**The Lasting-Change Study**

**RESEARCH STRATEGY**

**3. Approach**

We have obtained a unique, *one-of-a-kind opportunity* to assess the long-term effects of Tony Robbins’ “Date With Destiny” (DWD) mind-body intervention. Over the last 40 years, millions of people have attended DWD, the largest immersive virtual mind-body intervention of its kind. A preliminary pilot study conducted by our group [11] demonstrated a significant reduction in depression severity and perceived stress after DWD, in addition to meaningful improvements in physical functioning, anxiety, loneliness, and dysfunctional beliefs of 15–80% in the intervention group vs. 0–34% in the control group (*p*s < 0.05). In continuation of this work, we have longitudinally collected data from 727 participants in the US attending the virtual DWD mind-body intervention. By collecting the largest sample size to date in a study of its kind, the proposed work will have the power to investigate individual differences in mechanisms of

change which have been necessarily overlooked in past work due to constraints on measurement tools and statistical power needed to detect meaningful effects. We will track the long-term effects of a large virtual immersive mind-body intervention to identify biopsychophysiological signatures correlated with stress and well-being (Figure 1). To do this, we will: 1) identify the impact of the mind-body intervention on participants' stress and well-being; and 2) determine the physiological signature and biological biomarkers correlated with chronic stress and well-being.

A person standing next to a diagram

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**Aim 1A: Characterization of well-being and stress with Self-Reported Stress and Well Being Assessments**

|  |  |  |
| --- | --- | --- |
| **Table 1. Initial demographic characteristics.** | | |
| **Characteristic (*N*=727)** | ***n*** | **Proportion** |
| **Age** (18-68) Mean (SD) | 44.34 (10.9) |  |
| **Gender** |  |  |
| Men | 241 | 33.1% |
| Women | 488 | 66.5% |
| Other or prefer not to say | 3 | 0.4% |
| **Education** |  |  |
| Some High School | 7 | 1.0% |
| High School | 145 | 19.9% |
| Trade School | 48 | 6.5% |
| Bachelor’s Degree | 288 | 39.6% |
| Master’s Degree | 171 | 23.3% |
| PhD or higher | 50 | 6.9% |
| Prefer not to say | 18 | 2.5% |
| **Race** |  |  |
| Caucasian, European, White | 416 | 57.2% |
| Latino or Hispanic | 131 | 18.0% |
| Asian | 58 | 8.0% |
| Black or African American | 28 | 3.9% |
| Native American or Alaska Native | 4 | 0.4% |
| Native Hawaiian or Pacific Islander | 3 | 0.3% |
| Other or Combination | 42 | 6.0% |
| Prefer not to say or omitted | 45 | 6.2% |
| **Income** |  |  |
| More than $200,000 | 138 | 19.0% |
| $100,000-200,000 | 204 | 28.1% |
| $50,000-100,000 | 164 | 22.6% |
| $25,000-50,000 | 92 | 12.7% |
| Less than $25,000 | 70 | 9.6% |
| Prefer not to say | 59 | 8.1% |
| **Children** |  |  |
| None | 258 | 35.5% |
| 1 | 124 | 17.1% |
| 2 | 196 | 27.0% |
| 3 | 97 | 13.3% |
| 4+ | 52 | 7.2% |

**Study Population and Recruitment Process:** 727 participants were profiled at baseline, at day-6 end of the seminar, one month later, and 3-, 6-, and 12-months post-baseline. The eligibility criteria were participants who are English Speakers, reside in the United States, are over the age of 18 years old, and who voluntarily chose to participate in the DWD seminar prior to consenting to participate in the current research study. Participants were excluded from participation if they had any physical or mental conditions that limits their ability to participate in the study (e.g., answering e-questionnaires and wearing an electronic device), had a serious active comorbidity or terminal illness, were pregnant, or were participating in another clinical study or program focusing on psychological or behavioral intervention.

**Preliminary results:** In total, 727 participants completed the initial baseline questionnaire. The average age of the participants was 44.3 (SD=10.9); the youngest participant was 18 years old, and the eldest—68 years old. Most of the participants were women, at 66.4%. A majority of the participants had academic degrees (70.0%), most of which were bachelor’s degrees (39.6% of the entire study population). People who identified as Caucasian, European, or White were the most dominant of all races, at 57.2%, followed by people who identified as Latino or Hispanic, at 18.0%. Most participants were homeowners (56.0%), and 33.3% were renters. An income between $50,00 and $200,000 was reported most commonly (50.7%). Full-time business owners were most widely represented in the study population (34.5%), followed by people who were employed full-time, at 27.0%. Most participants were married or in relationships (54.6%), and had children (64.6%). The complete demographics data is presented in Table 1. See Table 1 for participant demographics.

**Assessments:** All the participants have completed a brief socio-demographic questionnaire at baseline, prior to the mind-body intervention, which contained assessments of participant age, gender, education levels, race, home ownership, marital status, income, employment, and children. The following validated surveys will be utilized for all following timepoints:

**Stress**: The Perceived Stress Scale (PSS-10; CITE) will be used to measure the stress experienced by participants in the previous month (10 items). Oldenburg Burnout Inventory (OLBI-16; CITE) will be used to measure burnout aspects (16 items). All stress scales utilized for the study showed good and very good and excellent reliability between 0.880-0.932.

**Well-being**: The World Health Organization Brief Quality of Life Index (WHOQOL-BREF-26; CITE) will be used to assess changes in the participants’ quality of life in 4 domains: physical health, psychological health, social relationships, and environmental health (26 items). The PERMA Profiler (CITE) will be used to measure flourishing across 5 domains: positive emotion, engagement, relationships, meaning, and accomplishment (23 items). The Wheel of Life survey (CITE) will assess the participants’ goals and satisfaction levels with various areas of their lives (14 items). The General Self-efficacy Scale (GSE-10; CITE) will be used to assess one’s general belief in their ability to succeed in specific situations or accomplish a task (10 items). The Professional Fulfillment Index (PFI-16): a scale that assesses the degree of intrinsic positive reward we derive from our work, including happiness, meaningfulness, contribution, self-worth, satisfaction, and feeling in control when dealing with difficult problems at work (16 items). Gratitude Questionnaire (GQ-6) will be used to assess changes in the feeling so gratitude towards life (6 items). The Connor-Davidson Resilience Scale (CD-RISC-10; CITE) will be used to measure resilience, which is the ability to thrive in the face of adversity (10 items). All stress scales utilized for the study showed good reliability between 0.826-0.890.

**Additional measures**: A growth vs Fixed Mindset Assessment (CITE) will be utilized to measure how much the participants believe they can change (20 items).

**Mind-body states**: The participants also completed multiple 1-minute **EMA survey** that will assess their momentary (1) mood, (2)energy, (3)focus, (4)connection and (5) clarity levels throughout the intervention and will continue to complete these EMA surveys at weekly intervals throughout the follow-up periods. These surveys were designed to assess peak mind-body states. Similar assessments have been used to assess momentary levels of stress [CITE], mood [CITE], and flow state [CITE].

**Procedure:** Participants will be sent survey measures via email at baseline, at day-6 end of the seminar, one month later, and 3-, 6-, and 12-months post-baseline., and will continue to complete weekly EMA surveys 3 times a week throughout the follow-up period.

**Analysis plan:**

1. Stress and well-being surveys - Repeated Measures ANOVA/Mixed Model Analysis
2. EMA surveys - Repeated Measures ANOVA/Mixed Model Analysis
3. Correlations between stress and well-being surveys (Baseline heatmap)
4. Change over time cluster analysis (e.g. negative response, no response, transient response, long-term response).
5. Differential Analysis (low/moderate/high stress OR (low-moderate/high stress)
6. Network/Pathway analysis

**SURVEYS**

1. Professional Fulfillment Index (PFI-16):
2. Conor Davidson Resilience Scale (CD-RISC 10):
3. PERMA Profiler (23):
4. The Perceived Stress Scale (PSS-10)
5. Oldenburg Burnout Inventory (OLBI-16):
6. General Self-Efficacy Scale (GSE 10):
7. The World Health Organization Quality of Life (WHOQOL-BREF – 26)
8. Gratitude Questionnaire (GQ-6)
9. The Growth Mindset Questionnaire (GFMA)

**Surveys descriptions:**

**The Professional Fulfillment Index (PFI)** is a self-reported survey tool designed to assess the levels of professional fulfillment and burnout in healthcare providers. The tool includes 16 items and is divided into three subscales: Professional Fulfillment, Emotional Exhaustion and Disengagement. Emotional Exhaustion and Disengagement together provide a total for Burnout.

The Professional Fulfillment Index uses a 5-point Likert scale:

0 = Never or Rarely 1 = A few times a year or monthly 2 = A few times a month 3 = At least once a week 4 = Daily

The Professional Fulfillment Subscale assesses one's sense of work-related meaning, purpose, engagement, and satisfaction. An example question might be, "I feel I am making a difference through my work."

The Work Exhaustion Subscale measures feelings of fatigue, overload, and lack of energy associated with one's professional activities. An example question could be, "I feel emotionally drained by my work."

The scoring for PFI is relatively straightforward:

* Professional Fulfillment Subscale: Sum the scores of all 10 items, range from 0-40.
* Work Exhaustion Subscale: Sum the scores of all 6 items, range from 0-24.
* Higher scores on the Professional Fulfillment Subscale indicate higher levels of professional fulfillment.
* Higher scores on the Work Exhaustion Subscale indicate higher levels of work exhaustion, which is associated with burnout.

The PFI also allows for the creation of binary variables for professional fulfillment and burnout:

* Professional fulfillment: scores of 33 and above are considered "high fulfillment"
* Burnout: scores of 18 and above are considered "high burnout"

**The Professional Fulfillment Index (PFI)** **instruction for Coding**

**Variables**

The variables for PFI for the 1st checkpoints are named: study\_surv\_pfi\_1, study\_surv\_pfi\_2…

For the 2nd checkpoint: study\_surv\_pfi\_1\_c2, study\_surv\_pfi\_2\_c2…

For the 5th checkpoint: study\_surv\_pfi\_1\_c5, study\_surv\_pfi\_2\_c5, study\_surv\_pfi\_3\_c5…

Fulfillment is a mean of the first 6 variables (for each checkpoint).

PFI\_Fulfillment\_6=MEAN.5 (study\_surv\_pfi\_1, study\_surv\_pfi\_2, study\_surv\_pfi\_3, study\_surv\_pfi\_4, study\_surv\_pfi\_5, study\_surv\_pfi\_6).

Exhaustion is a mean of the following 4 variables (for each checkpoint).

PFI\_EmotExhaust=MEAN.3 (study\_surv\_pfi\_7, study\_surv\_pfi\_8, study\_surv\_pfi\_9, study\_surv\_pfi\_10).

Disengagement is a mean of the remaining 6 variables (for each checkpoint).

PFI\_Disengagement\_6=MEAN.5 (study\_surv\_pfi\_11, study\_surv\_pfi\_12, study\_surv\_pfi\_13, study\_surv\_pfi\_14, study\_surv\_pfi\_15, study\_surv\_pfi\_16).

**The Connor-Davidson Resilience Scale (CD-RISC 10)** i

(1) Description - CD-RISC 10 is a brief self-report questionnaire developed to measure psychological resilience. It is a streamlined version of the original 25-item measure, capturing a range of resilience factors in just 10 items. Resilience is defined as an individual's ability to bounce back or recover from stress, and the CD-RISC 10 assesses this ability within the past month.

(2) The CD-RISC 10 is composed of 10 items, each reflecting a facet of resilience. These are:

1. I am able to adapt to change.

2. I can deal with whatever comes my way.

3. I try to see the humorous side of things when I am faced with problems.

4. Having to cope with stress can make me stronger.

5. I tend to bounce back after illness, injury, or other hardships.

6. I believe I can achieve my goals, even if there are obstacles.

7. Under pressure, I stay focused and think clearly.

8. I am not easily discouraged by failure.

9. I think of myself as a strong person when dealing with life's challenges and difficulties.

10. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.

(3) \*\*Directions on How to Score\*\*

Each of the 10 items is rated on a 5-point scale from 0 (Not True At All) to 4 (True Nearly All of the Time), indicating the extent to which the respondent agrees with each statement. The total score is obtained by adding the scores for each item, providing a resilience score that ranges from 0 to 40.

The higher the total score, the higher the individual's level of resilience. There are no established cut-off points, as the measure is typically used to compare individuals or track changes over time.

**The Connor-Davidson Resilience Scale (CD-RISC 10) instruction for Coding**

**Variables**

The variables for Resilience for the 1st checkpoints are named: study\_surv\_cdrisc\_1, study\_surv\_cdrisc\_2…

For the 2nd checkpoint: study\_surv\_cdrisc\_1\_c2, study\_surv\_cdrisc\_2\_c2…

For the 5th checkpoint: study\_surv\_cdrisc\_2\_c5, study\_surv\_cdrisc\_2\_c5, study\_surv\_cdrisc\_2\_c5

Resilience is the total of all 10 (for each checkpoint), for example:

Resilience\_total\_C3= Resilience\_total\_C3=study\_surv\_cdrisc\_1\_c3 + study\_surv\_cdrisc\_2\_c3 + study\_surv\_cdrisc\_3\_c3 + study\_surv\_cdrisc\_4\_c3 + study\_surv\_cdrisc\_5\_c3 + study\_surv\_cdrisc\_6\_c3 + study\_surv\_cdrisc\_7\_c3 + study\_surv\_cdrisc\_8\_c3 + study\_surv\_cdrisc\_9\_c3 + study\_surv\_cdrisc\_10\_c3.

**PERMA Profiler**

(1) The PERMA Profiler is a comprehensive self-report measure designed by Martin Seligman and his team as an operationalization of his PERMA model of wellbeing. The PERMA model posits that there are five core elements of psychological well-being and happiness: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. The PERMA Profiler aims to measure these elements, along with additional dimensions related to health and negative feelings.

(2) \*\*Questions\*\*

The full version of the PERMA Profiler consists of 23 items. The five dimensions of PERMA are each assessed with three items. Additionally, there are items assessing overall happiness, negative feelings, physical health, and loneliness. The questionnaire also includes a few demographic questions.

\* Positive Emotion: Items (example: "How often did you feel joyful?")

\* Engagement: Items (example: "How often did you feel absorbed in what you were doing?")

\* Relationships: Items (example: "How often did you feel loved?")

\* Meaning: Items (example: "How often did you feel that your life has a sense of direction or meaning to it?")

\* Accomplishment: Items (example: "How often did you feel proud?")

\* Health: Item (example: "In general, how would you rate your physical health?")

\* Negative Feeling: Items (example: "How often did you feel sad?")

\* Loneliness: Item (example: "How often do you feel lonely?")

\* Overall Happiness: Item (example: "In general, how would you say things are these days?")

(3) \*\*Directions on How to Score\*\*

Each item is rated on a scale from 0 to 10, with 0 meaning "Never" or "Not at all", and 10 meaning "Always" or "Completely."

To compute the score for each of the PERMA elements, take the average of the responses to the relevant questions (1, 6, and 11 for Positive Emotion, for instance). This gives you a score for each of the five PERMA elements, overall happiness, negative feelings, health, and loneliness, each ranging from 0 to 10. Higher scores represent higher levels of the corresponding factor.

**The PERMA Profiler instruction for Coding**

**Variables**

The variables for PERMA for the 1st checkpoints are named: study\_surv\_perma\_1, study\_surv\_perma\_2…

For the 2nd checkpoint: study\_surv\_perma\_1\_c2, study\_surv\_perma\_2\_c2…

For the 5th checkpoint: study\_surv\_perma\_1\_c5, study\_surv\_perma\_2\_c5, study\_surv\_perma\_3\_c5…

**The means for each subscale are calculated as follows (for each checkpoint):**

PERMA\_pos\_emotions\_c1=(study\_surv\_perma\_5 + study\_surv\_perma\_10 + study\_surv\_perma\_22) / 3.

PERMA\_engagement\_c1=(study\_surv\_perma\_3 + study\_surv\_perma\_11 + study\_surv\_perma\_21) / 3.

PERMA\_relationships\_c1=(study\_surv\_perma\_6 + study\_surv\_perma\_15 + study\_surv\_perma\_19) / 3.

PERMA\_meaning\_c1=(study\_surv\_perma\_1 + study\_surv\_perma\_9 + study\_surv\_perma\_17) / 3.

PERMA\_accomplishment\_c1=(study\_surv\_perma\_2 + study\_surv\_perma\_8 + study\_surv\_perma\_16) / 3.

PERMA\_wellbeing\_c1=(study\_surv\_perma\_5 + study\_surv\_perma\_10 + study\_surv\_perma\_22 + study\_surv\_perma\_3 + study\_surv\_perma\_11 + study\_surv\_perma\_21 + study\_surv\_perma\_6 + study\_surv\_perma\_15 +

study\_surv\_perma\_19 + study\_surv\_perma\_1 + study\_surv\_perma\_9 + study\_surv\_perma\_17 + study\_surv\_perma\_2 + study\_surv\_perma\_8 + study\_surv\_perma\_16 + study\_surv\_perma\_23) / 16.

PERMA\_neg\_emotion\_c1=(study\_surv\_perma\_7 + study\_surv\_perma\_14 + study\_surv\_perma\_20) / 3.

PERMA\_health\_c1=(study\_surv\_perma\_4 + study\_surv\_perma\_13 + study\_surv\_perma\_18) / 3.

The Perceived Stress Scale (PSS-10) is a psychological instrument used to measure the perception of stress. It's often used in research and clinical settings to understand how different situations affect individuals' feelings and their perceived stress levels.

The PSS-10, as the name suggests, is a 10-item self-reported questionnaire. The items are general in nature and somewhat subjective, thus making the scale widely applicable. They ask about feelings and thoughts during the last month and in particular how unpredictable, uncontrollable, and overloaded respondents find their lives to be.

Here are the 10 items:

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and "stressed"?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Each of these questions is scored on a scale from 0 (never) to 4 (very often).

However, the scores of the four positively stated items (questions 4, 5, 7, and 8) are reversed. So, the scoring algorithm would be:

- For questions 1, 2, 3, 6, 9, and 10: Never=0, Almost Never=1, Sometimes=2, Fairly Often=3, Very Often=4.

- For questions 4, 5, 7, and 8: Never=4, Almost Never=3, Sometimes=2, Fairly Often=1, Very Often=0.

After reversing scores on the positive items, the scores on all ten questions are then summed to create a single overall stress score. The total PSS-10 score ranges from 0 to 40, with higher scores indicating higher perceived stress.

**The Perceived Stress Scale (PSS-10) instruction for Coding**

**Variables**

The variables for PSS for the 1st checkpoints are named: study\_surv\_pss\_1, study\_surv\_pss\_2…

For the 2nd checkpoint: study\_surv\_pss\_1\_c2, study\_surv\_pss\_2\_c2…

For the 5th checkpoint: study\_surv\_pss\_1\_c5, study\_surv\_pss\_2\_c5, study\_surv\_pss\_3\_c5…

**The reversal of the scores for questions 4, 5, 7, 8 (for each checkpoint) goes as follows: (0=4) (1=3) (2=2) (3=1) (4=0).**

**The new variables (after reversal of scores get an added “\_r” at the end of their name, for example:** *study\_surv\_pss\_4\_c5\_r, study\_surv\_pss\_5\_c5\_r study\_surv\_pss\_7\_c5\_r study\_surv\_pss\_8\_c5\_r)*

The final sums are calculated (for each checkpoint, after reversal, as follows):

PSS\_total\_C2 = study\_surv\_pss\_1\_c2 + study\_surv\_pss\_2\_c2 + study\_surv\_pss\_3\_c2 + study\_surv\_pss\_4\_c2\_r + study\_surv\_pss\_5\_c2\_r + study\_surv\_pss\_6\_c2 + study\_surv\_pss\_7\_c2\_r + study\_surv\_pss\_8\_c2\_r + study\_surv\_pss\_9\_c2 + study\_surv\_pss\_10\_c2.

**The Oldenburg Burnout Inventory (OLBI),** also known as the Oldenburg Burnout Survey, is a well-known psychological instrument designed to assess symptoms of burnout. Unlike the Maslach Burnout Inventory, which assesses burnout in three dimensions (emotional exhaustion, depersonalization, and reduced personal accomplishment), the OLBI evaluates burnout in two dimensions: disengagement and exhaustion.

The OLBI consists of 16 items - 8 for the exhaustion subscale, and 8 for the disengagement subscale. Each item is rated on a scale from 1 (strongly agree) to 4 (strongly disagree). Some of the items are positively phrased and some are negatively phrased.

Here is the scoring algorithm:

* Positively phrased items need to be reverse scored: 1=4, 2=3, 3=2, 4=1.
* Negatively phrased items are scored as indicated: 1=1, 2=2, 3=3, 4=4.
* A separate score is computed for each of the two dimensions: exhaustion (1-8) and disengagement (9-16) by adding up the scores for the items in that dimension.

The total score for each dimension can range from 8 to 32, with higher scores indicating a higher level of burnout.

**Exhaustion:**

1. After my work, I usually feel worn out and weary. (Negative)
2. I usually talk about my work in a negative way. (Negative)
3. After working, I have enough energy for my leisure activities. (Positive)
4. Usually, I can manage the amount of my work well. (Positive)
5. I feel burned out from my work. (Negative)
6. I find my work to be a positive challenge. (Positive)
7. During my work, I often feel emotionally drained. (Negative)
8. Over time, one can become disconnected from this type of work. (Negative)

**Disengagement:**

1. I always find new and interesting aspects in my work. (Positive)
2. I have become less enthusiastic about my work. (Negative)
3. It happens more and more often that I talk about my work in a negative way. (Negative)
4. Lately, I tend to think less at work and do my job almost mechanically. (Negative)
5. I find my work to be a positive challenge. (Positive)
6. Sometimes I feel sickened by my work tasks. (Negative)
7. This is the only type of work that I can imagine myself doing. (Positive)
8. I feel more and more engaged in my work. (Positive)

**The Oldenburg Burnout Inventory (OLBI), instruction for Coding**

**Variables**

The variables for OLBI for the 1st checkpoints are named: study\_surv\_olbi\_1, study\_surv\_olbi\_2…

For the 2nd checkpoint: study\_surv\_olbi\_1\_c2, study\_surv\_olbi\_2\_c2…

For the 5th checkpoint: study\_surv\_olbi\_1\_c5, study\_surv\_olbi\_2\_c5, study\_surv\_olbi\_3\_c5…

**The reversal of the scores for questions 2, 3, 4, 6, 8, 9, 11, 12 (for each checkpoint) goes as follows: (1=4) (2=3) (3=2) (4=1).**

**The new variables (after reversal of scores get an added “\_r” at the end of their name, for example:** *study\_surv\_olbi\_2\_c5\_r, study\_surv\_olbi\_8\_c5\_r study\_surv\_olbi\_9\_c5\_r study\_surv\_olbi\_11\_c5\_r)*

The final sums are calculated (for each checkpoint, after reversal, as follows):

TOTAL

Burnout\_total\_C2=study\_surv\_olbi\_1\_c2 + study\_surv\_olbi\_2\_c2\_r + study\_surv\_olbi\_3\_c2\_r +

study\_surv\_olbi\_4\_c2\_r + study\_surv\_olbi\_5\_c2 + study\_surv\_olbi\_6\_c2\_r + study\_surv\_olbi\_7\_c2 +

study\_surv\_olbi\_8\_c2\_r + study\_surv\_olbi\_9\_c2\_r + study\_surv\_olbi\_10\_c2 + study\_surv\_olbi\_11\_c2\_r +

study\_surv\_olbi\_12\_c2\_r + study\_surv\_olbi\_13\_c2 + study\_surv\_olbi\_14\_c2 + study\_surv\_olbi\_15\_c2 +

study\_surv\_olbi\_16\_c2.

DISENGAGEMENT

Burnout\_disengagement\_C2=study\_surv\_olbi\_1\_c2 + study\_surv\_olbi\_3\_c2\_r + study\_surv\_olbi\_6\_c2\_r + study\_surv\_olbi\_7\_c2 + study\_surv\_olbi\_9\_c2\_r + study\_surv\_olbi\_11\_c2\_r + study\_surv\_olbi\_13\_c2 + study\_surv\_olbi\_15\_c2

EXHAUSTION

Burnout\_exhaustion\_C2=study\_surv\_olbi\_2\_c2\_r + study\_surv\_olbi\_4\_c2\_r + study\_surv\_olbi\_5\_c2 + study\_surv\_olbi\_8\_c2\_r + study\_surv\_olbi\_10\_c2 + study\_surv\_olbi\_12\_c2\_r +study\_surv\_olbi\_14\_c2 + study\_surv\_olbi\_16\_c2.

**The General Self-Efficacy Scale (GSE)**

(1) **The General Self-Efficacy Scale (GSE)** is a 10-item psychometric scale that is designed to assess optimistic self-beliefs to cope with a variety of difficult demands in life. The scale was originally developed by Matthias Jerusalem and Ralf Schwarzer in 1981 and has been used in numerous research studies worldwide.

(2) **Questions** The full version of the GSE consists of ten statements:

1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to get what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

(3) **Directions on How to Score** Each of the 10 items is rated on a 4-point scale from 1 ("Not at all true") to 4 ("Exactly true"). The scale is unidimensional and the items are summed up to yield a total score ranging from 10 to 40, with higher scores indicating higher levels of self-efficacy.

**The General Self-Efficacy Scale (GSE), instruction for Coding**

**Variables**

The variables for GSE for the 1st checkpoints are named: study\_surv\_gse\_1, study\_surv\_gse\_2…

For the 2nd checkpoint: study\_surv\_gse\_1\_c2, study\_surv\_gse\_2\_c2…

For the 5th checkpoint: study\_surv\_gse\_1\_c5, study\_surv\_gse\_2\_c5, study\_surv\_gse\_3\_c5…

Self-efficacy is the total of all 10 (for each checkpoint), for example:

self\_efficacy\_total\_c3=study\_surv\_gse\_1\_c3 + study\_surv\_gse\_2\_c3 + study\_surv\_gse\_3\_c3 +

study\_surv\_gse\_4\_c3 + study\_surv\_gse\_5\_c3 + study\_surv\_gse\_6\_c3 + study\_surv\_gse\_7\_c3 +

study\_surv\_gse\_8\_c3 + study\_surv\_gse\_9\_c3 + study\_surv\_gse\_10\_c3.

**The World Health Organization Quality of Life (WHOQOL-BREF – 26)**

(1) **The World Health Organization Quality of Life (WHOQOL-BREF)** instrument is a shorter version of the original instrument that may be more convenient for use in large research studies or clinical trials. It comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment.

(2) **Questions** The full version of the WHOQOL-BREF consists of 26 questions covering the following domains:

* Physical Health (7 items): Activities of daily living, Dependence on medicinal substances and medical aids, Energy and fatigue, Mobility, Pain and discomfort, Sleep and rest, Work capacity.
* Psychological (6 items): Bodily image and appearance, Negative feelings, Positive feelings, Self-esteem, Spirituality/Religion/Personal beliefs, Thinking, learning, memory, and concentration.
* Social Relationships (3 items): Personal relationships, Social support, Sexual activity.
* Environment (8 items): Financial resources, Freedom, physical safety and security, Health and social care: accessibility and quality, Home environment, Opportunities for acquiring new information and skills, Participation in and opportunities for recreation/leisure activities, Physical environment (pollution/noise/traffic/climate), Transport.

Each domain has a distinct number of questions, totaling to 24. There are also two additional questions that are examined separately: Question 1 asks about an individual’s overall perception of quality of life and Question 2 asks about an individual’s overall perception of their health.

(3) **Directions on How to Score** Each item is rated on a scale from 1 to 5. The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100.

Raw domain scores are transformed to a 0-100 scale. The lower the score, the more disability or problems in the respective domain of quality of life.

**The World Health Organization Quality of Life (WHOQOL-BREF – 26) instruction for Coding**

**Variables**

The variables for WHO for the 1st checkpoints are named: study\_surv\_who\_1, study\_surv\_who\_2…

For the 2nd checkpoint: study\_surv\_who\_1\_c2, study\_surv\_who\_2\_c2…

For the 5th checkpoint: study\_surv\_who\_1\_c5, study\_surv\_who\_2\_c5, study\_surv\_who\_3\_c5…

**The reversal of the scores for questions 3, 4, and 26 (for each checkpoint) goes as follows: (1=5)**

**(2=4) (3=3) (4=2) (5=1)**

**The new variables (after reversal of scores get an added “\_r” at the end of their name, for example:** *study\_surv\_who\_2\_c5\_r, study\_surv\_who\_4\_c5\_r, study\_surv\_who\_26\_c5\_r)*

The final means for domains are calculated (for each checkpoint, after reversal) as follows:

DOM1=MEAN.6(study\_surv\_who\_3\_r, study\_surv\_who\_4\_r, study\_surv\_who\_10, study\_surv\_who\_15, study\_surv\_who\_16, study\_surv\_who\_17, study\_surv\_who\_18)\*4.

DOM2=MEAN.5(study\_surv\_who\_5, study\_surv\_who\_6, study\_surv\_who\_11, study\_surv\_who\_19, study\_surv\_who\_26\_r)\*4.

DOM3=MEAN.2(study\_surv\_who\_20, study\_surv\_who\_21, study\_surv\_who\_22)\*4.

DOM4=MEAN.6(study\_surv\_who\_8, study\_surv\_who\_9, study\_surv\_who\_12, study\_surv\_who\_13, study\_surv\_who\_14, study\_surv\_who\_23, study\_surv\_who\_24, study\_surv\_who\_25)\*4.

**The Gratitude Questionnaire (GQ-6)**

(1) **The Gratitude Questionnaire (GQ-6)** is a widely used self-report measure designed to assess individual differences in the disposition to be grateful. It was developed by McCullough, Emmons, and Tsang to capture a person's tendency to recognize and respond with gratitude to the role of other people's benevolence in the positive experiences and outcomes that they obtain.

(2) **Questions** The full version of the GQ-6 comprises six items:

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for. (Reverse scored)
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone. (Reverse scored)

(3) **Directions on How to Score** Each item is rated on a 7-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). A total gratitude score is computed by summing the six items after reverse scoring the two negatively stated items (items 3 and 6). Higher scores indicate a greater dispositional tendency to experience gratitude.

**The Gratitude Questionnaire (GQ-6) instruction for Coding**

**Variables**

The variables for Gratitude for the 1st checkpoint are named: study\_surv\_gratitude\_1…

For the 2nd checkpoint: study\_surv\_ gratitude \_1\_c2, study\_surv\_ gratitude \_2\_c2…

For the 5th checkpoint: study\_surv\_ gratitude \_1\_c5, study\_surv\_ gratitude \_2\_c5…

**The reversal of the scores for questions 3 and 6 (for each checkpoint) goes as follows: (1=7) (2=6) (3=5)**

**(4=4) (5=3) (6=2) (7=1) The new variables (after reversal of scores get an added “\_r” at the end of their name, for example:** *study\_surv\_gratitude\_3\_c5\_r, study\_surv\_gratitude\_6\_c5\_r)*

The final totals are calculated (for each checkpoint, after reversal) as follows:

gratitude\_total\_c1=study\_surv\_gratitude\_1 + study\_surv\_gratitude\_2 + study\_surv\_gratitude\_3\_r + study\_surv\_gratitude\_4 + study\_surv\_gratitude\_5 + study\_surv\_gratitude\_6\_r.

**The Growth Mindset Questionnaire (GFMA)**

(1) **The Growth vs Fixed Mindset Questionnaire (20 item)** is a self-report measure developed by Carol Dweck, designed to assess one’s mindset, motivation and disposition toward growth or fixed-mindedness.

(2) **Questions** The full version of the GFMA comprises twenty items.

(3) **Directions on How to Score** Each item is rated on a 4-point scale, ranging from 1 (strongly agree) to 3 (strongly disagree). A total mindset score is computed by summing the twenty items after reverse scoring the negatively stated items (items 1, 4, 7, 8, 11, 12, 14, 16, 17, 20). Higher scores indicate a greater fixed-mindedness (a lesser disposition toward growth).

**The Growth Mindset Questionnaire (GFMA instruction for Coding**

**Variables**

The variables for Growth Mindset for the 1st checkpoint are named: study\_surv\_gfma\_1…

For the 2nd checkpoint: study\_surv\_ gfma \_1\_c2, study\_surv\_ gfma \_2\_c2…

For the 5th checkpoint: study\_surv\_ gfma \_1\_c5, study\_surv\_ gfma \_2\_c5…

**The reversal of the scores for questions 1, 4, 7, 8, 11, 12, 14, 16, 17, 20 (for each checkpoint) goes as follows: (0=3) (1=2) (2=1) (3=0)**

**The new variables (after reversal of scores get an added “\_r” at the end of their name, for example:** *study\_surv\_gfma\_1\_c5\_r, study\_surv\_gfma\_20\_c5\_r)*

The final totals are calculated (for each checkpoint, after reversal) as follows:

GFMA\_total\_C4=study\_surv\_gfma\_1\_c4\_r+study\_surv\_gfma\_2\_c4+study\_surv\_gfma\_3\_c4+study\_surv\_gfma\_4\_c4\_r+study\_surv\_gfma\_5\_c4+study\_surv\_gfma\_6\_c4+study\_surv\_gfma\_7\_c4\_r+study\_surv\_gfma\_8\_c4\_r+study\_surv\_gfma\_9\_c4+study\_surv\_gfma\_10\_c4+study\_surv\_gfma\_11\_c4\_r+study\_surv\_gfma\_12\_c4\_r+study\_surv\_gfma\_13\_c4+study\_surv\_gfma\_14\_c4\_r+study\_surv\_gfma\_15\_c4+study\_surv\_gfma\_16\_c4\_r+study\_surv\_gfma\_17\_c4\_r+study\_surv\_gfma\_18\_c4+study\_surv\_gfma\_19\_c4+study\_surv\_gfma\_20\_c4\_r.

**Ecological Momentary Assessment (EMA-5)**

The Visual Analogue Scale will be used to assess energy, mood, focus, connection and clarity levels in a digital, real-time version:

1. How energized are you at this moment? (1-10)
2. How are you feeling right now? (1-10)
3. How focused are you at this moment? (1-10)
4. How connected are you to this moment? (1-10)
5. How much clarity do I have at this moment? (1-10)

**EMA instruction for Coding**

Variables:

During Seminar (3 times a day 12/2-8/22; 18 data points):

Ema\_surv\_1, ema\_surv\_2, ema\_surv\_3, ema\_surv\_4, ema\_surv\_5

After Seminar (3 times a week, 12/16/22 – 8/23):

Ema\_surv\_1, ema\_surv\_2, ema\_surv\_3, ema\_surv\_4, ema\_surv\_5