Preliminary Description and Validation of the University of California Student Wellness Survey

Deliverable 6

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Key Terms

To help you review the information in this report more efficiently, we have provided descriptions of four acronyms used throughout this document.

University of California Student Wellness Survey (UCSWS)

The UC Student Wellness Survey comprises 30 items designed to briefly assess various multidimensional aspects of student well-being. This report focuses on the development and validation of this survey.

University of California Student Wellness Index (UCSW Index)

The UCSW Index serves as a summary metric based on items in the UCSWS, with scores ranging from 0 to 100, which represent the overall wellness of students. A key aim of this report is to examine the reliability and validity of the UCSW Index, thereby providing the UC community with insights necessary to evaluate its potential applications.

Patient Health Questionnaire-4 (PHQ4)

The UCSWS includes the Patient Health Questionnaire (PHQ4), which consists of four items that assess symptoms of anxiety and depression. In this report, the PHQ4 is used in various validity analyses to evaluate whether there is a negative correlation between the UC Student Wellness Index and items assessing anxiety and depression, as would be expected (i.e., higher wellness is associated with lower anxiety/depression).

National Academies of Science, Engineering, and Medicine (NASEM) Student Competencies

The UCSWS includes 15 items that assess five key NASEM competencies: conscientiousness, optimism, self-efficacy, intrinsic motivation, and institutional belonging. In 2017, NASEM published a comprehensive report that summarized research on the interpersonal and intrapersonal competencies positively associated with college students' persistence and progress toward degree completion. In this report, these competencies are used in concurrent validity analyses to examine the relationship between wellness and interpersonal and intrapersonal competencies associated with persistence and progress toward degree completion.

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Executive Summary

UCSWS Sample Characteristics

The samples were adequate for assessing the UCSWS's psychometric properties, but they were limited to students from UC Santa Barbara, including two opportunity samples. Although the sample sizes provided sufficient statistical power, they did not effectively capture the diversity of the UC student population. Notably, the UCSB random sample included graduate students who reported lower levels of wellness.

To properly evaluate the UCSWS's validity, it is crucial to obtain more diverse and representative samples. Future validation should collect data from all UC campuses, ensuring representation across various demographic characteristics and student subgroups.

Summary of UCSWS Descriptive and Psychometric Information

Approximately 48% of students reported overall satisfaction with their life and minimal emotional distress on the UCSWS, while about 14% experienced lower satisfaction and moderate to severe distress. About one-third of students have little to no anxiety or sadness in the past two weeks but still report lower life satisfaction, highlighting a group that traditional mental health screening may overlook.

The UCSW Index values ranged from 69 to 74 on a 100-point scale, aligning with other wellness evaluations.

We analyzed students' responses to the PHQ4. In random and nonrandom samples, 78.0% and 84.4% of students reported none or mild symptoms, while 3.5% and 6.1% reported severe symptoms. The higher incidence of severe symptoms in the random sample indicates that graduate students may experience greater distress than undergraduates.

The students' UCSW Index and PHQ4 responses showed expected alignment. In the random sample, students with severe (48.9) and moderate (61.5) PHQ4 scores had lower UCSW Index means than those with mild (66.3) or no symptoms (77.0). Negative correlations in the samples ranged from -0.44 to -0.57, supporting a linear relationship (i.e., higher symptoms of anxiety/depression associated with lower wellness). Each one-point increase in the PHQ4 was associated with a reduction in the UCSW Index.

The internal consistency reliability across all measures was acceptable.

Analysis revealed considerable variability in students' responses, allowing for the preliminary identification of UCSW Index score ranges associated with varying levels of student wellness. Students in the lower quartile (i.e., lowest wellness scores) had Index scores below 60, while those in the upper quartile (i.e., highest wellness scores) had Index scores ranging from 80 to 100.

Latent profile analysis examined variations in student wellness scores and identified four groups: lower, lower mid, upper mid, and high wellness profiles. This method provided an alternative classification to simple quartiles.

A confirmatory factor analysis of the UCSW Index identified two main clusters of wellness dimensions. The first cluster, encompassing both emotional and social dimensions (with correlations of 0.72 and 0.64), also included environmental, physical, existential, spiritual, and cultural dimensions. The second cluster consisted of intellectual and academic dimensions.

Summary of UCSWS Stability Analyses

We analyzed the temporal stability of student responses to the UCWS Index and PHQ4, which is essential for assessing changes in student wellness within the UC system. Overall, the UCWS Index demonstrated consistency over time while also allowing for some variation to indicate changes effectively.

The UCSW index showed a significant correlation between the administrations at Time 1 and Time 2, indicating a stability coefficient of .63 over a period of 9 months. Overall, students' global life satisfaction remains stable over time, though there is enough variation to assess changes in their wellness satisfaction.

The correlation between the various SAMHSA wellness dimensions ranged from .39 to .56, with the financial dimension at .56 and the emotional dimension at .51, indicating the highest stability.

The stability of students' responses is demonstrated by the UCSW Index mean scores, which were nearly unchanged from time 1 (70.7) to time 2 (70.5). The distribution of responses at both time points was almost identical, with about 50% differing by only 5 to 7 points. Additionally, 34.4% of students' responses changed by ±10 points or more, suggesting that the UCSW Index is sensitive to shifts in students' overall sense of wellness.

The PHQ4 stability coefficient of 0.53 from Time 1 to Time 2 indicates both stability and emotional experiences among students, allowing for flexibility in assessing changes over time.

Among students with no or mild distress at Time 1, 87% maintained their level at Time 2. In contrast, only 54% of those with moderate or severe distress at Time 1 remained at the same level, while 46% reported no or mild distress. This finding indicates an overall trend of improvement in students' reported mental health.

Students experiencing no or mild distress at both Time 1 and Time 2 had the highest average UCSW Index score of 74, while those with moderate or severe distress at both time points had the lowest average Index score of 57. Those with changes in distress levels—either an increase (average score of 65) or a decrease (average score of 68)—were in between.

Summary of Concurrent Validity Analyses

The UCSW Index's psychometric characteristics include its concurrent validity and relationships with indicators expected to correlate positively with students' evaluations of life satisfaction. Overall, UCSW Index scores were positively correlated with scales identified by NASEM to be associated with progress and persistence in college, and the PHQ4 scores were negatively correlated with these scales.

The alpha coefficients indicated sufficient reliability for the NASEM scales, with optimism (.81), intrinsic motivation (.85), and institutional belonging (.81) demonstrating adequate reliability. However, conscientiousness (.59) and self-efficacy (.68) fell below optimal levels.

The correlations between NASEM competencies and the UCSW Index are positive, indicating a moderate relationship, whereas those with the PHQ4 are negative, with small effect sizes. This suggests a stronger association between the positive competency measures and the UCSW Index compared to the PHQ4.

We evaluated whether mean NASEM competency scores differed based on overall UCSW Index ratings. Findings indicated significant concurrent validity, as students in the lowest first quartile scored notably lower, with a large effect size, than those in the upper wellness quartile.

The student strengths-focused NASEM measures demonstrate promising psychometrics but require refinement, particularly for the conscientiousness and self-efficacy subscales, which exhibit insufficient reliability and structural loadings. Revising these subscales and re-evaluating the UCSWS structural validity is essential.

UCSWS Recommendations and Possibilities

Based on analyses to date, the UCSWS appears to be a promising tool to quickly assess student wellness and distress but would benefit from larger, more representative samples.

Timeline of Activities

This section of the report highlights the previous efforts that have shaped and directly influenced the creation of the University of California Student Wellness Survey as part of the UC's Equity in Mental Health (EMH) initiatives.

Phase 1 (2022/23)

During Phase 1, we provided a summary of the Existing Behavioral Health and Wellness Data collected from across the University of California (UC) system (Deliverable 2, linked below). This report aimed to enhance our understanding of students' behavioral health and well-being. It outlined the behavioral health and wellness measures collected at various service tiers, focusing on data from different UC campuses. The summary included an overview of key surveys, their sources, supporting research evidence, and documentation regarding survey implementation, such as administration frequency and response rates.

Description of Existing Behavioral Health and Wellness Data across the University of California

Phase 2 (2023/24)

During Phase 2, we highlighted the urgent need for a unified set of UC system-wide indicators for behavioral health among UC students (Deliverable 3, linked below). The previously used emotional and mental health indicators were not aligned with a coherent conceptual framework, resulting in significant inconsistencies in our metrics. To facilitate meaningful discussions about important data sources and measures, we need to identify strong frameworks that clearly articulate a shared vision for EMH initiatives. The Phase 2 report presented relevant frameworks and concepts related to the behavioral health and wellness of college students and also emphasized a critical principle: we must include indicators that showcase students' positive wellness and strengths.

Mental Health Frameworks and Core Constructs

Phase 3 (2024/2025)

Given the limitations of current population-level surveys, there was a recognized need to develop and validate a brief "pulse" survey and explore its potential future use on UC campuses. In response to this need, we took the initial steps to create a concise instrument to measure student well-being. We designed a survey (described throughout this report) that could be administered multiple times each academic year to track trends and emerging needs in mental health, support program evaluation purposes, and facilitate individual student wellness screening and monitoring.

Several factors drove the interest in developing brief student wellness surveys. A significant issue with previous surveys, such as those from the National College Health Assessment (NCHA), is their reliance on external agencies and the lengthy completion time of 20 to 30 minutes, which leads to declining response rates. This hampers efforts to collect representative data on the needs of UC students. Additionally, these comprehensive surveys are conducted only once every two years, limiting timely access to critical health information. Integrating student surveys with a centralized UC dashboard system is vital for more effective analysis of responses across the UC network.

Implementing shorter "pulse" surveys that take under five minutes to complete has the potential to improve the UC's ability to monitor student well-being. These concise surveys could support staff to respond quickly to emerging health and wellness needs. They can be adaptable for real-time use, linked to a dynamic dashboard, and flexible enough to address the changing landscape of student mental health. This investment in developing a UC student wellness survey could provide staff with accurate information to better support UC students.

The UCSB research and evaluation team, in collaboration with the UCSB Wellness Program and the Office of Institutional Research, developed the **University of California Student Wellness Survey** (UCSWS). The core component of the brief survey focuses on student well-being, aligning with existing wellness programs and wellness initiatives designed around the eight dimensions of wellness identified by the Substance Abuse and Mental Health Services Administration (SAMHSA). These essential dimensions—environmental, physical, financial, emotional, social, intellectual, academic, and existential/spiritual—form a comprehensive framework for well-being. Furthermore, a cultural dimension was strategically incorporated to ensure alignment with the wellness and mental health priorities shared across all UC campuses.

In its current version (see Appendix and link below), the UCSWS comprises 30 items that assess a balance of mental health and wellness indicators. The following areas of students' well-being are included:

- Wellness Dimensions: 10 items
- Patient Health Questionnaire-4: 4 Items
- Changes in Overall Mental Health in the Past Month: 1 item
- National Academies of Science, Engineering, and Medicine Student (NASEM) Competencies: 15 items
    - Conscientiousness (3 items)
    - Sense of Institutional Belonging (3 items)
    - Academic Self-Efficacy (3 items)
    - Intrinsic Academic Motivation (3 items)
    - Optimism (3 items)

The link below is to the online UCSWS format, allowing you to view how the items are presented to students.

https://ucsbeducation.az1.qualtrics.com/jfe/form/SV_eQxA2n2OZj2neRw

Phase 3 Report Purpose

This report describes the UC Student Wellness Survey and presents analyses examining the UCSWS psychometric properties, allowing the UC community to scrutinize its potential value.

University of California Student Wellness Survey (UCSWS)

The University of California Student Wellness Survey was designed to create a method for assessing and evaluating various aspects of wellness, as outlined in the SAMHSA's wellness dimensions model. However, the SAMHSA wellness dimensions lacked standardized definitions. To address this, we developed concise and inclusive definitions for each of the wellness dimensions and engaged student focus groups to refine these definitions further. Our goal was to encourage students to thoughtfully consider the wide range of experiences that each dimension encompasses. In this section, we summarize efforts to create definitions that resonate psychologically, emotionally, and cognitively with UC students.

Wellness Dimension Definitions

A key feature of the UC Student Wellness Survey (UCSWS) is its targeted questions designed to evaluate student satisfaction in essential areas of wellness recognized by SAMHSA. To assess student satisfaction with various dimensions of wellness, a commonly used method is to ask students for their ratings of their overall contentment with aspects such as physical health. However, this method has inherent limitations; it may not fully capture the diverse and unique elements of physical health that resonate with a heterogeneous student population. To address this challenge, we developed explicit definitions for each of the wellness dimensions. Our goal is to create adaptable definitions that encompass the multifaceted aspects of wellness that individuals consider when evaluating their overall satisfaction. This approach ensures that all students can articulate their perspectives and needs, thus yielding more meaningful insights into their wellness experiences.

When exploring the concept of physical health, one student may highlight the importance of a balanced diet, regular exercise, and adequate rest. In contrast, another student might focus on access to healthcare services, managing substance use, and practicing self-care. Despite their differing viewpoints, both students share a common framework for evaluating the physical dimension of wellness. This unified perspective not only enhances their understanding of wellness but also increases their awareness of the various factors that contribute to their overall well-being, as well as the range of wellness services and resources available on campus. By fostering this awareness, students can empower themselves to make informed decisions that positively affect their health and overall happiness.

Conducting focus group discussions with students is essential for developing the wellness survey. By integrating students' insights, we aimed to create a survey that genuinely reflects their experiences, fostering a deeper sense of understanding and connection. The student focus group process and final decisional statements for the wellness dimensions are presented here.

SAMHSA Wellness Dimension

In the early stages of developing the UC Student Wellness Survey, we sought input from students to create definitional statements for the SAMHSA wellness dimensions (see **Figure 1**). In Year 4 (February 2025), we conducted a focus group session with 14 students involved in various UCSB student wellness efforts. The participants reviewed the survey content and provided recommendations for modifications to improve clarity from their perspective. A significant portion of the discussions was dedicated to reviewing and refining the definitions of the wellness dimensions, ensuring they accurately reflected the perspectives and experiences of the student population.

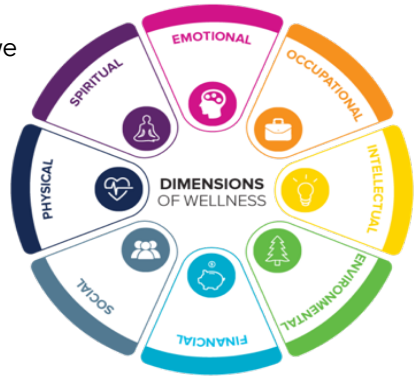


Figure 1. SAMHSA Wellness Dimensions

Student Focus Group Process

10 min Orientation to the Survey
- What is the Pulse Survey?
- What are the SAMHSA Wellness Dimensions?
- Aim: Include key components that apply to most students, offering a meaningful assessment of their overall wellness across various dimensions.

10 min Complete UCSWS

20 min Review, evaluate, and comment on definitions of wellness dimensions
- In pairs: Review, evaluate, and comment on two dimensions (worksheets)

20 min Reconvene, group summarize, review, and suggestions

10 min Open Discussion
- What do you think? Is this on the right track?
- How can we increase student engagement?
- How can we help students see the survey's potential value?
- In what ways might this survey provide meaningful information about students?

Input from student focus groups was instrumental in refining the definitions of the 10 wellness dimensions. These revised definitions were sent back to the students for their feedback, allowing for valuable contributions that were seamlessly integrated into the final definitions shown in **Table 1**. This collaborative approach ensured that the definitions resonate deeply with student perspectives and needs.

Table 1. Revised UC Student Wellness Survey Item Definitions

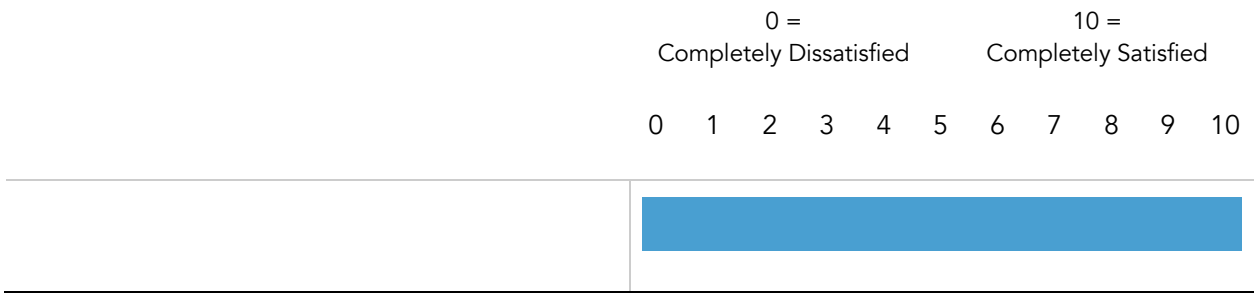
How satisfied are you with your ENVIRONMENTAL WELLNESS?
This dimension encompasses various aspects, such as the quality and safety of your housing, your sense of safety on campus, your access to essential community resources, your enjoyment of time spent outdoors, and your practice of living in sustainable ways.
How satisfied are you with your PHYSICAL WELLNESS?
This dimension encompasses various aspects, such as food security, healthy eating habits, maintaining good hygiene, engaging in regular physical activity, engaging in self-care, getting sufficient sleep each night, and making informed choices with regard to safer sex practices, substance use, and accessing necessary healthcare services.
How satisfied are you with your FINANCIAL WELLNESS?
This dimension encompasses various aspects, including having enough financial resources to meet your basic needs, creating a personal budget, managing your debt levels, improving financial literacy, and working toward long-term economic stability.
How satisfied are you with your EMOTIONAL WELLNESS?
This dimension encompasses various aspects, including being kind to yourself, recognizing and experiencing a wide range of emotions, regulating those emotions, feeling content, coping with challenges in healthy ways, expressing and sharing emotional concerns, and generally feeling good about who you are.
How satisfied are you with your SOCIAL WELLNESS?
This dimension encompasses various aspects, including having access to trusting, respectful, and authentic relationships; maintaining connections with family and friends; engaging with diverse individuals and making new friends; feeling a sense of belonging to the campus community; dedicating time to social activities; and finding enjoyment in social aspects of your daily life.
How satisfied are you with your INTELLECTUAL WELLNESS?
This dimension encompasses various aspects, including being involved in engaging in activities that stimulate your brain and encourage critical, creative, and curious thinking; allowing your brain to rest when needed; cultivating your ideas, views, and opinions; and challenging yourself to consider all sides of an issue.
How satisfied are you with your ACADEMIC WELLNESS?
This dimension encompasses various aspects, including developing effective study habits, engaging in learning activities that motivate and fulfill you, progressing towards graduation and other educational goals, and pursuing a career that aligns with your growth objectives. It also includes feeling inspired, adequately challenged, and satisfied with your accomplishments; having positive academic relationships with colleagues/instructors; and feeling a sense that your academic values align with the university's values.
How satisfied are you with your EXISTENTIAL Wellness?
This dimension encompasses various aspects, including participation in meaningful activities; developing and expressing your beliefs, values, and life purpose; seeking awe-inspiring experiences; and cultivating a strong sense of personal ethics or principles.
How satisfied are you with your CULTURAL WELLNESS?
This dimension encompasses various aspects, including your sense of cultural identity and ability to engage respectfully with individuals from diverse backgrounds, including different ethnicities, religions, gender identities, sexual orientations, and age groups. It also involves your awareness, understanding, and appreciation of diverse identities and backgrounds, and willingness to learn from others and engage in respectful conversations about social and political issues.
How satisfied are you with your OVERALL WELLNESS?
Considering the nine wellness dimensions you just rated (Environmental, Physical, Financial, Emotional, Social, Intellectual, Academic, Existential, and Cultural), how would you summarize your overall wellness?

Wellness Dimension Item Format

We crafted an item for each of the 10 wellness dimensions. Each item presented the revised definition and asked students to rate their satisfaction level on the 0-10 scale, a standard response format used in well-being and life satisfaction research. As an example, **Figure 2** shows how students are asked to rate their overall EMOTIONAL wellness using a 0 (completely dissatisfied) to 10 (completely satisfied) response scale. [1]

Figure 2. Example UCSW Index Item Format

How satisfied are you with your **EMOTIONAL WELLNESS?** This dimension encompasses various aspects, including being kind to yourself, recognizing and experiencing a wide range of emotions, regulating those emotions, feeling content, coping with challenges in healthy ways, expressing and sharing emotional concerns, and generally feeling good about who you are.



UC Student Wellness Index (0-100)

We explored methods for using responses to the UCSWS to create a comprehensive UC Student Wellness Index. The primary goal of this UCSW Index is to provide an efficient measurement of individual well-being, which will help link students with essential wellness services. As a population-level indicator, we aim to assess whether this Index can effectively track trends in student wellness over time. This information will empower both students and institutions to promote a healthier campus environment.

We developed the UC Student Wellness Index by combining responses across ten distinct dimensions, creating a comprehensive wellness score that ranges from 0 to 100. The following sections present analyses for you to consider the potential applications and benefits of the UCSWS and its Index.

Figure 3 illustrates how to derive the UC Student Wellness Index Total 0-100 rating from responses to the 10 wellness dimension items.

[1] See the Appendix for listing of all the 30 UC Students Wellness Survey Items. Items also included and evaluated in this report: (a) 1-10: Wellness Dimensions, (b) 12-15: Patient Health Quesionnaire-4 () (c) 16-18 Conscientiousness, (d) 19-21: Sense of Institutional Belonging, (e) 22-24: Intrinsic Motivation, (f) 25-27: Optimism, and (8) 28-30: Self-Efficacy. Items 12-30 are used as concurrent validity measures.

Figure 3. Example of UCSW Index Responses With a Total Score of 71

How satisfied are you with your Environmental Wellness?	0	1	2	3	4	5	6	7	**8**	9	10
How satisfied are you with your Physical Wellness?	0	1	2	3	4	5	6	**7**	8	9	10
How satisfied are you with your Financial Wellness?	0	1	2	3	4	**5**	6	7	8	9	10
How satisfied are you with your Emotional Wellness?	0	1	2	3	4	5	6	7	**8**	9	10
How satisfied are you with your Social Wellness?	0	1	2	3	4	5	**6**	7	8	9	10
How satisfied are you with your Intellectual Wellness?	0	1	2	3	4	5	6	**7**	8	9	10
How satisfied are you with your Academic Wellness?	0	1	2	3	4	5	6	**7**	8	9	10
How satisfied are you with your Existential Wellness?	0	1	2	3	4	5	6	7	8	**9**	10
How satisfied are you with your Cultural Wellness?	0	1	2	3	4	5	**6**	7	8	9	10
How satisfied are you with your Overall Wellness?	0	1	2	3	4	5	6	7	**8**	9	10
UCSW Index Rating (Range = 0-100) = 71						5 +	12 +	21 +	24 +	9	

UCSWS Sample Characteristics

This section of the report offers an overview of the students who completed the UCSWS. It is essential to note that we employed a combination of methodologies, including a randomized sample from UCSB and various opportunity samples, to collect data. This approach allows us to gain preliminary insights into the characteristics and psychometric properties of the UCSWS measures. Nevertheless, it is essential to acknowledge that these samples do not accurately represent the diverse student populations across all UC campuses, nor do they encompass the full range of backgrounds and experiences present within these campuses. As we will discuss in the Recommendations and Possibilities section of this report, future efforts must address the need to obtain UCSWS information from a student sample that is representative of the system as a whole.

A primary goal for this project year (2024-2025) was to collect enough student responses to the UCSWS to assess the psychometric properties of its component scales. These analyses are essential for informing the University of California Office of the President (UCOP), the Student Mental Health Oversight Committee (SMHOC), and individual campuses. The goal was to determine whether the UCSWS could be a valuable resource for enhancing student mental health and well-being. Additionally, the survey data were intended to identify current and emerging needs for supporting student services. A related goal was to provide a clear assessment of its effectiveness in promoting students' social, emotional, and academic wellness. Understanding the psychometric characteristics of the UCSWS is crucial for evaluating its quality for adoption and whether the potential return on investment justifies future expenses to support its use within the UC system.

To provide context for the analyses in this report, we summarize the samples used and the methods employed to collect them. From fall 2024 through spring 2025, we collected four samples of UCSB students, as detailed in **Table 2,** to evaluate the psychometric properties of the UCSWS.

Non-random, opportunity sample. We collected a non-random opportunity sample between September 2023 and August 2024, resulting in usable responses from a total of 1,391 students. Most of these students (72.3%) completed the survey after logging into the campus Gaucho FYI new student orientation Zoom meeting. During this meeting, they watched a brief video that explained the UCSWS and were invited to take the survey while waiting for the session to begin. Additionally, the sample included Promise Scholars (3.5%), who received a survey invitation sent via email from the Promise Scholar office, as well as staff members from the UCSB Student Wellness Program (7.2%).

Random sample. In October 2024, the UCSB Office of Institutional Research conducted a random survey of 4,000 students, encompassing both graduate and undergraduate populations. They distributed an email invitation along with two follow-up reminders. Ultimately, we received usable responses from 919 students. Collaborating with the Office of Institutional Research enabled us to link these responses to demographic information from student records while maintaining confidentiality and ensuring the protection of sensitive data.

Random retest sample. In June 2025, the Office of Institutional Research conducted a follow-up outreach to the same cohort of 919 students, inviting them to take part in the survey once again. We obtained 302 usable responses, yielding a response rate of 34.2%. This follow-up offered significant insights into the stability of the UCSWS scores over time.

Concurrent validity sample. In March 2025, a non-random opportunity sample of 170 undergraduate students from UCSB completed the UCSWS, which included 15 other items designed to measure intrapersonal and interpersonal competencies. These competencies—specifically, conscientiousness, self-efficacy, optimism, intrinsic motivation, and a sense of institutional belonging—were identified in a study conducted by the National Academy of Sciences, Engineering, and Medicine (NASEM) as traits associated with college students' persistence and progress toward degree completion. The participants were invited to complete the UCSWS at the start of two applied psychology undergraduate courses, using their smartphones to scan a projected QR code for access.

Table 2 displays the demographic characteristics of the four sample groups. The students' responses were analyzed to provide psychometric information in the following areas:

- UC Student Wellness Index Descriptive Information
- Patient Health Questionnaire-4 (PHQ4) Descriptive Information
- Relationships Between UC Student Wellness Index and Responses
- UC Student Wellness Index and Response Stability
- UC Student Wellness Index Concurrent Validity with the NASEM Competencies

Table 2. UC Student Wellness Survey Samples Characteristics

Re-sampled

	Aug-Sep 2024	Oct 2024	Mar 2025	Jun 2025
	Nonrandom N = 1391	Random N = 919	Concurrent Validity N = 170	Random Retest N = 302
Student Status				
Graduate	—	20.1%	—	26.8%
Undergraduate	100.0%	78.6%	100.0%	73.2%
First Generation	—	FR 64.3 GR 20.1 TR 14.1	32.0%	FR 65.9 GR 26.8 TR 7.3
Transfer	—	5.6%	13.5%	7.3%
EOP	—	18.1%	—	11.8%
Age ≤ 22 years	96.2%	76.1%	94.5%	72.2%
Gender Identification				
Female	59.9%	63.1%	82.9%	66.9%
Male	37.8%	32.2%	15.9%	24.2%
Nonbinary				5.8%
Other/Decline	2.4%	2.1%	1.2%	3.1%
Transgender				
No	95.5%	91.2%	97.6%	90.8%
Yes	1.5%	3.2%	0.6%	3.7%
Not sure	1.2%	2.6%	1.2%	2.0%
Decline	1.7%	3.0%	0.6%	3.4%
Ethnic Identification				
American Indian/Alaskan Native	1.5%	1.1%	1.0%	1.3%
Asian/PI	23.9%	4.6%	24.0%	5.0%
Black/African American	3.2%	3.4%	1.0%	4.0%
Chicano/Mexican American	—	19.6%	30.0%	13.6%
East Indian/Pakistani	—	4.6%	—	4.6%
Native Hawaiian Pacific Islander	1.7%	—	1.0%	—
International	—	10.9%	—	9.6%
Latino/Other Spanish American	27.2%	6.3%	—	4.3%
Pilipino/Filipino	—	2.6%	—	3.0%
White	38.1%	33.6%	36.0%	37.4%
Sexual Identification				
Straight (not gay)	72.6%	62.3%	69.5%	55.3%
Gay or Lesbian	4.8%	6.0%	4.9%	7.9%
Bisexual	12.5%	18.1%	19.5%	22.0%
I am not sure yet	4.6%	5.0%	2.4%	5.6%
I prefer to self-describe	1.7%	3.5%	1.8%	3.0%
Decline to respond	3.9%	5.1%	1.0%	6.3%

Summary UCSWS Sample Characteristics

The following are key observations about the preliminary UCSWS samples.

- The samples used were adequate to conduct the necessary analyses for a preliminary assessment of the UCSWS's psychometric properties.
- A significant limitation is that the samples were exclusively composed of students from UC Santa Barbara, including two opportunity samples.
- Although the sample sizes were sufficient to provide adequate statistical power for the psychometric analyses, they did not effectively capture the diversity within the UC student population. For instance, the UCSB small random sample included graduate students who reported lower levels of wellness.
- To thoroughly evaluate the validity of the UCSWS, it will be essential to obtain samples with greater diversity and representativeness. Future scale validation should involve collecting data from all UC campuses and ensuring representation across various demographic characteristics and student subgroups.

UCSWS Response Descriptive and Psychometric Information

The purpose of this section of the report is to summarize the students' responses to the core measures of the UCSWS. Although these preliminary responses do not provide definitive normative information about student perceptions, they offer an initial idea of the range of responses likely to be observed. This information will help evaluate whether the level and variation in student responses suggest that these measures can effectively provide insights into student wellness using a brief pulse survey format. In this section of the report, we summarize students' responses to the UCSWS items. Additionally, we compare the UC Student Wellness Index and PHQ4 responses. This analysis is crucial for evaluating the normative distribution and variability of the items, offering insights into their interpretation and potential applications.

Wellness Dimensions Descriptive Information

We start by presenting descriptive statistics based on student responses to the 10 wellness dimension items. As illustrated in **Table 3**, the average responses, measured on a scale of 0 to 10, varied from 7.0 to 7.5 across three student samples. The non-random sample collected in the fall of 2024 reported slightly higher average scores. Notably, across all three samples, financial wellness was identified as the lowest dimension, with average scores ranging from 5.7 to 6.3, which is lower than the scores for the other wellness dimensions. Furthermore, the lower scores in the emotional and social domains show that the wellness survey is sensitive to students' mental health and overall well-being experiences. The alpha reliability coefficients for each sample ranged from 0.83 to 0.89, indicating acceptable internal response consistency.

One crucial observation is that the mean UC Student Wellness Index score for all three samples is approximately 70. This mean score suggests that the Index has sufficient range to assess changes in student wellness, whether positive or negative. Unlike many psychological measures that focus on positive mental and emotional states, this initial evidence suggests that the Index is not significantly

affected by a ceiling effect. As a result, the UC Student Wellness Index appears to offer the flexibility necessary to track changes in students' well-being.

Table 3. UCSW Index Item Means, Standard Deviations, Reliabilities for Three Samples

	Aug-Sep 2024		Oct 2024		Apr 2025	
	Nonrandom N = 1391		Random N = 919		Concurrent Validity N = 170	
Wellness Dimensions (range = 0-10)	M	SD	M	SD	M	SD
Environmental	**8.0**	1.6	**7.3**	1.9	**7.3**	1.9
Physical	**7.6**	1.9	**7.0**	2.2	**7.0**	2.2
Financial	**6.3**	2.4	**5.7**	2.3	**5.7**	2.3
Emotional	**7.0**	2.1	**6.5**	2.2	**6.5**	2.2
Social	**7.2**	2.2	**7.3**	2.6	**7.3**	2.6
Intellectual	**7.5**	1.8	**7.1**	1.9	**7.1**	1.9
Academic	**7.6**	1.8	**7.1**	1.8	**7.1**	1.8
Existential/Spiritual	**7.3**	2.2	**7.2**	2.1	**7.2**	2.1
Cultural	**7.4**	2.1	**7.3**	2.0	**7.3**	2.0
Overall	**7.7**	1.6	**7.3**	1.6	**7.3**	1.6
UCSW INDEX (0-100)	**73.5**	14.0	**68.9**	15.0	**69.7**	12.8
Alpha reliability	.89		.89		.83	

UC Student Wellness Index Score Interpretive Ranges

When evaluating a student's responses to the 10 wellness items, it is crucial to identify any particularly low ratings. For instance, if the population's normative average score hovers around seven on a 10-point scale, a rating of 4 or 5 in social wellness could indicate areas that require immediate attention and support. By recognizing these issues, we could allocate our resources and interventions to provide the necessary assistance, ultimately enhancing students' overall well-being and fostering a healthier, more supportive environment.

In addition to analyzing the level of individual responses, another approach to interpreting the UC Student Wellness Index is to evaluate whether the 0-100 values can be organized into meaningful clinical ranges. Such classifications or groupings could simplify interpretability. Can the UC Student Wellness Index values be categorized into three, four, or even five groups to facilitate the understanding of UCSWS ratings?

Simple Quartile Method

A standard, straightforward approach to examining differences in response distributions among subgroups, such as the UC Student Wellness Index, is to find the values that define its quartiles. The UC Student Wellness Index quartiles were derived from a random sample collected in October 2024. This sample was chosen for its diversity, which includes 100 graduate students. For interpretative purposes, quartile divisions are generally delineated as follows: Values below 60 are categorized as the lowest quartile (Q1). Values in the 60s fall into the second quartile (Q2), while values in the 70s are classified as

the third quartile (Q3). Lastly, values of 80 and above are in the upper quartile (Q4), as illustrated in **Table 4**.

Table 4. UCSW Index Quartile Score Range for the October 2024 Random Sample

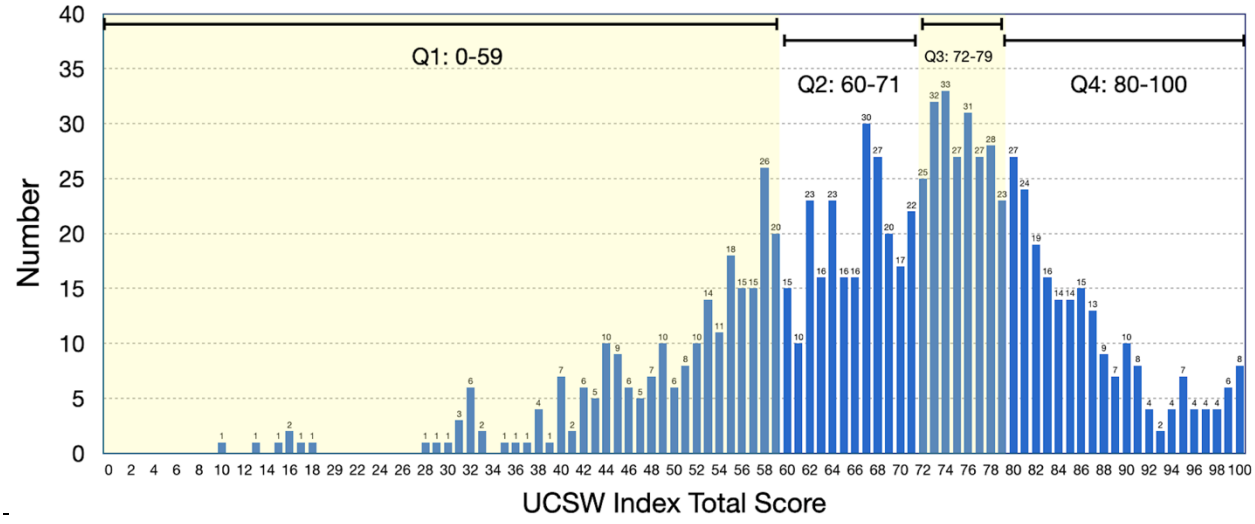
UCWDI Quartile Score Range	N	%
Q1: 0-59	239	26.0
Q2: 60-71	235	25.6
Q3: 72-79	226	24.6
Q4: 80-100	219	23.8
Total	919	100.0

Latent Profile Analysis (LPA) Empirically Derived Interpretive Ranges [2]

The quartile cut-point method is a valuable tool for analyzing differences among UC Student Wellness Index groups; however, it has a significant limitation in that the selection of cut points is arbitrary. For example, in surveys evaluating students' life satisfaction—aimed explicitly at identifying scores that indicate "concerning" low levels and "minimally" acceptable high levels—the ranges defined by the lower and upper quartiles may only provide approximate estimates. The quartile method may lead to an overestimation of the percentage of students with concerning scores and an underestimation of those achieving minimally satisfactory scores. As a result, these discrepancies may cause misinterpretations and misunderstandings about students' well-being and their service needs at the population level.

Figure 4 presents a visualization of the full UC Student Wellness Index score distribution for the random sample (N = 919).

Figure 4. UCSW Index Distribution, Denoting Quartile Ranges for the Random Sample



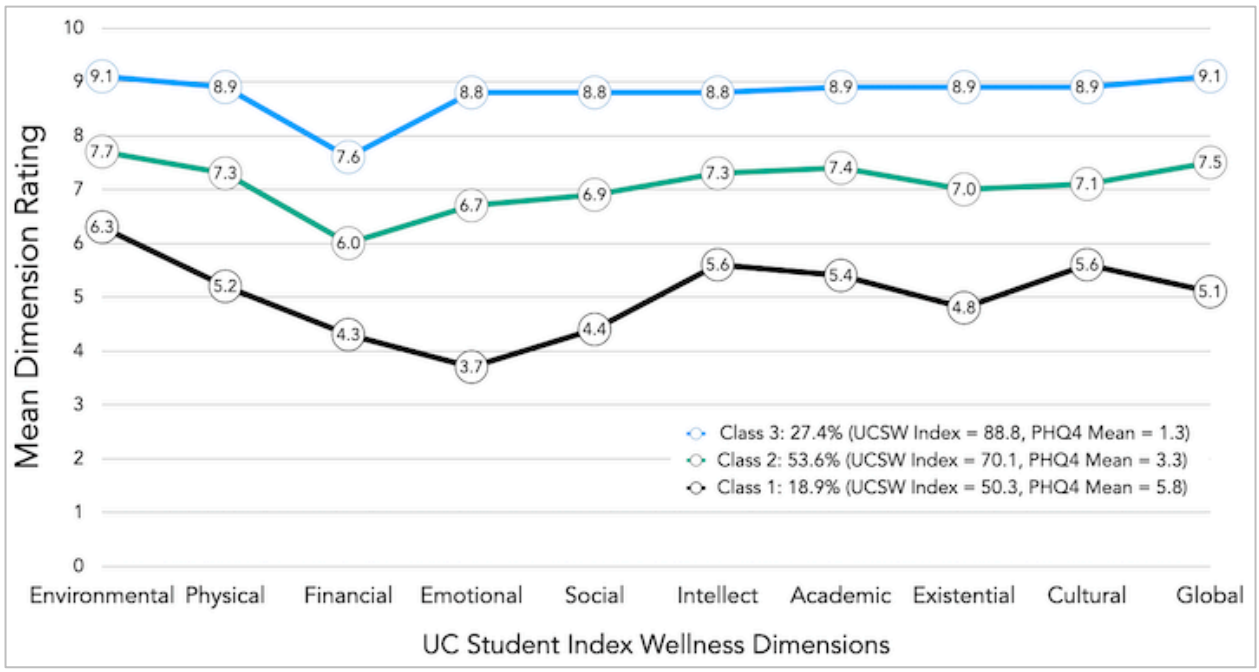
2 We thank Professor Karen Nylund-Gibson and Siyuan Chen for completing and reporting on the UCSWS LPA patterns.

UCSW Index Latent Profile Patterns

To address the limitations of the quartile method, we utilized Latent Profile Analysis (LPA) as an empirical approach to identify subgroups within the UC Student Wellness Index framework. LPA offers significant flexibility; for example, when distinguishing four subgroups, the proportion of students in each group does not need to be approximately 25%. Instead, it can vary, allowing us to estimate the actual percentage of students in each subgroup. Additionally, we examined the score ranges that define these subgroups

LPA was performed to identify distinct well-being profiles among students based on their responses to the 10 items from the UCSW Index. The analysis was conducted using the MplusAutomation package in R.[3] This method aims to classify individuals into subgroups, or latent classes, that exhibit similar patterns of well-being. The results of the analysis are presented in a table found in the Appendix: UCSW Index Latent Profile Fit Statistics.

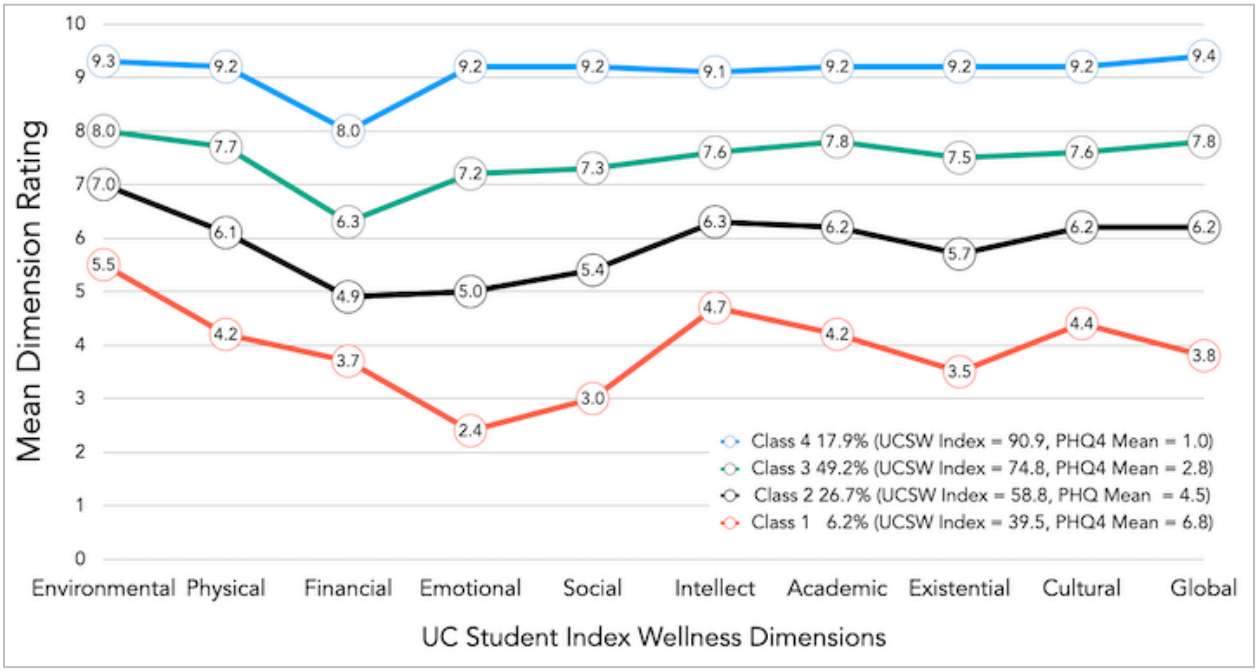
Figure 5. UCSW Index Item Means, 3-Class Solution



The three-class solution was chosen based on both statistical fit and theoretical interpretability (see **Figure 5**). The largest of these three ordered classes, Class 2, comprised 53.6% of students whose wellness dimension ratings fell within the range of 6.0 to 7.7, with a mean UCSW Index of 70.1, which is close to the median for all students. Class 1 consisted of 18.9% of students who reported lower satisfaction ratings in the dimension, ranging from 3.7 to 6.3, resulting in a below-average mean UCSW Index of 50.3. Class 3, on the other hand, included 27.4% of students who reported above-average satisfaction with dimension ratings between 7.6 and 9.1, with a UCSW Index value of 88.8.

[3] Hallquist, M. N., & Wiley, J. F. (2018). MplusAutomation: An R Package for Facilitating Large-Scale Latent Variable Analyses in Mplus. Structural Equation Modeling: A Multidisciplinary Journal, 25(4), 621-638.

Figure 6. UCSW Index Dimensions Means, 4-Class Solution



Although the three-class solution was selected based on a combination of statistical fit, we examine the four-class solution because it offers an alternative approach to utilizing the UCSW Index when considering linking students to campus services as supports based on the intensity of their needs. The four-class solution differed from the three-class solution in two basic ways. The first main difference is that Class 2 was comprised of students reporting below average satisfaction, ranging between 4.9 and 7.0, with a UCSW Index mean of 58.8. The Class 2 students include those who could benefit from various campus wellness services and support programs. Second, Class 1 in this model identified a subset of students (6.2%) with substantially lower dimension satisfaction ratings that ranged between 2.4 and 5.5, with a UCSW Index mean of only 39.5. The four-class LPA included a small subset of students who reported substantial levels of dissatisfaction with their wellness, accompanied by clinical symptoms manifested by moderately severe emotional distress over the past two weeks.

To further investigate mental health differences across various profiles, the PHQ-4 ratings were compared among the latent profiles. Estimated means and standard errors for the PHQ-4 scores were calculated for each group, as illustrated in the legends of Figures 4 and 5. In both the 3-class and 4-class solutions, the mean PHQ-4 total scores (on a scale from 0 to 12) showed significant differences between each class. In the 4-class solution, the PHQ4 mean score for Class 1 was 6.8, indicating a moderate to severe level of distress. The highest-ranking class reported experiencing few or no adverse emotional experiences.

Another observation of the LPA patterns is that the Financial, Emotional, and Social dimension triad had the lowest satisfaction ratings across all classes, except for the highest-ordered class in each solution. Although financial wellness had the lowest satisfaction rating for this highest-ordered class, it was still significantly higher than the ratings for the other classes.

Do the 10 UC Student Wellness Index Items Cluster into Subsets?

One of the primary objectives in evaluating the potential utility of the UC Student Wellness Index is to ascertain whether the overall scores hold meaningful significance for students. Rather than relying exclusively on the total UC Student Wellness Index score, which ranges from 0 to 100, we might enhance our understanding by analyzing response patterns within related subsets of item dimensions. For instance, are students' ratings of their emotional and social well-being more closely associated with each other than with ratings in different dimensions, such as financial wellness?

Table 5 presents the intercorrelations among the ten dimensions of wellness. Analyzing these correlations revealed consistent patterns in how students rated the related dimensions. For instance, the strongest correlation, measured at .70, occurred between the Academic and Intellectual dimensions, which intuitively align. The second-highest correlation, at .65, was found between the Emotional and Social dimensions, both of which are crucial for mental health. Additionally, a correlation of .56 was identified between the Existential and Cultural dimensions; these areas are closely related to life purpose and meaning, which likely accounts for their similar responses. These three patterns of higher correlations within the UC Student Wellness Index suggest alternative interpretations.

Students' overall wellness rating (item #10) was associated, in descending order, with their ratings of the Emotional, Social, Physical, Existential, Academic, Environmental, Intellectual, Cultural, and Financial dimensions. The Financial dimension intercorrelations were consistently the lowest.

UCSWS Confirmatory Factor Analysis

To further investigate the underlying item subsets among the 10 items of the UC Student Wellness Index, we conducted a confirmatory factor analysis.

We began our analysis by testing a one-factor structure using confirmatory factor analysis (CFA), but the model demonstrated a poor fit. To reassess the dimensionality, we conducted exploratory factor analyses (EFA) on the ten wellness dimension items. Initially, the EFA suggested a one-factor solution; however, due to the high correlation of the overall wellness item with other indicators, we decided to exclude it from the analysis.

After excluding the overall wellness item, we re-ran the EFA with the remaining nine items, which represented specific dimensions of wellness. The results continued to suggest a one-factor structure, but subsequent CFA still indicated an unsatisfactory fit.

To explore various options, we utilized modification indices to make adjustments, resulting in only modest improvements. We then estimated two-factor models, both with and without the overall wellness item. In the ten-item specification, the two factors were defined as Cognitive (which includes Intellectual, Academic, and Lifestyle aspects) and Lifestyle (encompassing Environmental, Physical, Financial, Emotional, Social, Spiritual, and Cultural dimensions).

Table 5. UCSW Index Dimension Zero-Order Intercorrelations

	1	2	3	4	5	6	7	8	9	10
1. Environmental	—									
2. Physical	.47	—								
3. Financial	.31	.37	—							
4. Emotional	.44	**.54**	.39	—						
5. Social	.39	.44	.30	**.65**	—					
6. Intellectual	.36	.43	.35	.48	.47	—				
7. Academic	.39	.45	.39	**.52**	.47	**.70**	—			
8. Existential/Spiritual	.40	.44	.36	**.55**	.47	.46	.45	—		
9. Cultural	.40	.40	.36	.44	.43	.41	.42	**.56**	—	
10. Overall Wellness	**.53**	**.61**	.42	**.72**	**.64**	**.50**	**.55**	**.57**	**.50**	—

Note. Median effect size values ≥ .50 in **bold**.

The two-factor models consistently showed a better fit than the one-factor model in both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), as demonstrated in Tables 1 and 2. The best-fitting model was identified as the two-factor CFA, which is based on nine dimensions, excluding overall wellness (see Tables 3 and 4). Therefore, the two-factor model (i.e., Cognitive and Lifestyle) with nine items offers the best structural representation of the scale.

Patient Health Questionnaire-4 (PHQ4) Descriptive Information

When evaluating mental health within a dual-factor framework (i.e., encompassing both symptoms of distress and indicators of well-being), it is crucial to include positive indicators of student well-being. A balanced approach also necessitates exploring any psychological distress or symptoms that students may be experiencing. A commonly used tool for assessing psychological distress, featured in the UC Undergraduate Experiences Survey (UCUES), is the PHQ-4. As a result, these items were also incorporated into the UCSWS survey.

Interpretive Grouping of PHQ4 Responses

For the UC Student Wellness Index, we utilized quartile and Latent Profile Analysis (LPA) methods to identify response subgroups that could help enhance interpretation and understanding. Previous research on the PHQ4 has established standardized score ranges for classifying these subgroups based on symptom severity. The classifications are as follows: 0-2 (**none**), 3-5 (**mild**), 6-8 (**moderate**), and 9-12 (**severe**). [4] **Figure 7** illustrates the full distribution of PHQ4 responses for the Random and Nonrandom samples, indicating the symptom severity levels.

[4] Kroenke, K., Spitzer, R. L., Williams, J. B. W., Löwe, B. (2009). An ultra-brief screening scale for anxiety and depression: the PHQ4. Psychosomatics, 50 (6): 613-621.

Figure 7. N for PHQ4 Total Score By Symptom Level, Random & Nonrandom Samples

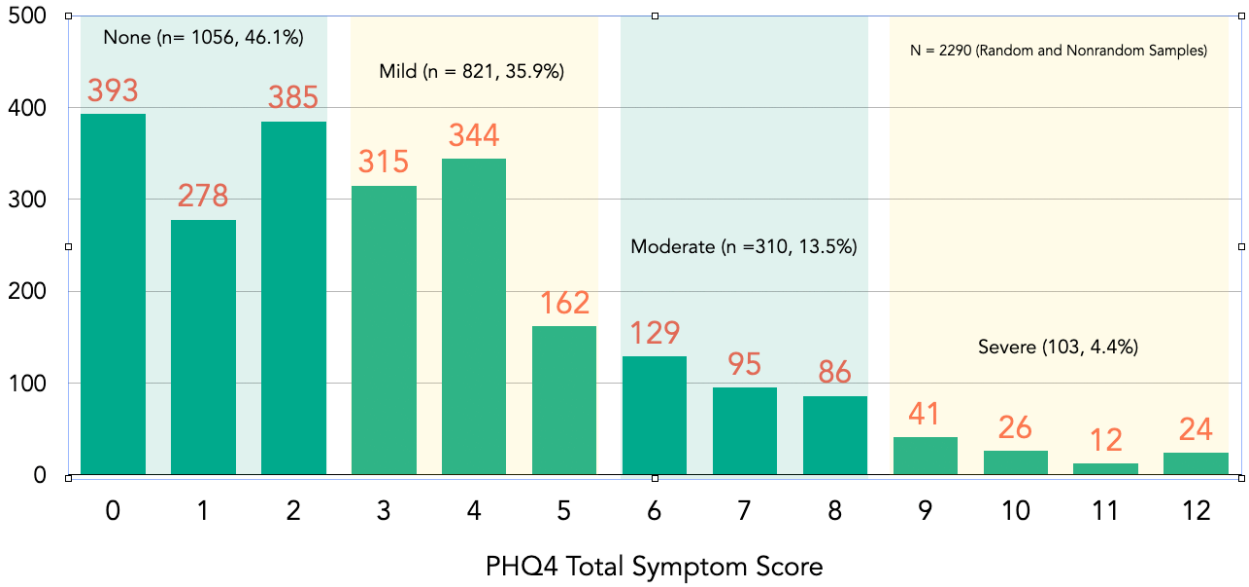


Table 6 presents descriptive statistics for the survey items collected from students across the three samples. The first two items gauge the level of worry or anxiety that students experienced in the past two weeks, while the third and fourth items examine feelings of sadness and a diminished sense of pleasure. Overall, the response patterns were consistent across all three samples, indicating that students were more likely to report experiencing worry or anxiety than feelings of sadness.

Table 6. PHQ4 Item Means, Standard Deviations, and Reliabilities for Three UC Student Samples

0 = Not at all 1 = Several days 2 = More than half the days 3 = Nearly every day	Aug-Sep 2024		Oct 2024		Apr 2025	
Over the last two weeks, how often have you been…	Nonrandom N = 1390		Random N = 900		Concurrent Validity N = 168	
	M	SD	M	SD	M	SD
bothered by feeling nervous, anxious, or on edge?	1.1	0.9	1.2	0.9	1.3	0.8
bothered by not being able to stop or control worrying?	0.8	0.9	1.0	0.9	1.2	0.9
bothered by feeling down, depressed, or hopeless?	0.6	0.7	0.7	0.8	0.7	0.8
bothered by feeling little interest or pleasure in doing things?	0.5	0.7	0.7	0.8	0.7	0.8
Total raw score (0-12)	**3.0**	**2.6**	**3.6**	**2.8**	**3.8**	**2.7**
Alpha reliability	**.80**		**.83**		**.83**	

For clarity, an average PHQ4 total item score of 1.0 indicates that a student reported experiencing these four feelings on "several days" during the previous two weeks. If a student scores 1 for each item—they experienced all four symptoms for several days—their total score would be 4, which categorizes their

symptom level as "mild." Conversely, a student is considered to have "severe" symptoms if they report experiencing at least one of the four PHQ4 items "nearly every day over the past two weeks," along with experiencing the other three items "more than half the days." This pattern of responses suggests that the student has recently experienced significant and persistent symptoms.

Table 7 data show that, on average, students experienced anxiety-related situations "several days" during the past two weeks. In contrast, experiences related to depression were reported less often. The alpha reliability coefficient for each sample ranged from 0.80 to 0.83, indicating that the PHQ4 exhibited acceptable internal response consistency.

Comparing UC Student Wellness Index and PHQ4 Responses

In this section, we examine the relationship between students' responses to the UC Student Wellness Index and related PHQ4 items. To evaluate the potential effectiveness of the UC Student Wellness Index, we analyzed how students' reactions to these wellness items aligned with their emotional experiences over the past two weeks. The evidence supports the use of the Index, indicating that students with higher UC Student Wellness Index scores report lower levels of emotional distress. Conversely, those with lower UC Student Wellness Index scores are more likely to experience a higher frequency of negative emotions. Table 7 summarizes the response patterns.

In **Table 7**, the left column categorizes students into four groups based on their symptom severity. The adjacent columns indicate the percentage of students in each of the three UCSWS samples whose responses fell into these categories, along with the corresponding total UC Student Wellness Index values that range from 0 to 100 for each group. Notably, between 37% and 49% of students across the three samples reported experiencing very low to no symptoms, with their average UC Student Wellness Index scores being above average, ranging from 77.0 to 78.7. Additionally, a clear trend is evident, showing that as reported distress levels increase, the mean UC Student Wellness Index score decreases for each symptom group. Specifically, the mean UC Student Wellness Index score for the severe symptom groups ranges from 48.9 to 56.7.

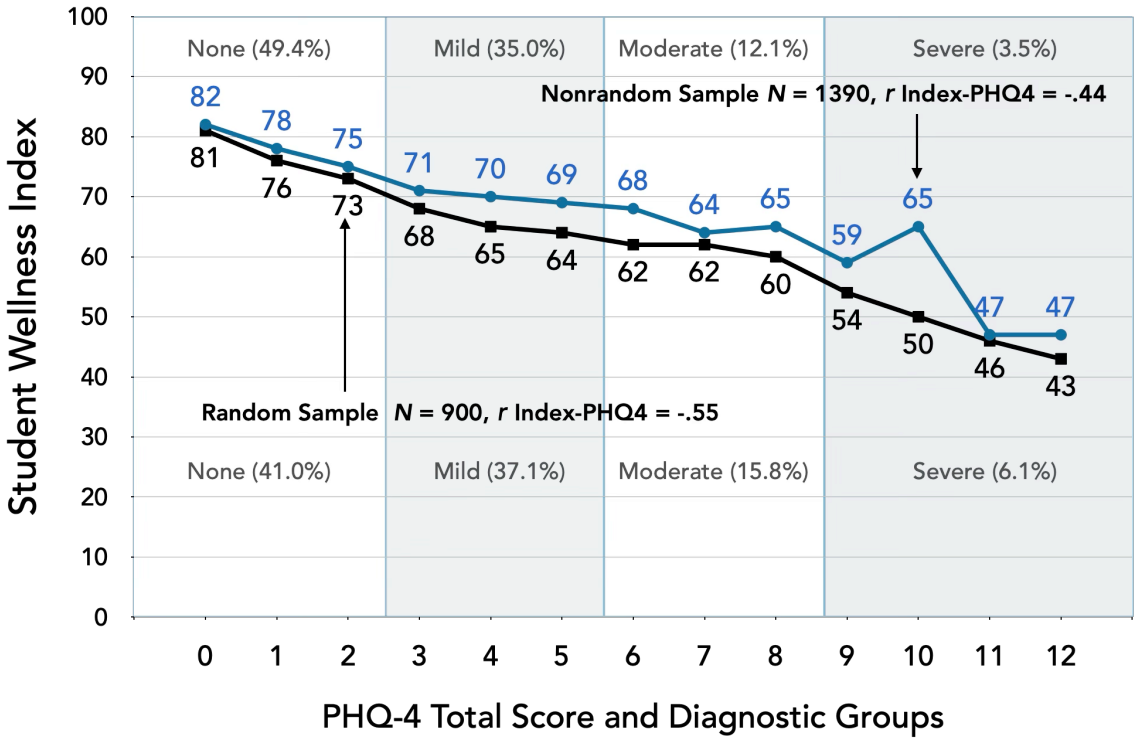
Table 7. Symptom Level Percentages and UCSW Index Means For Three UC Student Samples

	Aug-Sep 2024		Oct 2024		Apr 2025	
PHQ4 Symptom Level	Nonrandom N = 1390		Random N = 900		Concurrent Validity N = 170	
	%	Index M (0-100)	%	Index M (0-100)	%	Index M (0-100)
None (0-2)	**49.4%**	78.7	**41.0%**	77.0	**37.1%**	76.9
Mild (3-5)	**35.0%**	70.5	**37.1%**	66.3	**38.8%**	69.4
Moderate (6-8)	**12.1%**	65.6	**15.8%**	61.5	**18.2%**	62.1
Severe (9-12)	**3.5%**	56.7	**6.1%**	48.9	**5.9%**	50.1
r UCWDI–PHQ4		-.44		-.55		-.57

The correlations between the UC Student Wellness Index and the PHQ4 responses were in the expected direction, with negative values for all three samples, ranging from **-0.44 to -0.57.**
The consistent relationship between the UC Student Wellness Index and the PHQ4 across all three samples is evidence supporting the index's sensitivity to students' symptom experiences. This finding underscores the necessity to address students' mental health within a comprehensive, multidimensional framework.

We emphasize the crucial connection between students' well-being and their responses to the symptom items by presenting **Figure 8**. This graph illustrates the UCSW Index, which ranges from 0 to 100, for each PHQ4 score, spanning its range of 0 to 12. We differentiate between the UC Student Wellness Index values for the random and non-random samples.

Figure 8. Symptom Level Percentages and UCSW Mean Index Values by PHQ4 Total Scores



The data reveal a strong linear relationship between the UC Student Wellness Index and the PHQ4 total symptom scores. This relationship shows a significant downward trend: students reporting no adverse symptoms in the past two weeks had an average UC Student Wellness Index of 81 to 82. In stark contrast, those who scored the maximum of 12, indicative of "severe" distress symptoms of anxiety and depression, had a UC Student Wellness Index score of only 43 to 47. This pattern highlights the interplay between wellness and distress, underscoring the importance of both factors for a student's overall well-being.

UC Student Wellness Index-PHQ4 Dual Factor Response Patterns

Another approach to analyzing students' UC Student Wellness Index and PHQ4 responses is to examine the configuration of their categorical groupings across both measures. This interpretation is informed by research related to the Dual Factor Model of mental health. [5]

To expand our understanding of students' responses on both measures, we can categorize the UC Student Wellness Index, which evaluates positive mental health, into subgroups representing different levels of wellness. For example, we can utilize the four quartile groups mentioned earlier. This approach also involves categorizing indicators of distress or symptoms, such as the PHQ4, to assess different levels of symptoms.

When the four wellness quartiles are combined with the four symptom groups, it results in 16 distinct mental health patterns, as illustrated in **Table 8**. For example, students who score in the fourth quartile on the UC Student Wellness Index and exhibit no symptoms demonstrate a state of complete mental health, characterized by the highest levels of wellness and the lowest levels of symptoms. Conversely, students in the first quartile for wellness who experience severe symptoms represent the most unbalanced state of mental health. Among both the random and non-random samples, **3.4%** of students reported very low satisfaction across wellness dimensions (Q1) in conjunction with the highest level of emotional symptoms (severe). In contrast, **19.4%** of students reported a state of complete mental health, indicating the highest level of satisfaction (Q4) and the absence of symptoms.

Table 8. Percentage of Students for 16 UCSW Quartile By PHQ4 Symptoms Groups

		PHQ4 Severity Levels				
		None (0-2) %	Mild (3-5) %	Moderate (6-8) %	Severe (9-12) %	N
UCWDI Quartiles	Q4	19.4	5.7	1.4	0.2	612
	Q3	13.4	9.4	1.9	0.4	573
	Q2	8.4	10.5	4.1	0.4	538
	Q1	4.8	10.3	6.1	3.4	567
	N	1056	822	310	103	2290

To further investigate the relationship between students' UC Student Wellness Index and PHQ4 responses, **Table 9** displays the 16 response patterns of the Dual Factor Model, based on the responses from 2,290 students in both the Random and Non-Random samples.

The upper left quadrant comprises students who reported high levels of life satisfaction (Q3 and Q4) and low symptom levels (none or mild). This group accounts for nearly half of all students, at **47.9%**. In contrast, the lower right quadrant comprises students with low life satisfaction (Q1 and Q2) and high levels of moderate to severe symptoms, accounting for **14.0%** of the sample.

[5] Furlong, M. J., Dowdy, E., Moore, S., & Kim, E. K. (2022). Adapting the dual-factor model for universal school-based mental health screening: Bridging the research to practice divide. In K.-A. Allen, M. J. Furlong, D. Vella-Brodrick, & S. M. Suldo (Eds.), Handbook of positive psychology in schools: Supporting process and practice (3rd ed., pp. 56–88). Routledge. https://doi.org/10.4324/9781003013778-6

The upper right quadrant exhibits a distinct response pattern, where students exhibit higher life satisfaction despite experiencing moderate to severe symptoms. This pattern is relatively uncommon.

The lower right quadrant represents a significant group of students, comprising 34%, who report moderate to severe symptoms but have lower levels of satisfaction with various aspects of their lives (Q1 and Q2). These students are often overlooked by traditional mental health screening approaches, which focus primarily on symptomatology. Their lower levels of satisfaction underscore the need for tailored follow-up, service provision, and wellness promotion. Such services are typically not emphasized in screening programs that concentrate solely on symptom detection.

Table 9. Percentage of Students In UCSW Index Quartiles by Dual-Factor Group

		Severity Levels				
		None (0-2)	Mild (3-5)	Moderate (6-8)	Severe (9-12)	N
UCWDI Quartiles	Q4 high wellness	47.9% Balanced Well-Being High Satisfaction-Low Distress		3.9% High Satisfaction-High Distress Low-incidence Pattern		612
	Q3					573
	Q2	34.0% Low Satisfaction-Low Distress Wellness Enhancement Services		14.0% Low Satisfaction-High Distress Follow-up Priority		538
	Q1 Low Wellness					567
	N	1056	822	310	103	2291

Summary of UCSWS Descriptive and Psychometric Information

The following is a summary of the descriptive information, patterns, and associations found in the students' UCSWS responses:

- The total value of the UCSW Index ranges from 69 to 74 on a 100-point scale. This value aligns with other methods used to evaluate overall wellness. For example, research utilizing the single-item Cantril Wellness Ladder typically identifies values between 7.0 and 10.0—equivalent to a positive global wellness range of 70 to 100.

- The internal consistency reliability across all measures was acceptable.

- Analysis revealed considerable variability in students' responses, allowing for the preliminary identification of UCSW Index score ranges associated with varying levels of student wellness. Students in the lower quartile had scores below 60, while those in the upper quartile had scores ranging from 80 to 100.

- Latent profile analysis was conducted to investigate variations in wellness scores among students across different dimensions of wellness. This person-centered analysis did not identify any specific groupings associated with distinct wellness profiles. However, the best-fitting model revealed four ordered classes that categorized students into four groups: lower, lower mid, upper mid, and high wellness profiles. This approach provided a more refined classification interpretation compared to simply grouping students by quartiles.

- The most common LPA profile was the third profile, which comprised 49% of the students; their mean dimension ratings were approximately equal to the overall mean score of 74 for the entire sample. Additionally, a subgroup of students in the first profile had significantly low wellness ratings, representing 6.2% of the total student population, which indicates markedly low levels of wellness.

- A confirmatory factor analysis was conducted to examine the dimensions of the UCSW Index and to determine whether specific dimensions formed clusters of highly correlated factors. The analysis revealed two primary ways to conceptualize the wellness dimensions. The first cluster was predominantly influenced by the emotional and social dimensions, which showed the highest correlations with the overall wellness rating, at .72 and .64, respectively. This cluster also includes the environmental, physical, existential, spiritual, and cultural dimensions. In contrast, the intellectual and academic dimensions formed a second cluster.

- We also analyzed the students' responses to PHQ4 to evaluate its psychometric characteristics. In the random and nonrandom samples, 78.0% and 84.4% of the students, respectively, reported none or mild symptoms, while 3.5% and 6.1% reported severe symptoms. The higher incidence of severe symptoms in the random sample suggests that graduate students are more likely to report greater levels of distress compared to undergraduates.

- The relationship between the students' UCSW Index and their PHQ4 responses aligned with expectations. For example, in a random sample, students with severe (48.9) and moderate (61.5) PHQ4 scores exhibited lower index means compared to those reporting mild (66.3) or no symptoms (77.0). The correlations observed in the nonrandom, random, and concurrent validity samples were all negative, ranging from -0.44 to -0.57. Notably, there was clear preliminary evidence of validity, indicating a linear decreasing relationship between the UCSW Index and the PHQ4 scores. Specifically, each one-point increase in the PHQ4 score was associated with a corresponding decrease in the students’ UCSW Index value.

- The descriptive data of the UCSW Index reveal that approximately half of the students (47.9%) express overall satisfaction with their current life circumstances, accompanied by minimal emotional distress. In contrast, around 14% of students report lower levels of satisfaction with their wellness, accompanied by moderate to severe levels of recent distress. Additionally, about one-third of students (34.0%) indicate that they have experienced little to no anxiety or sadness in the past two weeks; however, they still report lower levels of life satisfaction. This group represents a significant number of students who may not be identified through traditional symptom-focused mental health assessments.

UCSWS Test-Retest Stability

When evaluating the initial development of a psychological measure, it is crucial to gather information to determine if the measure is responsive and internally consistent at a single point in time, as well as to examine how students' responses change over time. When developing a brief "pulse" wellness survey, there are two key aspects to consider.

First, while assessing general aspects of wellness and life satisfaction, these constructs tend to exhibit a degree of consistency and stability over time. This trend contrasts with questions about students' recent emotional experiences, which can fluctuate from week to week or month to month, depending on various circumstances.

Ideally, we want the UCSWS responses to show moderate stability over time, while also allowing for enough variation to detect changes in wellness. This variation can help measure shifts in students' life satisfaction. In this section of the report, we will examine the stability of students' responses to the UC Student Wellness Index and the PHQ over 8 months.

UC Student Wellness Index Stability

Engaging in test-retest analyses is critical for evaluating the reliability of student responses over time. A comprehensive understanding of a measure's stability is crucial when assessing whether the UCSWS, brief "pulse" survey, can meaningfully capture fluctuations in student wellness experiences.

For the test-retest analysis, we collaborated with the UCSB Office of Institutional Research. As outlined earlier in this report, the 919 students who took part in the survey in October 2024 were contacted and invited to complete the survey a second time. **Table 9** presents the mean values for each wellness dimension (e.g., intellectual, social) for the same subgroup of 302 students at both time points. The overall UC Student Wellness Index value typically remained consistent, with a **correlation of .63 between responses at Time 1 and Time** 2, indicating significant, moderate stability in students' reactions over the eight months. The correlations for each of the 10 wellness dimensions at Time 2 range from .39 to .56, further suggesting moderate levels of consistency.

A key observation from this analysis of the temporal stability of the UC Student Wellness Index is that global indices of well-being and life satisfaction generally show moderate stability over time. The correlations observed from Time 1 to Time 2 reflect this expected consistency. The UC Student Wellness Index's stability over 8 months indicates that it aligns with the homeostatic model of well-being. [6] This model posits that individuals' sense of global life satisfaction fluctuates around a "set-point," which can shift in response to significant positive or negative experiences, but eventually returns to the personal set point over time (**see Table 15**). This observation suggests that the UC Student Wellness Index effectively measures changes in various dimensions of wellness while also providing a comprehensive assessment of overall well-being.

[6] Cummins, R. A. (2010). Subjective wellbeing, homeostatically protected mood and depression: A synthesis. Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being, 11(1), 1–17. https://doi.org/10.1007/s10902-009-9167-0

Table 9. UCSW Index Dimension Means and T1-T2 Correlations for the Random Retest Sample

	Oct 2024		Jun 2025		
N = 302	Time 1		Time 2		Correlation
Wellness Dimensions	M (0-10)	SD	M (0-10)	SD	r_{T1-T2}
Environmental	7.6	1.8	7.5	1.7	.46
Physical	7.1	2.0	6.9	1.9	.43
Financial	6.2	2.3	6.3	2.3	.56
Emotional	6.5	2.1	6.5	2.0	.51
Social	6.7	2.1	7.1	2.0	.44
Intellectual	7.4	1.8	7.5	1.6	.45
Academic	7.3	2.0	7.3	1.9	.49
Existential/Spiritual	7.1	2.1	7.2	1.9	.44
Cultural	7.4	1.9	7.4	1.8	.39
Overall	7.3	1.6	7.3	1.5	.49
	Alpha =.88		Alpha =.87		.63

Table 10 provides additional evidence of the overall stability of students' responses over the eight months considered. The means and standard deviations for all students at both Time 1 and Time 2 were nearly identical. Approximately 50% of the wellness ratings from Time 1 to Time 2 varied by only -5 to +7 points, highlighting the core stability of the UC Student Wellness Index. However, some students reported significantly lower or higher UC Student Wellness Index scores at Time 2 compared to Time 1. Notably, 34.4% of students had Time 2 ratings that were within ±10 points of their Time 1 ratings, indicating that the index effectively reflected both improvements and declines in students' assessments of their wellness dimensions.

Table 10. UCSW Index Means for Time1, Time 2, and Mean T1-T2 Difference, Retest Sample

N = 302	Oct 2024 Time 1	Jun 2025 Time 2	Δ T2-T1
Mean	70.7	70.5	-0.2
Median	73	72	0
SD	13.1	13.1	11.3
25th percentile	62	62	-5
50th percentile	73	72	0
75th percentile	79	80	+7

PHQ4 Stability

The stability of students' responses to the four items of the Patient Health Questionnaire (PHQ4) is presented in **Table 11**. Analysis revealed a slight increase over time in students' reports of negative emotional experiences within the past two weeks. However, a moderate level of consistency was seen between the first and follow-up assessments, as shown by a stability coefficient of .55. On average, students reported experiencing low to mild levels of distress, with anxiety or worry being reported more

often than feelings of sadness or depression. Furthermore, the Time 1 UC Student Wellness Index exhibited a predictive validity coefficient of -.40 with the Time 2 PHQ4, corresponding to the predicted negative relationship.

Table 11. PHQ4 Item Means and Scale Reliability for the Random Retest Sample

0 = Not at all 1 = Several days 2 = More than half the days 3 = Nearly every day	Oct 2024		Jun 2025	
Over the last two weeks, how often have you been… N = 294, $r_{T1\text{-}T2}$ = .53	Time 1		Time 2	
	M (0-3)	SD	M (0-3)	SD
bothered by feeling nervous, anxious, or on edge?	**1.1**	**0.9**	**1.2**	0.8
bothered by not being able to stop or control worrying?	**0.9**	**0.9**	**1.0**	0.9
bothered by feeling down, depressed, or hopeless?	**0.6**	**0.7**	**0.8**	0.8
bothered by feeling little interest or pleasure in doing things?	**0.6**	**0.8**	**0.7**	0.8
Total raw score (0-12)	**3.3**	**2.6**	**3.6**	2.7
Alpha reliability	.82		.83	

We analyzed the stability of symptom levels between Time 1 and Time 2, with the findings summarized in **Table 12**. At Time 1, 81.3% of students reported experiencing no symptoms or only mild symptoms. Among these students, **86.8%** maintained the same low levels of symptoms by Time 2. In contrast, 18.8% of students reported moderate or severe symptoms at Time 1, and within this group, **53.8%** continued to experience elevated symptom levels at Time 2.

Additionally, approximately one in seven students who initially reported no or mild symptoms at Time 1 later reported moderate or severe symptoms at Time 2. On the positive side, about two out of five students who reported elevated symptom levels at Time 2 had previously shown low symptom levels at Time 1. These findings highlight the dynamic nature of emotional distress, as nearly two out of five students who reported moderate or severe symptoms at Time 1 later reported no or mild symptoms at Time 2.

Table 12. PHQ4 Symptom Group T1 To T2 Stability for the Random Retest Sample (N = 294)

PHQ4 Level	Time 1 PHQ4 (Oct 2024)		Total
Time 2 (Jun 2025)	None-Mild (0-4)	Moderate-Severe (5-12)	
None-Mild (0-4)	**86.8%**	46.2% (better)	234
Moderate-Severe (5-12)	13.2% (poorer)	**53.8%**	60
Total	242	52	294

Diagnostic Groups and their Mean UCSW Index at Time 1 and Time 2

We reevaluated the relationship between PHQ4 symptom levels and the UC Student Wellness Index, discovering a consistent pattern at both Time 1 and Time 2, as shown in **Table 13**. Notably, there was a slight decrease in the percentage of students categorized in the "none" symptom group, which corresponds with the overall increase in mean UC Student Wellness Index scores among these students. Despite this fluctuation, the relationship between symptom levels and UC Student Wellness Index scores remained stable.

Table 13. PHQ4 Symptom Group Percentages and Mean UCSW for the Random Retest Sample

N = 295	Oct 2024		Jun 2025	
	Time 1		Time 2	
PHQ4 Symptom Level	%	Index M (0-100)	%	Index M (0-100)
None (0-2)	43.7%	78.1 [a]	38.9%	77.7 [a]
Mild (3-5)	37.6%	66.8 [b]	40.9%	68.9 [a]
Moderate (6-8)	13.2%	60.5 [b]	14.0%	61.6 [b]
Severe (9-12)	4.1%	60.0 [b]	6.3%	58.0 [c]
r UCWDI—PHQ4		-.51		-.49

Changes in T1-T2 UC Student Wellness Index Values and Responses

One way to evaluate the potential value of the UC Student Wellness Index is to analyze whether changes occur for the same person over time between two distinct points. The primary objective is to determine whether expected changes in another self-reported measure, such as the PHQ4, correspond to changes in the UC Student Wellness Index value.

The analysis examined the relationship between students' self-reported PHQ4 symptom levels and their wellness ratings, as measured by the UC Student Wellness Index at two different time points. It was proposed that students who maintained consistently low symptom levels across both assessments (group A) would report the highest UC Student Wellness Index ratings at Time 2. Conversely, those who reported high symptom levels at both points in time (group D) were expected to have the lowest wellness ratings. Students' PHQ4 symptom levels from Time 1 to Time 2 could indicate a decrease in symptoms (group B, improving) or an increase in symptoms (group C, declining). The anticipated order of UC Student Wellness Index ratings for Time 2 was established as follows: A > B > C > D.

Table 14 presents the mean Time 2 UC Student Wellness Index ratings for each group, defined by PHQ4 severity trajectories, illustrating the correlation between symptom levels at Time 1 and Time 2 and perceived wellness at Time 2. The findings supported the predicted rank order, showing that students who reported low or no symptoms at either time point achieved a significantly higher average wellness rating of 73.9. In contrast, students experiencing moderate to severe symptoms consistently across both assessment periods had the lowest wellness rating of 56.9. The groups that showed improvements or

declines in symptom levels fell into a middle range regarding UC Student Wellness Index scores. This evidence highlights the importance of UC Student Wellness Index ratings about students' overall mental health and well-being experiences.

Table 14. Mean T2 UCSW Index Values by T1-T2 PHQ4 Symptom Level Stability, Retest Sample (N = 294)

PHQ4 Symptom Level Time 2 (Jun 2025)	PHQ4 Symptoms Level Time 1 (Oct 2024)	
	None (0-2)/Mild (3-5)	Moderate (6-8)/Severe (9-12)
None (0-2)/ Mild (3-5)	A = 73.9 [a] T1+ T2 (low) stable low distress (n=210)	B = 67.5 [a b] T1 (high) – T2 (low) decreasing distress (n=24)
Moderate (5-8)/ Severe (9-12)	C = 64.5 [b c] T1 (low) - T2 (high) increasing distress (n=32)	D = 56.9 [c] T1+T2 (high) stable high distress (n=28)

Note. F (3, 290) = 22.0, p < .001, eta^2 = .19 (large effect size). Values in cells with different letters are statistically different.

Summary of UCSWS Stability Analyses

This section of the report examines the temporal stability of students' responses to the UCWS Index and the PHQ4. The significance of this psychometric evaluation lies in the potential of these measures to effectively assess changes in students' wellness as they navigate the challenges and opportunities during their time in the UC system. The UCWS Index must demonstrate sufficient consistency over time to indicate that it has reasonable stability, rather than merely reflecting reactions to current life experiences and stresses. At the same time, students' responses should also show some variation over time, enabling the UCWS Index to serve as an indicator of change. Key findings are summarized below.

- The UCSW index showed a significant correlation between Time 1 and Time 2, with a stability coefficient of 0.63. This coefficient suggests that students' sense of global life satisfaction remains relatively stable over time. Additionally, this stability comes with a sufficient amount of change, indicating that the students' changing life experiences can influence their overall satisfaction levels.

- The correlation between each of the Wellness dimensions was stable, ranging from .39 to .56. The dimensions with the highest stability were the financial dimension (.56) and the emotional dimension (.51).

- The stability of students' responses is further illustrated by the mean score of the UCSW Index, which remains almost unchanged from time 1 (70.7) to time 2 (70.5) across the entire stability sample. The distribution of the aggregated responses from students at these two time points was nearly identical. Approximately 50% of the students' responses differed by no more than 5 to 7 points between Time 1 and Time 2. Moreover, the fact that 34.4% of students' responses changed by ±10 points or more

from their Time 1 scores is preliminary evidence that the UCWI Index is sensitive to shifts in students' overall sense of wellness.

- Regarding the PHQ4, the stability coefficient of 0.53 from Time 1 to Time 2 indicates both stability and some emotional experiences among students, allowing for sufficient flexibility to assess changes over time.

- Among students who reported no or mild distress at time 1, 87% maintained the same level of distress at time 2. In contrast, among students who expressed moderate or severe distress at Time 1, only 54% continued to experience the same level of distress at Time 2. In comparison, 46% reported experiencing no or mild distress. This pattern indicates an overall trend of students improving in their mental health rather than experiencing a decline.

- Students who reported experiencing none or only mild distress at both time points had the highest average UCSW Index score of 74. In contrast, those who reported experiencing moderate or severe emotional distress during both periods had the lowest average Index score of 57. Students who experienced changes in their distress levels—either an increase (with an average score of 65) or a decrease (with an average score of 68)—fell in between these two extremes.

UCSWS Concurrent Validity Evidence

The final section of this preliminary evaluation focuses on the psychometric properties of the UCSWS in relation to other constructs that are important for understanding students' overall social-emotional health and well-being. It is essential to examine whether the wellness dimension correlates with other relevant constructs in a way that aligns with theoretical expectations.

Other complementary approaches to gathering information about student well-being focus on social and psychological constructs that reflect students' internal capacities and mindsets. These are the personal assets they utilize to manage, cope with, and leverage the opportunities and challenges that life presents. Students who rate their overall satisfaction positively are also likely to express related constructs reflecting positive life experiences, such as hope, self-compassion, and curiosity. From a psychometric perspective, this phenomenon is known as concurrent validity for a measure. In the case of the UC Student Wellness Index, if this measure possesses desirable characteristics, students' responses to the 10 wellness dimension items should show a degree of consistency with other measures of personal strengths and assets.

After conducting an in-depth review of various models that illuminate the critical components of positive personal assets, strengths, and mindsets essential for student mental health and academic engagement, we set out to identify measurable constructs for inclusion in the UCSWS. Our analysis drew on a comprehensive study by the National Academies of Sciences, Engineering, and Medicine (NASEM), which pinpointed five essential interpersonal and intrapersonal competencies. Robust research highlights the strong connection between these competencies and students' ability to persist in their studies and complete their degrees. In the following section of this report, we detail these measures and appraise their relationship with the UC Student Wellness Index.

The National Academies of Sciences, Engineering, and Medicine (NASEM)[7] evaluated interpersonal and intrapersonal competencies of undergraduate students that relate to persistence and success. Interpersonal competencies involve communication and response, while intrapersonal competencies focus on self-management and emotional regulation. Four key constructs were identified: broad dispositions, beliefs, specific motivations, and future identity. Broad dispositions include the Big Five traits: conscientiousness, neuroticism, extraversion, openness, and agreeableness. Beliefs encompass a sense of belonging, academic self-efficacy, and a growth mindset. Specific motivations involve students' interests and values, while future identity relates to their self-concept within the broader world. The study identified eight categories of student persistence and success: conscientious behaviors, sense of belonging, academic self-efficacy, growth mindset, and positive future self.

The NASEM committee highlighted the intra- and interpersonal competencies essential to higher education persistence and success, including ethics, lifelong learning/career orientation, intercultural/diversity competence, civic engagement/citizenship, communication, and teamwork. These intra- and interpersonal competencies can be assessed using measures of Conscientiousness, Belonging, Academic Self-Efficacy, Growth Mindset, Intrinsic Motivation (including self-awareness, Utility Goals, and Values, as well as optimism), and Positive Future Self (optimism) (**see Table 15**).

Building on earlier research of effective models and assessment strategies to enhance students' social-emotional health and well-being, we developed a concise set of measures to be administered in conjunction with the UCSWS. This approach aims to evaluate the core competencies named by the NASEM committee. By conducting these assessments in conjunction with the UCSWS, we look to deepen our understanding of these constructs and provide evidence of their concurrent validity, as well as assess the concurrent validity of the UCSWS.

See the Appendix for source documentation of the items used to measure these NASEM competencies.

Table 15. NASEM Concurrent Validity Scales and Items

Optimism
Please indicate to what extent each of the following items is unlike or like you.
0 Very much unlike me
1 Unlike me
2 Somewhat unlike me
3 Somewhat like me
4 Like me
5 Very much like me
Op 1. I can maintain a positive attitude even in uncertain situations.
Op 2. Each day, I look forward to having a lot of fun.
Op 3. I strive to approach each day positively, believing it will be a good day.

[7] National Academies of Sciences, Engineering, and Medicine. 2017. *Supporting Students' College Success: The Role of Assessment of Intrapersonal and Interpersonal Competencies.* Washington, DC: The National Academies Press. https://doi.org/10.17226/24697.

Conscientiousness

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

0 Strongly Disagree
1 Moderately Disagree
2 Mildly Disagree
3 Mildly Agree
4 Moderately Agree
5 Strongly Agree

Con 1. I am committed to my work and will keep working until the task is completed.
Con 2. I am dependable and can be relied upon.
Con 3. I view setbacks as opportunities for growth—my determination drives me to keep moving forward.

Intrinsic Motivation

Please indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college. I go to the University of California because…

0 Strongly Disagree
1 Moderately Disagree
2 Mildly Disagree
3 Mildly Agree
4 Moderately Agree
5 Strongly Agree

IM 1. Because I enjoy learning new things.
IM 2. For the enjoyment I gain from expanding my knowledge on topics that interest me.
IM 3. Because I can continue learning about many new interests.

Self-Efficacy

Indicate how often the following statements apply to you.

0 Never
1 At least a few times a year
2 At least once a month
3 Several times a month
4 once a week
5 Several times a week
6 Every day

SE 1. I have the skills and determination to tackle challenges that arise in my studies.
SE 2. I am confident that my contributions enhance the quality of the classes I attend.
SE 3. In class, I am confident that I can complete my tasks effectively.

Institutional Belonging

Thinking about your school: to what extent do you agree with the following statements?

0 Strongly Disagree
1 Moderately Disagree
2 Mildly Disagree
3 Mildly Agree
4 Moderately Agree
5 Strongly Agree

IB 1. I easily make social connections and build friendships at my university.
IB 2. I experience meaningful social connections and a sense of community at my university.
IB 3. My peers at this university truly value my contributions.

NASEM Scales Descriptive Information

Before analyzing the relationships among the UC Student Wellness Index, the PHQ4, and the NASEM competency measures, it is crucial to assess the psychometric properties of the NASEM scales. Each of the five NASEM scales consists of three items, and the range of values for each scale is presented in **Table 16.** The total score for all five subscales can range from 0 to 78. As expected for a positively oriented psychological measure, the average scores of these subscales generally lean toward the positive end of the distribution. Nonetheless, the scale distributions did not exhibit a ceiling effect or other limitations.

Among the five subscales—optimism, intrinsic motivation, institutional belonging, and the composite score—internal consistency was adequately demonstrated, as indicated by their Cronbach's alpha coefficients. However, the scales measuring consciousness and self-efficacy had alpha coefficients that fell below the desired threshold.

Table 16 shows the means and standard deviations for the five NASEM competencies scales.

Table 16. NASEM Competency Scale Descriptive Information (N = 163)

NASEM Competencies	Range	M	SD	Alpha	Skewness	Kurtosis
Optimism	0-15	10.3	2.8	.81	-0.6	1.0
Conscientiousness	0-18	12.0	2.1	.59	-0.7	0.6
Self-Efficacy	0-15	13.2	3.2	.68	-0.9	0.9
Intrinsic Motivation	0-15	12.2	2.4	.85	-0.8	0.8
Institutional Belonging	0-15	10.4	2.9	.81	-0.7	0.7
Competencies Total	0-78	53.1	9.7	.86	-0.5	0.4

We analyzed the intercorrelations among the UC Student Wellness Index, the PHQ4, and the five NASEM competencies, as detailed in **Table 17**. The concurrent validity coefficients for the UC Student Wellness Index and the Competency Total were .64, indicating a large effect size, and the validity coefficients for the UC Student Wellness Index and the PHQ4 were -.48, indicating a moderate effect size. Both correlations are statistically significant and consistent with the anticipated theoretical directions. Specifically, the UC Student Wellness Index exhibited the strongest correlations with the competencies of optimism and institutional belonging.

Table 17. Correlations UCSW Index by NASEM Competencies, Concurrent Validity Sample

N = 163	UCWDI	PHQ4 Total	Optimism	Conscientious	Self-Efficacy	Intrinsic Motivation	Belonging	Competency Total
UCWDI (0-100)	—							
PHQ4 Total (0-12)	-.60	—						
Optimism	.55	-.50	—					
Conscientiousness	.45	-.32	.41	—				
Self-Efficacy	.47	-.35	.46	.46	—			
Intrinsic Motivation	.35	-.22	.40	.40	.41	—		
Institutional Belonging	.50	-.31	.45	.45	.44	.37	—	
Competency Total	.64	-.48	.76	.63	.79	.68	.72	—

Table 17 also presents the intercorrelations among the five NASEM competency scales. The analysis shows a moderate level of intercorrelation, with correlation coefficients ranging from 0.37 to 0.46 across the different scales. To conduct a more thorough examination of the relationships among these scales, we performed a confirmatory factor analysis. This analysis aimed to determine whether the items within each scale measured distinct constructs and whether it was appropriate to combine them into a total score.

Concurrent Validity Scales Descriptive Information

The NASEM competency subscales exhibited satisfactory psychometric properties. Consequently, we investigated how students across different UC Student Wellness Index score ranges responded to these subscales. The primary objective of this exploration is to determine whether students with higher and lower total Index scores, ranging from 0 to 100, exhibited expected response trends in relation to the competency subscales.

To establish concurrent validity for the UC Student Wellness Index, we sought to identify evidence indicating that students in the highest Index score range achieved significantly higher competency scores compared to those in the lower Index ranges. For this analysis, we categorized participants into four groups based on quartile ranges defined for a larger sample. This categorization resulted in four discrete groups. It is essential to emphasize that these quartiles are based on the larger sample of students examined earlier in this report and do not pertain specifically to the smaller subsample under consideration. Therefore, the distribution of students within each of the four groups does not necessarily represent 25% of the total student population.

Table 18. Mean NASEM Competency Values for UCSW Index Quartiles

NASEM Competencies	Wellness Dimension Index Quartiles								Anova		
	Q1 (0-59) N = 32		Q2 (60-71) N = 49		Q3 (72-79) N = 48		Q4 (80-100) N = 34				
	M	SD	M	SD	M	SD	M	SD	F	p	eta^2
Optimism (0-15)	8.3 [a]	3.0	9.2 [a]	2.3	11.3 [b]	1.9	12.3 [b]	2.2	22.9	<.001	.30
Conscientiousness (0-15)	10.5 [a]	2.4	11.5 [a, b]	1.9	12.6 [b, c]	1.7	13.2 [c]	1.4	14.6	<.001	.22
Self-Efficacy (0-18)	11.0 [a]	3.8	12.3 [a]	2.9	14.2 [b]	2.3	15.2 [b]	2.3	16.1	<.001	.23
Intrinsic Motivation (0-15)	10.8 [a]	2.8	12.2 [b]	2.1	12.3 [b]	2.0	13.4 [b]	2.0	7.6	<.001	.13
Sense of Belonging (0-15)	8.1 [a]	2.9	9.8 [b]	2.5	11.5 [c]	2.5	11.9 [c]	2.3	16.6	<.001	.24
Competencies Total (0-78)	43.5 [a]	8.9	50.1 [b]	7.7	56.9 [c]	6.5	61.1 [c]	7.1	37.1	<.001	.41

Note. UC Student Wellness Index groups with different letters = significantly different means.

Table 18 delineates the mean scores of the NASEM measures, categorized by UC Student Wellness Index quartile groups. The expected pattern of mean values would indicate evidence of concurrent validity: Q1 < Q2 < Q3 < Q4.

The overall differences in competency comparisons align closely with this concurrent validity pattern, demonstrating Q1 < Q2 < Q3/Q4. Although the mean scores for Q3 were consistently lower than those for Q4 across all six comparisons, these differences did not reach statistical significance.

It is particularly noteworthy that the competencies distinguishing respondents in Quartile 1 (Q1) from those in Quartile 2 (Q2) were primarily limited to intrinsic motivation and a sense of belonging to the institution. Respondents in Q1 showed lower average values in these areas. Additionally, the overall comparison across quartiles revealed the following pattern: Q1/Q2 < Q3/Q4.

The concurrent validity analysis reveals a significant and moderate association between students' UCSW Index responses and key personal and social assets that are crucial for achieving academic success and overall well-being.

NASEM Structural Validity Confirmatory Factor Analysis [8]

We began by conducting an exploratory factor analysis (EFA) to identify the underlying structure of the 15 NASEM items. Following this, we conducted a confirmatory factor analysis (CFA) to validate the structure. Once again, the five-factor model demonstrated the best performance, as shown by the item factor loadings in Table 19.

Based on modification indices, we incorporated two residual correlations and three theoretically justified cross-loadings to enhance the model. Specifically, we allowed correlated residuals between items assessing intrinsic motivation (IM) IM 1 and IM 3, as well as between items assessing institutional belonging (IB) IB 1 and IB 3, since these items have very similar wording. Additionally, we added three

[8] We thank Professor Karen Nylund-Gibson and Siyuan Chen for completing and reporting on the UCSWS and NASEM CFA patterns.

cross-loadings: Optimisim1 on Conscientiousness, IB3 on Intrinsic Motivation, and Intrinsic Motivation related to Self-Efficacy. These additions are conceptually interpretable due to the overlap in content across these constructs.

We improved the model by incorporating two residual correlations and three cross-loadings, guided by modification indices. Specifically, we allowed for correlated residuals between IM 1 and IM 3, as well as between IB 1 and IB 3, since these items have very similar wording. Additionally, we introduced three cross-loadings: OP 1 on Conscientiousness, IB 3 on Intrinsic Motivation, and IM 2 on Self-Efficacy. These cross-loadings are conceptually justifiable due to the overlap in content among the constructs.

The revised five-factor model demonstrated an excellent fit to the data, with the following fit indices: CFI = 0.975, TLI = 0.964, RMSEA = 0.044, and SRMR = 0.051. This model was retained as the best representation of the scale.

Table 19. Item Factor Loadings for the Five-Factor NASEM Confirmatory Factor Analysis

NASEM Competencies	F1	F2	F3	F4	F5
Optimism 1 (OP1)	.61				
Optimism 2 (OP2)	.71				
Optimism 3 (OP3)	.91				
Conscientiousness 1		.60			
Conscientiousness 2		.67			
Conscientiousness 3	.22	.21		.20	
Intrinsic Motivation 1 (IM1)			.69		
Intrinsic Motivation 2 (IM2)			1.01		
Intrinsic Motivation 3 (IM3)			.57		
Self-Efficacy 1				.63	
Self-Efficacy 2				.66	
Self-Efficacy 3				.49	.34
Institutional Belonging 1 (IB1)					.61
Institutional Belonging 2 (IB2)					.71
Institutional Belonging 3 (IB3)					.91

Note. Loadings greater than or equal to .30 are reported.
Conscientiousness item 3 (I view setbacks as opportunities for growth—my determination drives me to keep moving forward) had low loadings on these factors and will need to be revised for future use.
Self-Efficacy item 3 (In class, I am confident that I can complete my tasks effectively) showed a small cross-loading with Institutional Belonging, which will require refinement for future use.

Summary of Concurrent Validity Analyses

The psychometric characteristics of the UCSW Index, discussed in this section, included its concurrent validity and relationships with other indicators and traits that were expected to correlate positively with students' evaluations of life satisfaction. The five competency scales identified in the NASEM report are anticipated to have positive correlations with the CSW index and negative correlations with the PHQ4. The following section summarizes the findings that document these relationships.

- The alpha coefficients for the scales indicated sufficient reliability for optimism (.81), intrinsic motivation (.85), and institutional belonging (.81). However, the alpha coefficients for conscientiousness (.59) and self-efficacy (.68) were below optimal levels.

- As expected, the correlations between the NASEM competencies and the UCSW Index are all positive, indicating a moderate relationship in effect size. In contrast, the correlations with the PHQ-4 are all negative and show small effect size differences. This observation suggests that the relationship between the positive competency measures is stronger for the Index than for the PHQ4 distress measure.

- We assessed whether the mean values of the NASEM competencies varied based on students' overall index ratings. Evidence of concurrent validity was found, showing that the mean competency scores for students in the first quartile of the UCSWS Index were significantly lower, with large effect size differences, compared to those in the upper quartile of the UCSW Index.

- The three-item scales used in this analysis were developed from existing research literature, representing the first time these measures have been employed to assess the specified traits. The findings suggest that these scales show promising potential; however, further refinement is needed, particularly for the conscientiousness and self-efficacy measures. Specifically, the Conscientiousness subscale (“I view setbacks as opportunities for growth; my determination drives me to keep moving forward”) and the Self-Efficacy subscale (“I am confident that my contributions enhance the quality of the classes I attend”) demonstrated inadequate reliability and poor structural loadings. It is essential to revise or replace the poorly performing items and re-evaluate the scale's structural validity.

UCSWS Recommendations and Possibilities

To maximize the validity and usability of the UCSWS, the following essential steps involve obtaining a large, stratified, random sample from across the UCs for final psychometric analyses. Additionally, it is necessary to examine its effectiveness for diverse students within the UC system. To achieve this goal, there are two apparent pathways to consider:

1. **Systemwide effort.** Coordinate efforts through the UCOP office to manage a systemwide survey; work with IRAP to build upon this preliminary report and standardization of the measure, and evaluate its use across the UC system. A key advantage of this approach is that it would facilitate the collection of Human Subjects across campuses and approximate a random, stratified sample of UC students, resulting in a more accurate assessment of student needs. A key disadvantage would be that this approach would occur at a top-down level, and campuses may not be fully engaged in considering the use of the UCSWS.

2. **Campus-by-campus effort.** A campus-by-campus approach would involve collaborating with individual campuses to gather a sample of around 1,000 students from each one, including graduate students. To ensure we have sufficient data for a valid analysis of different subpopulations, we would likely need to include at least four campuses. One key advantage of this decentralized strategy is that the participating campuses are more likely to be interested in adopting the UCSWS in the future. However, a potential downside is that this approach may not provide a representative sample of UC students across all campuses. Coordinating efforts may be more challenging, and systemwide initiatives might not be aligned effectively.

Following systemwide or campus-by-campus efforts, additional steps are necessary to enhance implementation, better understand the utility of student wellness screening initiatives, and maximize the benefits for students. To achieve this goal, we suggest the following next steps:

1. Facilitate meetings with wellness coordinators, staff, and other interested personnel to review and discuss relevant topics. Consider the range of ways students may be able to respond to the UCSWS and campuses would have mechanisms to learn about student wellbeing, and to provide students with the opportunity to express their needs. Coordinate with UC Davis to improve access to services and explore pathways to care.

2. Given the strong associations between the UCSWS and indicators of progress and persistence in college, engage and explore with academic community ways in which the UCSWS could be used to help support the UC's academic mission. Among various uses, the UCSWS may be helpful: to assess the needs of new students entering the university during student orientation meetings or freshman seminars designed to orient and help students become successful; as a resource for EOP, Dreamers, other various programs, and/or residence halls so they can attend to and monitor their students' wellness throughout their academic career; explore ways in which the UCSWS may be included in department program reviews as a resource to help them attend to and keep track of their students wellbeing.

3. Provide UCSWS results and discuss how to utilize and enhance the use of wellness data. Gather ideas from campuses on what would be helpful to strengthen implementation and usage across the UC system.

4. Develop efficient instructional materials to inform campuses about the content and purpose of the UCSWS (e.g., using Articulate Rise 360).

Appendix: Summary of Year 4 Task Completion

Task 1: Student Focus Groups to Enhance Pulse Survey Content

This task was completed as summarized in this report.

Task 2: Staff Focus Groups to Enhance Understanding of Survey Use

This task was completed in collaboration with UCSB staff; however, it is necessary to engage broadly with health and wellness staff across the UC system to gather their insights on the viable and potential uses and contributions of the UCSWS in supporting students' well-being.

Task 3: Examine the UC Student Wellness Survey Test-Retest Stability

This task was completed as summarized in this report.

Task 4: Examine UC Student Wellness Survey Student Response Profiles

This task was completed as summarized in this report.

Task 5: Seek and Obtain Pulse Survey Responses from Diverse Student Samples

This task was partially completed as summarized in this report. There is a need to further evaluate the UCSWS with a broader representation of UC student diversity.

Task 6: Examine UC Student Wellness Survey Concurrent Validity

This task was completed as summarized in this report.

Task 7: Collect Pulse Survey (Mental Health Continuum-Short Form) Responses

This task was not completed. We created a Qualtrics format and, via the UCSB Dreamers Program, invited participants to complete this task. However, it was not completed as planned as the response rate was too low to conduct meaningful psychometric analyses. The online survey included the 14-item Mental Health Continuum-Short Form (MHC-SF), which assesses the dimensions of emotional, social, and psychological well-being, as well as the 6-item Kessler Symptom Scale (see link below).

The MHC-SF uses a criterion-based scoring algorithm rather than a population normative one. It categorizes respondents into three wellness clusters: Flourishing, Moderate Mental Health, and Languishing. The combination of the MHC-SF and the Kessler-6 Symptom Scale provides a robust, research-supported alternative for assessing the well-being of UC students.

Further discussion is needed to evaluate the effectiveness of an alternative “pulse” survey and assessment approach in analyzing students' well-being and to determine the contexts in which it may serve as a beneficial resource.

MHC-SF and Kessler-6 Online Qualtrics Format

Appendix: UCSW Index Latent Profile Model Fit Statistics

Model Fit Summary Table[1]

Classes	Par	*LL*	BIC	aBIC	CAIC	AWE	BLRT	VLMR	BF	*cmPk*
Model 1										
Model 1 With 1 Classes	20	−49,003.27	98,161.45	98,097.91	98,181.45	98,376.37	–	–	0.0	<.001
Model 1 With 2 Classes	31	−45,798.43	91,836.97	91,738.48	91,867.97	92,170.09	<.001	<.001	0.0	<.001
Model 1 With 3 Classes	42	−44,730.84	89,787.01	89,653.57	89,829.01	90,238.33	<.001	0.001	0.0	<.001
Model 1 With 4 Classes	53	−44,204.45	88,819.43	88,651.04	88,872.43	89,388.96	<.001	**<.001**	0.0	<.001
Model 1 With 5 Classes	64	−43,989.95	**88,475.63**	**88,272.29**	**88,539.63**	**89,163.36**	<.001	0.135	–	**1.000**
Model 2										
Model 2 With 1 Classes	20	−49,003.27	98,161.45	98,097.91	98,181.45	98,376.37	–	–	0.0	<.001
Model 2 With 2 Classes	41	−45,173.89	**90,665.35**	**90,535.09**	**90,706.35**	**91,105.93**	<.001	<.001	–	**1.000**
Model 3										
Model 3 With 1 Classes	65	−43,508.02	**87,519.52**	**87,313.00**	**87,584.52**	**88,218.00**	–	–	–	**1.000**
Model 4										
Model 4 With 1 Classes	65	−43,508.02	**87,519.52**	**87,313.00**	**87,584.52**	**88,218.00**	–	–	0.0	<.001
Model 4 With 2 Classes	86	−42,127.06	**84,920.27**	**84,647.03**	**85,006.27**	**85,844.42**	<.001	<.001	–	**1.000**
Model 5										
Model 5 With 1 Classes	65	−43,508.02	**87,519.52**	**87,313.00**	**87,584.52**	**88,218.00**	–	–	0.0	<.001
Model 5 With 2 Classes	121	−42,090.27	**85,117.78**	**84,733.34**	**85,238.78**	**86,418.03**	<.001	<.001	–	**1.000**
Model 6										
Model 6 With 1 Classes	65	−43,508.02	**87,519.52**	**87,313.00**	**87,584.52**	**88,218.00**	–	–	0.0	<.001
Model 6 With 2 Classes	131	−41,950.49	**84,915.69**	**84,499.48**	**85,046.69**	**86,323.40**	<.001	<.001	–	**1.000**

[1] *Note.* Par = Parameters; *LL* = model log likelihood; BIC = Bayesian information criterion; aBIC = sample size adjusted BIC; CAIC = consistent Akaike information criterion; AWE = approximate weight of evidence criterion; BLRT = bootstrapped likelihood ratio test p-value; cmPk = approximate correct model probability.

Appendix: UC Student Wellness Survey

Explore Online UC Student Wellness Survey Format

Subject: Invitation to complete the UC Student Wellness Survey

You are invited to participate in the UC Student Wellness Survey, which is anonymous and takes approximately **8 minutes to complete.**

As part of a system-wide initiative, the University aims to refine and streamline its surveys to gain valuable insights into the wellness needs of students.

The information collected will enhance the University's initiatives and help tailor wellness services to **promote the well-being of every student**.

This survey includes multiple-choice questions that focus on various aspects of wellness, emotional experiences over the past month, and factors contributing to positive well-being, such as optimism and social connections.

You can skip any items you do not want to answer. Thank you.

Do you agree to take this survey?

- ○ Yes, I will take this survey
- ○ No, I decline to take this survey

Skip To: End of Survey If Do you agree to take this survey? = No, I decline to take this survey

What is your UC campus?

▼ San Diego ... Merced

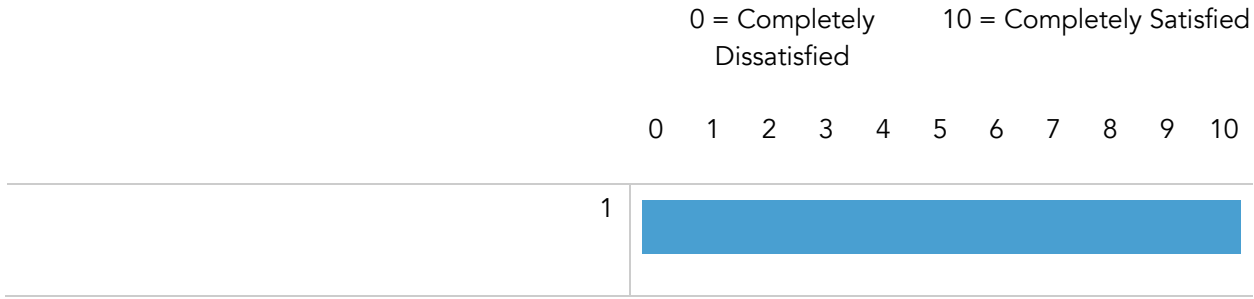
Please rate your level of satisfaction on a scale of

0 = Completely Dissatisfied to 10 = Completely Satisfied for each of the following 10 wellness dimensions:

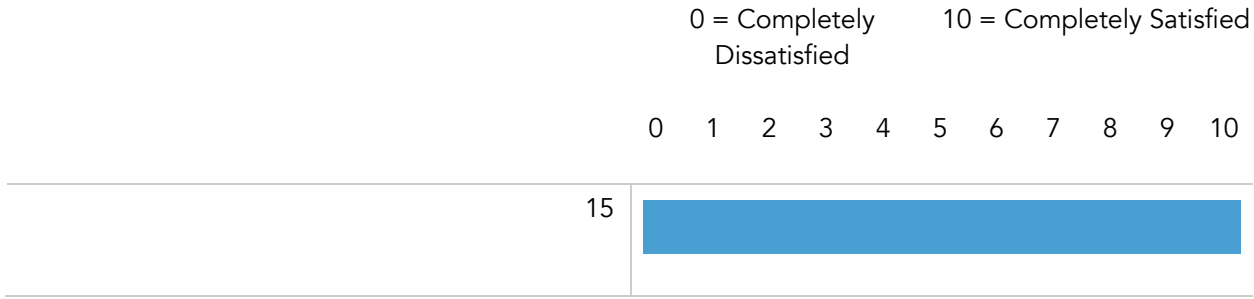
1. Environmental
2. Physical
3. Financial
4. Emotional
5. Social
6. Intellectual
7. Academic
8. Existential

9. Cultural
10. Overall

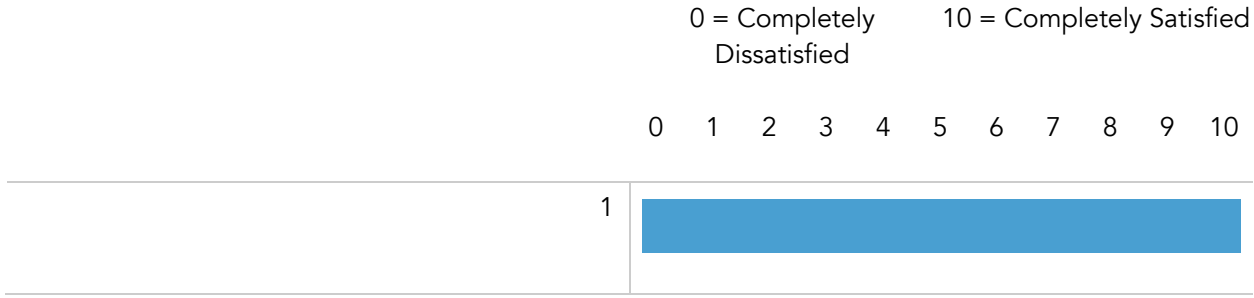
1. How satisfied are you with your **ENVIRONMENTAL WELLNESS?** This dimension encompasses various aspects, such as the quality and safety of your housing, your sense of safety on campus, your access to essential community resources, your enjoyment of time spent outdoors, and your practice of living in sustainable ways



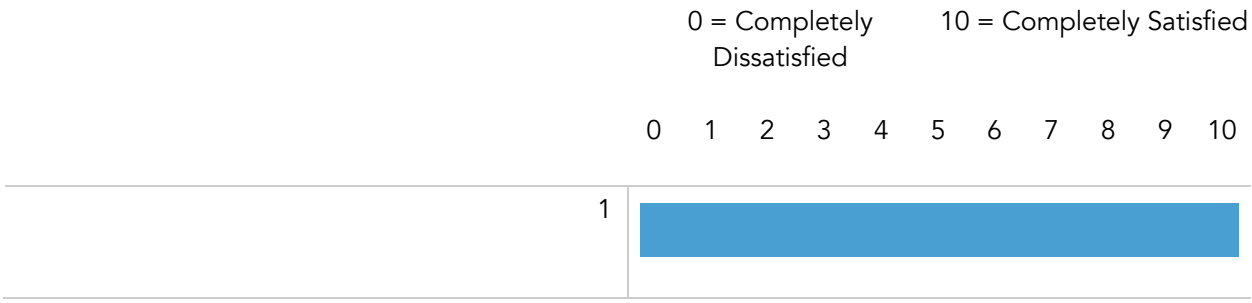
2. How satisfied are you with your **PHYSICAL WELLNESS?** This dimension encompasses various aspects, such as food security, healthy eating habits, maintaining good hygiene, engaging in regular physical activity, engaging in self-care, getting sufficient sleep each night, and making informed choices with regard to safer sex practices, substance use, and accessing necessary healthcare services.



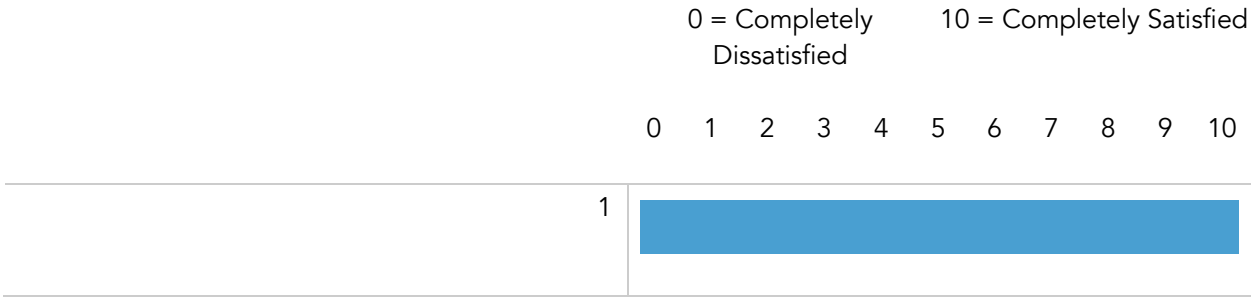
3. How satisfied are you with your **FINANCIAL WELLNESS?** This dimension encompasses various aspects, including having enough financial resources to meet your basic needs, creating a personal budget, managing your debt levels, improving financial literacy, and working toward long-term economic stability.



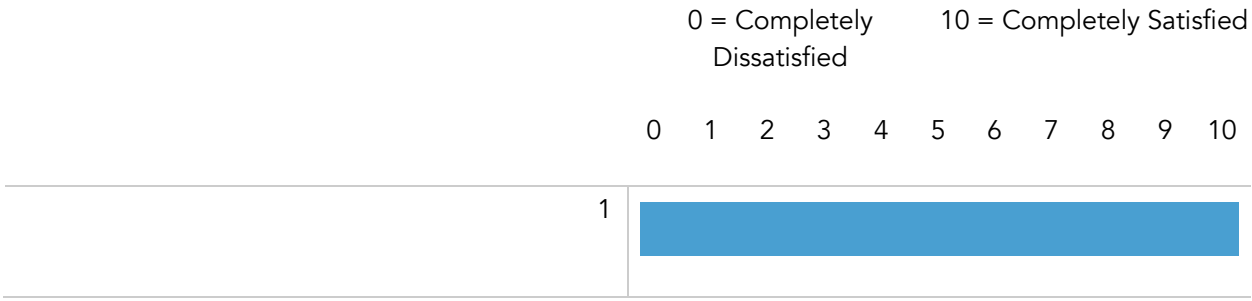
4. How satisfied are you with your **EMOTIONAL WELLNESS?** This dimension encompasses various aspects, including being kind to yourself, recognizing and experiencing a wide range of emotions, regulating those emotions, feeling content, coping with challenges in healthy ways, expressing and sharing emotional concerns, and generally feeling good about who you are.



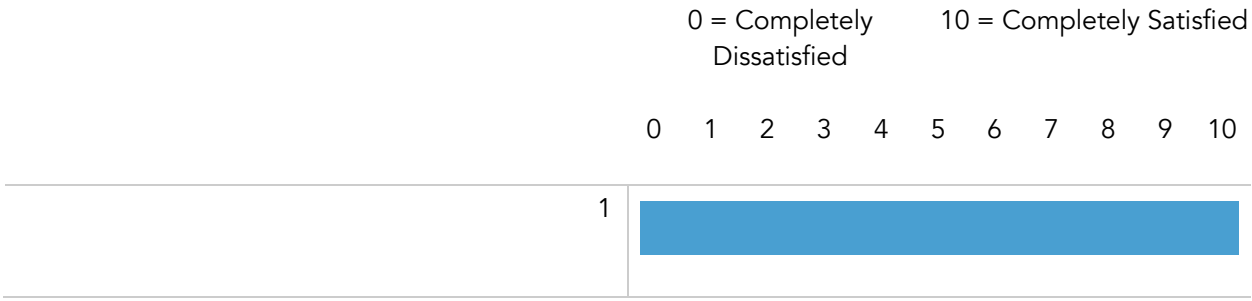
5. How satisfied are you with your **SOCIAL WELLNESS?** This dimension encompasses various aspects, including having access to trusting, respectful, and authentic relationships; maintaining connections with family and friends; engaging with diverse individuals and making new friends; feeling a sense of belonging to the campus community; dedicating time to social activities; and finding enjoyment in the social aspects of your daily life.



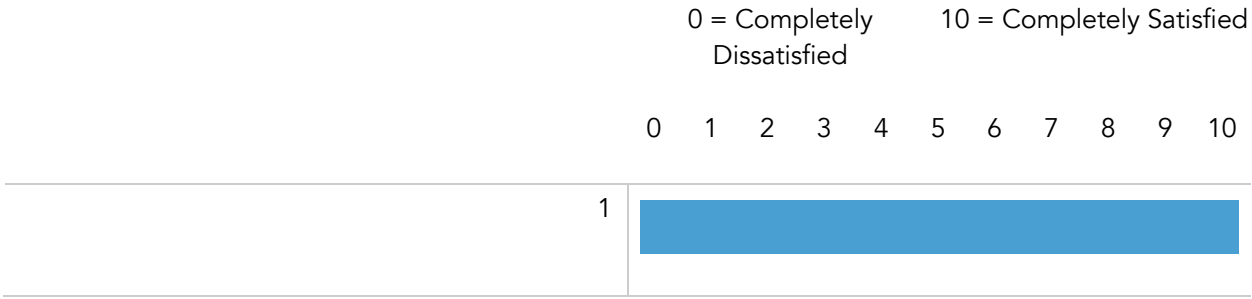
6. How satisfied are you with your **INTELLECTUAL WELLNESS?** This dimension encompasses various aspects, including being involved in engaging in activities that stimulate your brain and encourage critical, creative, and curious thinking; allowing your brain to rest when needed; cultivating your ideas, views, and opinions; and challenging yourself to consider all sides of an issue.



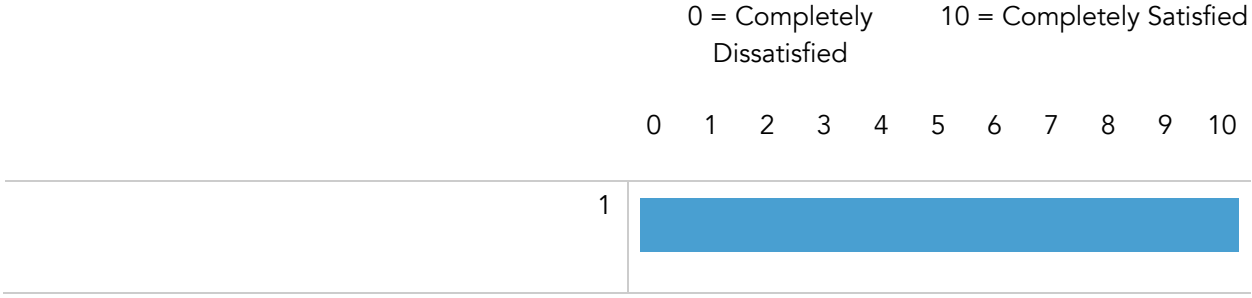
7. How satisfied are you with your **ACADEMIC WELLNESS?** This dimension encompasses various aspects, including developing effective study habits, engaging in learning activities that motivate and fulfill you, progressing towards graduation and other educational goals, and pursuing a career that aligns with your growth objectives. It also includes feeling inspired, adequately challenged, and satisfied with your accomplishments; having positive academic relationships with colleagues/instructors; and feeling a sense that your academic values align with the university's values.



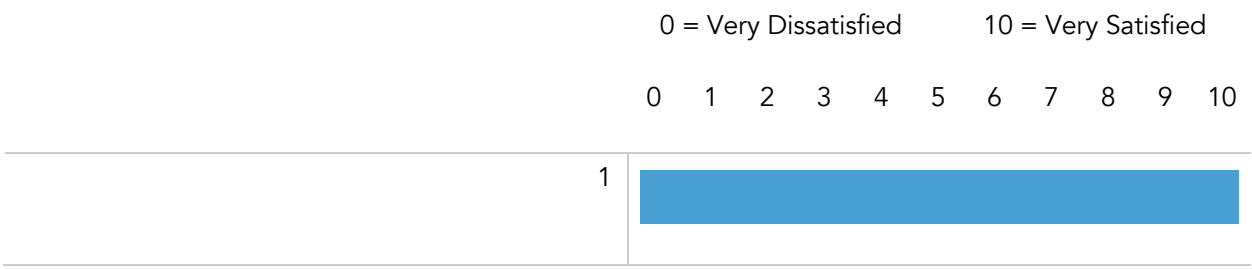
8. How satisfied are you with your **EXISTENTIAL WELLNESS?** This dimension encompasses various aspects, including participating in meaningful activities; developing and expressing your beliefs, values, and life purpose; seeking awe-inspiring experiences; and cultivating a strong sense of personal ethics or principles.



9. How satisfied are you with your **CULTURAL WELLNESS?** This dimension encompasses various aspects, including your sense of cultural identity and ability to engage respectfully with individuals from diverse backgrounds, including different ethnicities, religions, gender identities, sexual orientations, and age groups. It also involves your awareness, understanding, and appreciation of diverse identities and backgrounds, and willingness to learn from others and engage in respectful conversations about social and political issues.



10. How satisfied are you with your **OVERALL WELLNESS?** Considering the nine wellness dimensions you just rated (Environmental, Physical, Financial, Emotional, Social, Intellectual, Academic, Existential, and Cultural), how would you summarize your overall wellness?



11. Considering all your wellness-related experiences in the past month, would you say that your overall sense of wellness has improved or worsened?

- ○ Much worse than previous months
- ○ A little worse than previous months
- ○ About the same as previous months
- ○ A little better than previous months
- ○ Much better than previous months

12. Over the last two weeks, how often have you been bothered by feeling nervous, anxious or on edge?

- ○ Not at all
- ○ Several days
- ○ More than half the days
- ○ Nearly every day

13. Over the last two weeks, how often have you been bothered by not being able to stop or control worrying?

- ○ Not at all
- ○ Several days
- ○ More than half the days
- ○ Nearly every day

14. Over the last two weeks, how often have you been bothered by feeling down, depressed or hopeless?

- ○ Not at all
- ○ Several days
- ○ More than half the days

- ○ Nearly every day

15. Over the last two weeks, how often have you been bothered by feeling little interest or pleasure in doing things?

- ○ Not at all
- ○ Several days
- ○ More than half the days
- ○ Nearly every day

16. I am committed to my work and will keep working until the task is completed.

- ○ Strongly Disagree
- ○ Moderately Disagree
- ○ Mildly Disagree
- ○ Mildly Agree
- ○ Moderately Agree
- ○ Strongly Agree

17. I am dependable and can be relied upon.

- ○ Strongly Disagree
- ○ Moderately Disagree
- ○ Mildly Disagree
- ○ Mildly Agree
- ○ Moderately Agree
- ○ Strongly Agree

18. I view setbacks as opportunities for growth—my determination drives me to keep moving forward.

- ○ Strongly Disagree
- ○ Moderately Disagree
- ○ Mildly Disagree
- ○ Mildly Agree
- ○ Moderately Agree
- ○ Strongly Agree

19. I easily make social connections and build friendships at my university.
    - ○ Strongly Disagree
    - ○ Moderately Disagree
    - ○ Mildly Disagree
    - ○ Mildly Agree
    - ○ Moderately Agree
    - ○ Strongly Agree

20. I experience meaningful connections and a sense of community at my university.
    - ○ Strongly Disagree
    - ○ Moderately Disagree
    - ○ Mildly Disagree
    - ○ Mildly Agree
    - ○ Moderately Agree
    - ○ Strongly Agree

21. My peers at this university truly value my contributions.
    - ○ Strongly Disagree
    - ○ Moderately Disagree
    - ○ Mildly Disagree
    - ○ Mildly Agree
    - ○ Moderately Agree
    - ○ Strongly Agree

22. I go to the University of California... because I enjoy learning new things.
    - ○ Strongly Disagree
    - ○ Moderately Disagree
    - ○ Mildly Disagree
    - ○ Mildly Agree
    - ○ Moderately Agree
    - ○ Strongly Agree

23. I go to the University of California ... for the enjoyment I gain from expanding my knowledge on topics that interest me.

- ○ Strongly Disagree
- ○ Moderately Disagree
- ○ Mildly Disagree
- ○ Mildly Agree
- ○ Moderately Agree
- ○ Strongly Agree

24. I go to the University of California... because I can continue learning about many new interests.

- ○ Strongly Disagree
- ○ Moderately Disagree
- ○ Mildly Disagree
- ○ Mildly Agree
- ○ Moderately Agree
- ○ Strongly Agree

25. I can maintain a positive attitude even in uncertain situations.

- ○ Very much unlike me
- ○ Unlike me
- ○ Somewhat unlike me
- ○ Somewhat like me
- ○ Like me
- ○ Very much like me

26. Each day, I look forward to having a lot of fun.

- ○ Very much unlike me
- ○ Unlike me
- ○ Somewhat unlike me
- ○ Somewhat like me
- ○ Like me
- ○ Very much like me

27. I strive to approach each day positively, believing it will be a good day.
    - ○ Very much unlike me
    - ○ Unlike me
    - ○ Somewhat unlike me
    - ○ Somewhat like me
    - ○ Like me
    - ○ Very much like me

28. I have the skills and determination to tackle challenges that arise in my studies.
    - ○ Never
    - ○ At least a few times a year
    - ○ At least once a month
    - ○ Several times a month
    - ○ Once a week
    - ○ Several times a week
    - ○ Every day

29. I am confident that my contributions enhance the quality of the classes I attend.
    - ○ Never
    - ○ At least a few times a year
    - ○ At least once a month
    - ○ Several times a month
    - ○ Once a week
    - ○ Several times a week
    - ○ Every day

30. In class, I am confident that I can complete my tasks effectively.
    - ○ Never
    - ○ At least a few times a year
    - ○ At least once a month
    - ○ Several times a month
    - ○ Once a week
    - ○ Several times a week
    - ○ Every day

Appendix: Concurrent Validity Scale Documentation

National Academies of Sciences, Engineering, and Medicine Competencies

The committee from the National Academies of Sciences, Engineering, and Medicine (NASEM) identified essential intra- and interpersonal competencies that are vital for students' persistence and success in completing their degrees. These competencies include ethics, lifelong learning, career orientation, intercultural and diversity competence, civic engagement and citizenship, communication, and teamwork. Developing these skills is crucial for fostering well-rounded and successful students.

The NASEM study panel also specifically recommended the use of assessment scales to measure competencies such as conscientiousness, sense of belonging, academic self-efficacy, growth mindset, intrinsic motivation, and optimism (which reflects a positive outlook on the future).

Optimism

Source: Social Emotional Health Survey Higher Education Optimism SEHS-S Subscale

Furlong, M. J., You, S., Shishim, M., & Dowdy, E. (2017). Development and validation of the Social Emotional Health Survey–Higher Education version. Applied Research in Quality of Life, 12(2), 343–367. https://doi.org/10.1007/s11482-016-9464-9

The optimism items were derived from the Social Emotional Health Survey for Higher Education (SEHS-HE), a multidimensional measure of covitality, which refers to the combined effects of various positive psychological constructs. The scale development process was conducted over 18 months and consisted of five phases with input and participation from UC students.

1. Conceptual grounding and the generation of an item pool
2. Cognitive interviews and refinement of the items
3. Pilot survey and item reduction
4. Structural validation survey and analyses
5. Validity and stability analyses

Initially, a pool of 72 items was used, from which item selection and reduction were performed using a sample of 771 college students. A second sample of 1,413 students (63.5% female, with a mean age of 20.0 years) completed the refined 48-item measure. Confirmatory factor analyses revealed an acceptable fit for the higher-order covitality latent structure of the SEHS-HE.

The final set consisted of 36 items grouped into four latent traits, each made up of three measured subscales:

- Belief in Self (subscales: self-efficacy, persistence, self-awareness)
- Belief in Others (subscales: family support, institutional support, peer support)
- Emotional Competence (subscales: cognitive reappraisal, empathy, self-regulation)
- Engaged Living (subscales: gratitude, zest, optimism)

The findings showed complete invariance for males and females, with minor differences in effect sizes for latent mean scores. Evidence supported the concurrent and predictive validity of the SEHS-HE total score with students' subjective well-being (r = 0.72, r = 0.65) and psychological distress (r = -0.56, r = −0.45), respectively. The 4-month stability coefficient for the SEHS-HE total score was 0.82, indicating that it effectively measures trait-like psychological constructs.

Optimism Items

Please indicate to what extent each of the following items is unlike or like you.
0 = Very much unlike me. 1 = Unlike me 2 = Somewhat unlike me. 3 = Somewhat like me 4 = Like me 5 = Very much like me
(bolded items included in UCSWS)

I am able to stay positive even when facing uncertain situations.
I am able to maintain a positive mindset even in uncertain situations.

Each day, I look forward to having a lot of fun.
I usually expect to have a good day.
I always strive to approach each day positively, believing it will be good.

Arslan, G., Allen, K., Telef, B., & Craig, H. (2020). Social-emotional health in higher education: A psychometric evaluation with Turkish students. *British Journal of Guidance & Counselling*, https://doi.org/10.1080/03069885.2020.1789554

Furlong, M. J., Piqueras, J. A., Gutiérrez, L. C., Dowdy, E., Nylund-Gibson, K., Chan, M., Soto-Sanz, V., Marzo, J. C., Rodríquez-Jiménez, T., Martínez-González, A. E. (2021). *Assessing college students' social and emotional strengths: A cross-cultural comparison from Mexico, the United States, and Spain. European Journal of Psychology and Educational Research*, *4*(2), 123–137. https://doi.org/10.12973/ejper.4.2.123 https://eric.ed.gov/?id=EJ1333626

Furlong, M. J., Piqueras, J. A., Gutiérrez, L. C., Dowdy, E., Nylund-Gibson, K., Chan, M., Soto-Sanz, V., Marzo, J. C., Rodríquez-Jiménez, T., Martínez-González, A. E. (2021). *Assessing college students' social and emotional strengths: A cross-cultural comparison from Mexico, United States, and Spain. European Journal of Psychology and Educational Research*, *4*(2), 123–137. https://doi.org/10.12973/ejper.4.2.123 https://eric.ed.gov/?id=EJ1333626

Shine, D., Britton, A. J., Dos Santos, W., Hellkamp, K., Ugartemendia, Z., Moore, K., & Stefanou, C. (2021). The role of mattering and institutional resources on college student well-being. *College Student Journal*, *55*(3), 281-292. https://www.proquest.com/scholarly-journals/role-mattering-institutional-resources-on-college/docview/2616999426/se-2

Sugimoto, K., Takizawa, Y., Iida, J., Nakayama, H., & Furlong, M. J. (2024). Japanese cultural adaptation and validation of the Social Emotional Health Survey-Higher Education. *The Educational and Developmental Psychologist*, *41*(2), 178-190. https://doi.org/10.1080/20590776.2024.2365832

Conscientiousness

Source: Big-5 Inventory Short Forms

Soto, C. J., & John, O. P. (2017). The next Big Five Inventory (BFI-2): Developing and accessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. Journal of Personality and Social Psychology, 113, 117-143.

Soto, C. J., & John, O. P. (2017). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. Journal of Research in Personality, 68, 69-81.

Duckworth, A.L, & Quinn, P.D. (2009). Development and validation of the Short Grit Scale (GritS). Journal of Personality Assessment, 91, 166-174. http://www.sas.upenn.edu/~duckwort/images/Duckworth%20and%

The Big Five Inventory–2 (BFI-2) comprises 60 questions that assess five primary personality traits. This research creates and tests two shorter versions of the BFI-2: the 30-item BFI-2-S and the 15-item BFI-2-XS. Both shorter versions keep much of the reliability and validity of the full BFI-2 measure when assessing the Big Five traits. The UCSWS included two items from the BFI-2 and one item from the Grit Scale.

Here are some statements that may or may not apply to you. For each statement, please indicate your level of agreement or disagreement by writing a number next to it. For example, do you agree that you enjoy spending time with others
0 Strongly disagree 1 Moderately disagree 2 Mildly disagree 3 Mildly agree. 4 = Moderately Agree 5 = Strongly Agree
(bolded items included in UCSWS)

Is persistent, works until the task is finished (I am persistent and work until the task is finished.)
I am committed to my work and will keep going until the task is completed.
Is reliable, can always be counted on (I am reliable and can always be counted on.)
I am dependable and can always be relied upon.
Setbacks don't discourage me. I don't give up easily.
I view setbacks as opportunities for growth, and my determination drives me to keep moving forward.

Intrinsic Motivation

Source: Autonomous Motivation Scale

Guiffrida, D. A., Lynch, M. F., Wall, A. F., & Abel, D. S. (2013). Do reasons for attending college affect academic outcomes? A test of a motivational model from a Self-Determination Theory perspective. Journal of College Student Development 54(2), 121–139. https://dx.doi.org/10.1353/csd.2013.0019.

A survey of 2,520 college students examined the impact of motivation on academic success using self-determination theory (SDT). It considers how factors such as gender, socioeconomic status, race/ethnicity, and type of school influence the role. The results showed that students motivated by a desire for independence and a willingness to develop skills tended to perform better and have higher GPAs. In contrast, motivation tied to social connections was more complicated. The Autonomous Motivation Scale consisted of four questions designed to evaluate why students choose to attend college for autonomous reasons. These questions were developed based on a detailed review of the literature on autonomy from the perspective of Self-Determination Theory (SDT) and an assessment tool that measures feelings of autonomy.

To what extent do the following items represent why you go to college?
Adapted introduction: I go to the University of California because…
0 Strongly disagree 1 Moderately disagree 2 Mildly disagree 3 Mildly agree. 4 = Moderately Agree 5 = Strongly Agree
(bolded items included in UCSWS)

Because I enjoy learning new things.
For the pleasure I experience in broadening my knowledge about subjects that appeal to me.
For the enjoyment, I gain from expanding my knowledge on topics that interest me.
Because my studies allow me to continue to learn about many new things that interest me.
Because my studies enable me to continue learning about many new interests. (Because I can continue learning about many new interests)

Self-Efficacy

Source: Maslach Burnout Inventory — Student Survey Academic Self-Efficacy Subscale

Maslach, C., Jackson, S. E., & Leiter, M. P. (Eds.). (1996). Maslach Burnout Inventory manual, 3rd ed. Consulting Psychologists Press.

Student burnout was measured using the Maslach Burnout Inventory — Student Survey, a version of the MBI-General Survey specifically designed for students. The MBI-General Survey updates the MBI-Human Services Survey, which was created for individuals in health and social services roles.

The MBI-SS is a 15-item questionnaire divided into three parts: Exhaustion (5 items), Cynicism (4 items), and Professional Efficacy (6 items). Each item is scored on a scale from 0 (never) to 6 (always). Higher scores in Exhaustion and Cynicism mean more feelings of burnout, while higher scores in Professional Efficacy indicate better work performance. Studies have confirmed that the MBI-SS has a reliable three-part structure across different groups of people. The reliability of the scales is good, with scores of .74 for Exhaustion, .79 for Cynicism, and .76 for Professional Efficacy.

Please indicate how frequently the following statements apply to you.
7-point rating ranging from 0 (never) to 6 (always)
0 Never. 1 At least a few times a year. 2 At least once a month. 3 Several times a month. 4 once a week. 5 Several times a week. 6 Every day
(bolded items included in UCSWS)

I can effectively solve the problems that arise in my studies.
I can effectively solve the challenges that come up in my studies.
I have the skills and determination to tackle any challenges that arise in my studies.
I believe that I make an effective contribution to the classes that I attend.
I believe that I contribute effectively to the classes I attend.
I am confident that my contributions significantly enhance the quality of the classes I attend.
During class, I feel confident that I am effective in getting things done
In class, I am confident that I accomplish my tasks effectively.
In class, I am confident that I can complete my tasks effectively.
In my opinion, I am a good student.
I have learned many interesting things during the course of my studies.
I feel stimulated when I achieve my study goals.

Belonging

Source: Programme for International Student Assessment (Adaptation)

Pedler, M. L., Willis, R., & Nieuwoudt, J. E. (2022). A sense of belonging at university: Student retention, motivation and enjoyment. Journal of Further and Higher Education, 46(3), 397–408.

The questionnaire included scales to explore student retention, one of which measured university students' sense of belonging to the university. This scale was adapted from the Sense of Belonging Index, created for the Programme for International Student Assessment (PISA) in 2003. It has been used in 35 OECD countries during the 2015 PISA assessment, focusing on secondary students aged 15 to 16. The scale was chosen for this study because of its proven reliability and international use. It has a high internal reliability score of .86. The word "university" is used in the six items of the index to focus on higher education rather than secondary school. The response options were modified to include strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

Consider the following statements regarding your school. To what extent do you agree with them?
0 Strongly disagree 1 Moderately disagree 2 Mildly disagree. 3 Mildly agree 4 = Moderately Agree 5 = Strongly Agree
(bolded items included in UCSWS)

I make friends easily at my university.
I easily make friends at my university.
I easily make social connections and build friendships at my university.
I feel like I belong at my university.
I feel a strong sense of belonging at my university.
I experience a deep bond and sense of community at my university.
Other students seem to like me.
My peers at this university truly value my contributions.
I feel like an outsider at my university
I feel lonely at my university
I feel out of place at my university