

ASSETT Faculty Fellows End of Year Report

June Gruber, Ph.D.

Assistant Professor, Department of Psychology and Neuroscience
Tracking Dynamic Changes in Student Socioemotional Wellness in the Classroom

Summary / description of your project

Recent research suggests an alarming increase in the rate of mental health challenges, substance use problems, and behavioral difficulties among college-aged adults. For example, the World Health Organization reports that 1 out of 3 college first-year college students report serious emotional difficulties. There is hence a critical need to prioritize pedagogical efforts that can directly enhance student well-being in addition to strengthening engagement and student learning. Teaching CU students science-backed and easily-applied strategies to enhance wellness and boost happiness presents one unique opportunity to potentially enhance student success and retention. My project hence focused on ways to integrate the science of emotional health and wellness with classroom pedagogy and student engagement. It did so by utilizing novel experience-sampling and remote-based survey technology to *engage student learning* and *enhance student well-being* by understanding the bidirectional relationship between classroom learning experiences and student's individual socioemotional wellness.

Describe the project. What did you do?

My work this past year has focused on successfully submitting and obtaining research ethics approval (IRB #18-0483) for the EMERGE-WELL remote-based survey project to examine the extent to which wellness-focused classroom courses for first-year college students influence changes in socioemotional wellness over the course of the semester. Specifically, I sought to pilot remote-based experience-sampling technology to measure CEI students' emotions, thoughts, and well being in their everyday lives at the beginning and end of a first-year course for CEI freshmen focused on enhancing student wellness (*ARSC 1550: Making the Self: Tools for Well-Being and Success in College*). This remote-based experience-sampling survey was implemented with first-year college students during the Fall 2019 and Spring 2020 semesters at CEI Boulder using an open-source mobile phone app on their personal smartphones for one week at the beginning and end of the course. Specifically, interested first-year students completed an initial remote based survey during the Fall 2019 and Spring 2020 semesters to collect baseline demographic, student information, and measures of emotional health and psychological adjustment (See **Table 1**). Participants who completed this survey and indicated that they were enrolled in ARSC 1550 received an email with additional information and consent procedures for the experience-sampling study. For the experience-sampling study, student participants will be asked to complete four brief quasi-random surveys between 9am-9pm for 7 consecutive days (i.e., 1 week) completed on the participant's personal smartphone using a free "ExpiWell" app (<http://app.expimetri.cs.com/>) downloaded to their personal smartphone. This included questions related to their current emotions and thought, and the context in which the emotions occurred items. The last (i.e., fourth) survey at the end of each day included additional end of day questions concerning daily events, satisfaction, and functioning throughout the day (See **Table 2**). Student participants were compensated \$15 for successfully completing the required 1-week ESM study period (e.g., an optional mid-point and end of the course or workshop) and received an additional bonus of \$5 if they successfully completed at least 85% of diary entries across the one-week period (for up to \$20). See **Appendix A** and **Appendix B** for sample instructions and experience-sampling items. Approximately 50 students completed the baseline survey and 10

completed the additional experience-sampling surveys at the beginning and end of the course. I plan to finalize data analysis this summer to inform larger-scale implementation in 2020-2021 in collaboration with ASSETT, College of Arts and Sciences Academic Advising, and the Arts and Sciences Student Mental Health Task Force I am part of.

Describe desired result

The overarching goal is to gain important information on the ways that students can engage their classroom experiences and learning observations about the science of wellness into their own everyday wellness practices. This endeavor is more timely than ever given acute socioemotional and academic stressors students face returning to campus during the COVID-19 pandemic and associated disruptions.

Describe the challenge you addressed in your department with this project

The challenges I addressed with this project included (1) Devising ways to leverage remote-based technology outside of the classroom to inform student learning experiences in the classroom and (2) Tracking the bidirectional relationship between pedagogy about the science of happiness with individual-level changes in student wellness.

Describe the outcome. What worked, what didn't work, lessons learned

I felt the project generally was very positive and I'm incredibly grateful to have participated as an ASSETT Faculty Fellow.

Specifically, the following things worked well:

1. Obtaining ethics approval to implement this project combining pedagogy with science of wellness
2. Positive rapport and collaboration with lead instructor of ARSC 1550 to implement survey with students
3. Student engagement in taking survey and experience-sampling study component.

The following things worked less well:

1. Recruiting a larger sample size in initial pilot round
2. Seeking additional funds to support student compensation for participation to fund a larger sample size.

Based on the individual and project goals outlined above, the lessons I learned that set the stage for next-step goals are as follows:

1. Implement these remote-based survey items in a large number of course settings and offerings starting Fall 2020, especially for incoming first-year students.
2. As part of collaboration with ASSETT Incubator Project, I hope to finalize additional measures in survey pending group input including brief and user-friendly measures of metacognition, student engagement, and campus experiences.
3. Find ways to better recruit and market this project across campus to enhance student participation (e.g., CU Boulder Today Article?) prior to Fall 2020.

Reflect on your experience in the Faculty Fellows program and working on your project.

I felt grateful and inspired by the Faculty Fellows program meetings, collaborative environment, and clear passion and vision of our leaders. I looked forward to our meetings and found the workshops useful, concrete and timely. I could not have asked for a more positive and supportive learning experience as a faculty member. I also felt that participating as a Faculty Fellow allowed

me to seek out additional campus partnerships and collaboration opportunities to support this project - e.g., through the ASSETT Innovation Incubator, College of Arts and Sciences Academic Advising Team (Daryl Maeda, Lily Board, Gretchen Lang), College of Arts and Sciences Student Mental Health Task Force - which I could not have been more grateful to have connected with. I look forward to continuing to build community and engage synergistic activities over the summer that inform the relationship between student mental wellness and classroom learning through the use of novel technologies.

If appropriate, please include other artifacts and visuals (data, weblinks, pictures, student work/examples, write-ups)

See Table 1, Table 2, Appendix A, and Appendix B below.

Table 1. Overview of Baseline Survey Measures	# Items	Construct
Participant Characteristics		
Study III Number	1	III number assigned by experimenter
Student ID Question	1	Student ID# and/or Identkey
Class Question	1	Specify wellness class or workshop
Demographic	8	Age, gender, socioeconomic status, student information
HIQ	1	General health questionnaire
CSQ	3	Counseling and treatment questionnaire
Medication	1	Current medication use
Emotion and Well Being		
mDES	20	Positive and negative affect
SHS	4	Subjective happiness
VH	9	Valuing happiness
SWLS	5	Satisfaction with life scale
BRS	6	Resilience
FOH	5	Fear of happiness
PEP	22	Positive emotion persistence
ERQ	10	Emotion regulation
Risk and Decision-Making Behavior		
CARE	21	Risk taking (past 3 mos.)
SHORT UPPS-P	8	Emotion-relevant impulsivity
DSIC-C	8	Self-control
MCQ	27	Temporal discounting
BAS-RR	5	Reward responsiveness
EDMB	6	Emotion and decision-making beliefs
ECB	16	Belief emotions can versus should be controlled
Social Functioning and Belonging		
PSS-C	7	Social support (friends)
Social Network Survey A	1	Social network and connections
Belonging Uncertainty	3	Social belonging at CU Boulder
Social Identity	14	Social identity at CU Boulder
Psychological Adjustment		
DSM-5 Cross Cutting Measure	23	Mental health questionnaire
PSS-3	3	Patient safety screener, suicidality
NSSI	2	Self-harm
FIRM	4	Family mental health history questionnaire
PROMIS	8	Sleep disturbance
AQF	3	Alcohol quantity-frequency questionnaire
APQ (RAPI)	23	Alcohol problems questionnaire
PSS	7	Perceived stress scale
HPS	20	Hypomanie personality scale
ASRM	5	Elevated mood

DAST	12	Dmg screening questionnaire
CUPIT	5	Cannabis use
SF-8	8	Functioning
PQ-B	20	Psychosis screen
Academic Adjustment		
ASE	13	Academic self-efficacy
Misc.		
BSDS	4	Brief social desirability scale
Catch Items	3	Random response detection items
Open-ended feedback	1	Feedback

<i>Table 2. Overview of Experience-Sampling Measures</i>	# Items	Construct
Daily Reconstruction Method - Emotions	12	Positive and negative emotions
Mind Wandering	1	Mind wandering
Context	4	Context (what doing, who with, etc.)
End of Day - Emotions	12	Positive and negative emotions
End of Day - Mind Wandering	1	Mind wandering
End of Day - Context	4	Context (what doing, who with, etc.)
Daily Events Scale	26	Daily life events
Daily Satisfaction	5	Daily satisfaction and functioning
SF-36	4	Daily functioning
Sleep	1	Daily sleep

APPENDIX A: Experience-Sampling Instructions

EMERGE STUDY INSTRUCTIONS



STUDY PERIOD:

XX DATE (MORNING) - XX DATE (EVENING)

[Specific dates to be populated to cover one-week period depending on participant start date for experience-sampling study]

This packet contains important study instructions to set up your smartphone and reminders of what you should be doing across a one-week period. Please review this **before** beginning the study and contact us if you have any questions!

Thank You! J

FAQs

Below are answers to some **Frequently Asked Questions**. Please do not hesitate to contact us by phone at (303) 735-7547 or by email at gruberpeplab@colorado.edu

What do I need to do for this study?

Thanks for taking part in this study! We are interested in examining your emotions, thoughts, and reactions in daily life as a first-year CU student. Over the next week you will be asked to answer several questions about your thoughts and emotions on your smartphone using the free Expimetrics app. Each day you will be prompted by this app a total of **4 random times** between **9am to 9pm** to complete a brief survey. During the evening (between 6 and 9 pm) you will answer a few additional questions about your thoughts and feelings over the entire day. Each brief survey should take **no longer than 5-10 minutes to complete** for a total of 20-40 minutes to complete each day.

How do I install the app on my phone?

STEP 1: Navigate to the App Store/Google Play Store and search “Expimetrics” and download the app

Alternatively, follow this link on your mobile device

iPhone users: <https://itunes.apple.com/us/app/expimetrics/id1070733440?mt=8>

Android users: <https://play.google.com/store/apps/details?id=com.expimetrics&hl=en>

STEP 2: Open the app, and at the bottom of the login screen, choose “Sign up”. Enter your first and last name, hit “Next”, and enter your CU Boulder email with a password of your choice. Check the ‘terms & policies’ box and hit “Sign up”.

STEP 3: Read and click “Next” through the introductory screens. When prompted about notifications, hit “Allow”.

STEP 4: Return to the main menu in the “Experiences” panel and hit “Enter Experience Code”. Enter the 5-key access code: **[email experimenter for code, must have completed consent form]** Hit “Add Experience”.

STEP 5: You can now leave the app.

You will receive two notifications per day at random times between 9:00 AM and 9:00 PM. Once you receive a notification, you will have one hour to complete that survey.

IMPORTANT NOTES:

- ENABLE push notifications
- Make sure phone is not in silent mode so you can hear survey notifications

When do I fill out the sun'ey?

- You will be prompted 4 times during the day between 9am to 9pm by a soft tone.
- You have 15 minutes from the initial beep to complete the entry. The app will send out reminder beeps every 5 minutes until you complete the entry or the 15-minute time period expires.

When if I miss a survey?

- Do not worry if you missed an entry prompt. Just try your best to do the next one.
- You may want to take your phone off silent mode.

What do I do if I am not receiving notifications?

- Go to the “Me” panel in the bottom right corner of the app, then go to “Settings” and “**Notification Setup**”. Read and make sure to follow all of the steps so that notifications work properly.

How long will it take?

- Each entry is brief and should take you approximately 5-10 minutes, for a total of 20-40 minutes per day.

What timeframe should I use when completing the sun'ey?

- Please rate how you feel RIGHT NOW (i.e., right before you began the survey)

How much will I be paid?

- When you complete the study, you will receive \$15, so long as you completed at least half (50%) of the survey prompts.
- If you complete at least 85% of the survey prompts you will receive an additional \$5 bonus for a total of \$20.
- Please try your best to complete all survey prompts!

**Additional Information:
HOW TO ANSWER DIARY QUESTIONS**

Part I: DAILY QUESTIONS (between 9am-9pm): 4 x each day

1. Your IDENTIKEY:

- You will first be asked to enter your 8 digit **IDENTIKEY** (e.g., jgr3872), Do NOT enter your student ID # or another ID #. We will not be able to log your entry or compensate you if you do not enter the correct ID #. This will help us correctly locate your survey. To maintain your confidentiality, once you complete the study we will erase your IDENTIKEY from your downloaded survey data and replace it with an anonymous ID #.

2. Your Current Activities

- You will be asked questions about what you are doing, where you are, whether you are interacting with someone (and if yes, who the person is). For the questions asking what you were doing and who you were with, please select ALL responses that apply. If your desired response is not listed, please select “other” and then type in your response.

<p>What are you doing?</p> <p>(Please check all that apply)</p> <p><input type="checkbox"/> commuting</p> <p><input type="checkbox"/> shopping</p> <p><input type="checkbox"/> doing housework</p> <p><input type="checkbox"/> eating</p> <p><input type="checkbox"/> socializing</p> <p><input type="checkbox"/> nap/resting</p> <p><input type="checkbox"/> relaxing</p> <p><input type="checkbox"/> intimate relations</p> <p><input type="checkbox"/> working</p> <p><input type="checkbox"/> preparing food</p> <p><input type="checkbox"/> taking care of someone else</p> <p><input type="checkbox"/> watching TV</p> <p><input type="checkbox"/> computer/internet</p> <p><input type="checkbox"/> on the phone</p> <p><input type="checkbox"/> exercising</p> <p><input type="checkbox"/> praying/worshipping/meditation</p> <p><input type="checkbox"/> other (please specify)</p>	<p>Where are you?</p> <p><input type="checkbox"/> home</p> <p><input type="checkbox"/> campus</p> <p><input type="checkbox"/> other (please specify)</p>
<p>Are you interacting with someone (including on the phone, texting, etc.)?</p> <p><input type="checkbox"/> yes (in person)</p> <p><input type="checkbox"/> yes (on phone/texting)</p> <p><input type="checkbox"/> no</p> <p><input type="checkbox"/> other (please specify)</p>	<p>If you were interacting with someone (please check all that apply)</p> <p><input type="checkbox"/> spouse/significant other</p> <p><input type="checkbox"/> friends</p> <p><input type="checkbox"/> students/peers</p> <p><input type="checkbox"/> clients./customers</p> <p><input type="checkbox"/> parents/relatives</p> <p><input type="checkbox"/> professor/instructor</p> <p><input type="checkbox"/> boss</p> <p><input type="checkbox"/> other (please specify)</p>

3. Your Current Thoughts

- You will be asked if you are “*thinking about something other than what you are doing*” **JUST BEFORE BEGINNING THIS SURVEY** and answer 1 question:
 - No
 - Yes, something pleasant
 - Yes, something neutral
 - Yes, something unpleasant

4. Your Current Emotions

- You will answer how much you feel the following set of emotions **RIGHT NOW** (this very moment). Answer how much you feel any of the 12 emotions, from a scale of 0 (not at all) to 6 (extremely)
 - happy
 - frustrated/annoyed
 - depressed/blue
 - competent/capable
 - hassled/pushed around
 - warm/friendly
 - angry/hostile
 - worried/anxious
 - enjoying myself
 - criticized/put down
 - tired
 - impatient for it to end (i.e., how impatient do you feel)

Part 2: ADDITIONAL END OF DAY QUESTIONS (between 6pm-9pm):

1 x each day: In the evening, your survey will include the questions above and some additional end of day questions. Please answer all questions.

1. YOUR DAILY EVENTS

- You will be asked about different events that may have happened to you TODAY. Please use the following scale to answer EACH of the following questions about what happened TODAY (the day you are filling out the survey):

- 0 = did not occur
- 1 = occurred and not important
- 2 = occurred and somewhat important
- 3 = occurred and pretty important
- 4 = occurred and extremely important

Had especially good interactions with friend(s) or acquaintances.

Completed work on an interesting project or assignment.

Did something awkward or embarrassing in a social situation.

Was excluded or left out by my group of friends.

Fell behind in coursework or duties.

Went out socializing with friends/date (e.g. party, dance club).

Met a daily fitness goal.

Had especially good interactions with my steady date, (i.e., **“romantic partner”**)

Performed well (sports, music, speaking, drama, etc.).

A disagreement with a close friend or steady date was left unresolved.

Did something special for a friend/steady date which was appreciated.

Flirted with someone or arranged a date.

Got caught up (or ahead) in coursework or work duties.

Got along poorly with peers (e.g., classmates, co-workers, roommates).

Failed to meet a daily fitness goal.

Did poorly on school or work task (e.g. test, assignment, job duty).

Classmate, teacher, co-worker, or friend criticized me or my abilities.

Classmate, teacher, co-worker, or friend complimented me on my abilities.

Went out to eat with a friend/date

Tried to do homework and couldn't understand it.

Did well on a school or work task (e.g. test, assignment, job duty).

Had plans fall through to spend time with someone special.

Had other type of pleasant event (not listed above) with friends, family, or date.

Had other type of unpleasant event (not listed above) with friends, family, or date.

Had other type of pleasant event (not listed above) concerning performance at school, work, or another activity.

Had other type of unpleasant event (not listed above) concerning school work, or another activity.

2. YOUR DAILY SATISFACTION

- You will be asked about how satisfied you are with different parts of your life at the end of each day using a 1 (very satisfied) to 5 (very dissatisfied) scale:

How satisfied are you with your current school situation TODAY?

How secure do you feel economically TODAY?

How satisfied are you with your social activities TODAY?

How satisfied are you with your living arrangement TODAY?

- You will also be asked to rate your mental health TODAY on a scale of 1 (“much better than the average person’s”) to 5 (“much worse than the average person’s”).

How would you rate your current overall mental health as compared to that of most other people?

3. YOUR DAILY DIFFICULTIES

- You will be asked if you have had any problems with your (school or other) work or other regular daily activities as a result of your feelings or moods? (YES or NO)

Cut down on the amount of time you spent on work or other activities.

Accomplished less than you would like.

Were limited in the kind of work or other activities.

Had difficulty performing the work or other activities (for example, it took extra effort).

4. YOUR SLEEP

- You will be asked how many hours of sleep did you get the night before.

APPENDIX B: Experience-Sampling Items

MOMENTARY ESM ITEMS IN RESPONSE TO PROMPT!

Note: Order of items may not necessarily appear in this order

Please enter your student IDENTIKEY: _____ (Example: "jgr3872")

Current Emotions (*DEM; Kahneman et al, 2004*)

How do you feel RIGHT NOW?

Please rate each feeling on the scale given. A rating of 0 means that you did not experience that feeling at all. A rating of 6 means that this feeling was a very important part of the experience.

0	1	2	3	4	5	6
---	---	---	---	---	---	---

Not at all

Verymuch

- _____ happy
- _____ frustrated/annoyed
- _____ depressed/blue
- _____ competent/capable
- _____ hassled/pushed around
- _____ warm/friendly
- _____ angry/hostile
- _____ worried/anxious
- _____ enjoying myself
- _____ criticized/put down
- _____ tired
- _____ impatient for it to end

Mind Wandering (*Killingsworth & Gilbert, 2010*)

Are you thinking about something other than what you are doing?

- No
- Yes, something pleasant
- Yes, something neutral
- Yes, something unpleasant

1. What are you doing? (Please check all that apply)

commuting
shopping
doing housework
eating
socializing
nap/resting
relaxing
intimate relations
working
preparing food
taking care of someone else
watching TV
computer/internet
on the phone
exercising
praying/worshipping/meditation
other (please specify)

2. Where are you?

home
campus
other (please specify)

3. Are you interacting with someone (including on the phone, texting, etc)?

yes (in person)
yes (on phone/texting)
no
other (please specify)

4. If you were interacting with someone (please check all that apply)

spouse/significant other
friends
students/peers
clients./customers
parents/relatives
professor/instructor

- _____ boss
- _____ other (please specify)

END OF PAY ITEMS tend of day before bedtime)

Note: Order of items may not necessarily appear in this order

Current Emotions (*DEM; Kahneman et al, 2004*)

How do you feel RIGHT NOW?

Please rate each feeling on the scale given. A rating of 0 means that you did not experience that feeling at all. A rating of 6 means that this feeling was a very important part of the experience.

0	1	2	3	4	5	6
---	---	---	---	---	---	---

Not at all

Verymuch

- _____ happy
- _____ frustrated/annoyed
- _____ depressed/blue
- _____ competent/capable
- _____ hassled/pushed around
- _____ warm/friendly
- _____ angry/hostile
- _____ worried/anxious
- _____ enjoying myself
- _____ criticized/put down
- _____ tired
- _____ impatient for it to end

Mind Wandering (*Killingsworth & Gilbert, 2010*)

Are you thinking about something other than what you are doing?

- No
- Yes, something pleasant
- Yes, something neutral
- Yes, something unpleasant

Context (*Gruber et al, 2014; adapted from Kahneman et al, 2004*)

1. What are you doing? (Please check all that apply)

- commuting
- shopping
- doing housework
- eating
- socializing
- nap/resting
- relaxing
- intimate relations
- working
- preparing food
- taking care of someone else
- watching TV
- computer/internet
- on the phone
- exercising
- praying/worshipping/meditation
- other (please specify)

2. Where are you?

- home
- campus
- other (please specify)

3. Are you interacting with someone (including on the phone, texting, etc)?

- yes (in person)
- yes (on phone/texting)
- no
- other (please specify)

4. If you were interacting with someone (please check all that apply)

spouse/significant other
friends
students/peers
clients./customers
parents/relatives
professor/instructor
boss
other (please specify)

Daily Events Scale (*Butler et al, 1994; ModifiedNezlek et al, 2002*)

Categories: positive social, negative social, positive achievement, negative achievement

Use the following scale to describe what happened TODAY :

0 = did not occur
1 = occurred and not important
2 = occurred and somewhat important
3 = occurred and pretty important
4 = occurred and extremely important

Had especially good interactions with friend(s) or acquaintances.
Completed work on an interesting project or assignment.
Did something awkward or embarrassing in a social situation.
Was excluded or left out by my group of friends.
Fell behind in coursework or duties.
Went out socializing with friends/date (e.g. party, dance club).
Met a daily fitness goal.
Had especially good interactions with my steady date.
Performed well (sports, music, speaking, drama, etc.).
A disagreement with a close friend or steady date was left unresolved.
Did something special for a friend/steady date which was appreciated.
Flirted with someone or arranged a date.
Got caught up (or ahead) in coursework or work duties.
Got along poorly with peers (e.g., classmates, co-workers, roommates).
Failed to meet a daily fitness goal.
Did poorly on school or work task (e.g. test, assignment, job duty).
Classmate, teacher, co-worker, or friend criticized me or my abilities.
Classmate, teacher, co-worker, or friend complimented me on my abilities.
Went out to eat with a friend/date
Tried to do homework and couldn't understand it.
Did well on a school or work task (e.g. test, assignment, job duty).
Had plans fall through to spend time with someone special.
Had other type of pleasant event (not listed above) with friends, family, or date.
Had other type of unpleasant event (not listed above) with friends, family, or date.
Had other type of pleasant event (not listed above) concerning performance at school, work, or

another activity.

Had other type of unpleasant event (not listed above) concerning school work, or another activity.

Daily Satisfaction (*Goldberg et al 2005, Life Satisfaction Assessment*)

Following questions answered on a scale of 1 (“very satisfied”) to 5 (“very dissatisfied”).

How satisfied are you with your current school situation TODAY?

How secure do you feel economically TODAY?

How satisfied are you with your social activities TODAY?

How satisfied are you with your living arrangement TODAY?

Following question answered on a scale of 1 (“much better than the average person’s”) to 5 (“much worse than the average person’s”).

How would you rate your current overall mental health as compared to that of most other people?

Daily Functioning (SF-36)

During the day, have you had any of the following problems with your work or other regular daily activities as a result of your feelings or moods? (YES or NO)

Cut down on the amount of time you spent on work or other activities.

Accomplished less than you would like.

_____ Were limited in the kind of work or other activities.

Had difficulty performing the work or other activities (for example, it took extra effort).

Sleep

_____ How many hours of sleep did you get last night?

