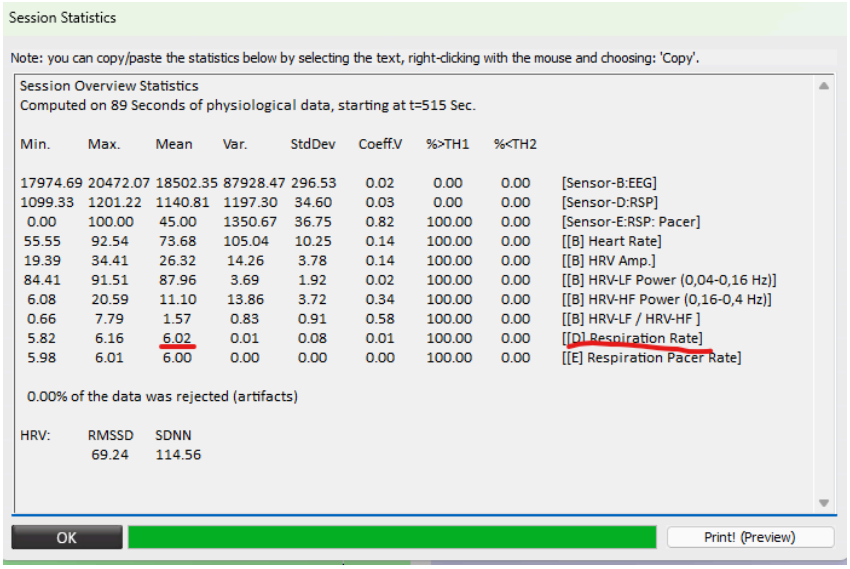
    Set a timer for 5 minutes and let the participant know when they can breathe normally when it goes off. Show the pacer for the first minute and hide it for the last four.

11. Say:

    "The reason we do this is to help you learn to maximize the variability in your heart rate. This training will help you be able to continue practicing without relying on a pacer when we are no longer meeting regularly. We will continue to have you use a pacer at home for now, so you can keep using the app and ear clip."

12. Find the participant's respiration rate during the last 2 minutes of breathing in phase with heart rate changes. To do this, highlight the last 2 minutes of their breathing and click "Segment: compute Statistics" and looking under the column "Resp" (see picture below).





13. Record the variables from the last 2 minutes of a) resonance frequency breathing (from earlier in the session) and b) breathing in phase with heart rate on the "Finding Resonance Frequency" sheet (LF %, single LF peak, and max-min). If their new breathing rate is better than their current resonance frequency (i.e., higher LF %, etc.), inform the client and help them adjust their Inner Balance app accordingly.
14. At-Home Practice:
    a. Tell them:

> *"We see the most benefits when people practice consistently. We invite you to practice twice a day for 20 minutes at a time. Breathe easily and comfortably when you practice at home. Don't try too hard. If you notice yourself feeling lightheaded or dizzy, you can try breathing more naturally, shallowly, and exhaling more slowly."*

    b. **Then, use the MI Script to talk about their home practice.** This should take 5 minutes or less.
    c. Remind about the follow up visit for the next week and reschedule if needed. This will require knowing your partner's schedule well and having checked the Basecamp calendar beforehand. Make sure to put that time slot in Basecamp **(make sure you add it to the RF schedule, not your personal schedule)** so we don't have multiple visits scheduled at once.
    d. Tell them to bring their phone to each visit to record practice sessions. Tell them not to erase the app with their data until we have recorded it.
    e. **Remind them to bring their ear clips in for next week's visit.**

Visit 5 - Final Baseline and Maximizing HRV by Breathing in Phase with Heart Rate

1. **Make sure to have the participant send a screenshot of their practice log on Inner balance. When you receive the screenshot one of the RA's will fill out the "adherence" qualtrics link on the iPad.**
2. Ask how the participant is feeling about their breathing practice and whether he or she has any questions. **Use the MI Script to discuss their at-home practice** (less than 5 minutes).
3. Hand the participant the iPad to fill out the brief SPANE survey (Qualtrics link). Then, when they are finished, say:

   "*With your permission I will help you attach each sensor to your body and will take another baseline measurement of your physiology"*

4. Attach sensors (ECG, respiration belt, and blood pressure cuff) and check accuracy of measurements. If the breathing signal is noisy, check the belt is not too tight or too loose. **If the ECG signal is noisy, check all sensors are firmly attached and attach new sensors if needed.**
5. Say:

   "Is it okay if we take a 10 minute baseline measurement? Please sit quietly as we take it. I will let you know when we are done. We will take several blood pressure measurements as well, so you will feel the blood pressure cuff squeeze from time to time."

6. **Take a 10 minute baseline measurement.** Remember to set markers for when the baseline starts and ends. Refrain from talking and keep the room quiet during baseline. Take a blood pressure reading at minute 4, 6, and 8 (and record these in the *Height, Weight, and BP* Qualtrics survey).
7. After baseline, start the second monitor so the participant can see their respiration and heart rate on screen.
8. Ask how the participant is feeling and if they have any questions. Review pursed lips abdominal breathing at the participant's resonance frequency. Say:

   "*Let's review resonance frequency breathing (your body's optimal breathing rate). Breathe easily and comfortably, not too deeply. Focus on using your diaphragm—inhale through your nose and feel your abdomen fill with air like a balloon. Exhale through pursed lips, making sure to breathe out longer than you breathe in. Concentrate on your abdomen moving as you breathe, and try to relax."*

9. Have them breathe at resonance frequency for 5 minutes with pursed lips.

Say this to the participant: *"Start by breathing at your optimal breathing rate using the pacer* *(point to the pacer)* *for 5 minutes. Breathe in when the pacer goes up and out when it goes down."*

Set a timer for 5 minutes and let the participant know when they can take a break and breathe normally.

10. Give the participant a 2 minute break.
11. Instruct the participant to breathe by following their heart rate line for the next 10 minutes. Say:

    "Now, you can look at the red heart rate line *point to this on the screen*. *When it goes up, breathe in. When it goes down, breathe out. Continue to match your breathing to your heart rate. Make sure your heart rate goes up as far as possible when you breathe in and down as far as possible when you breathe out. Breathe easily and comfortably rather than deeply. Try to breathe into your abdomen like before. Let yourself relax as you breathe. Let it be natural, without trying too hard. Take full, smooth breaths."*

    Watch the participant do this for a minute, offering feedback and helping them maximize the variability in their heart rate (highest increases and decreases in heart rate are due to breathing).

    Say: *"Good work. It should feel natural and almost automatic. Keep breathing in sync with your heart rate, trying to make the heart rate swing up as much as possible when breathing in and swing down as much as possible when breathing out. We will do this for another 10 minutes."*

    Set a timer for 10 minutes and let the participant know they can breathe normally when it goes off.

12. Show them an online breathing pacer such as https://www.grc.com/breathe.htm or the BYU Biofeedback Youtube channel. Help them adjust this to be close to their resonance frequency on their phone. For the online pacer, set pause and break to 0 and then use the inhale/exhale sliders to set the number of seconds people breathe in/out.
13. Go over progress made and what the participant thought of biofeedback. **Use the MI Script to chat once more about ways they can continue to practice at home.**

Post-Session Procedures

1. **Wrap-Up**
    - **Collect the ear clips.**
    - **Inform the participant about their compensation.**
    - **Thank them for their time.**
2. **Questionnaire**

- **Have the participant complete the post-intervention questionnaire on the iPad.**

3. **Compensation**
   - **Pay $10 per session attended (up to $50).**
   - **Add a $10 bonus if they attend all 5 sessions (max $60).**
4. **Documentation**
   - **Record payment on the sheet *on or inside* the lock box.**
   - **Ensure all information is complete and legible.**
5. **Lock Box Key**
   - **Located on a red pin on the desk wall behind the computer.**