ACHF Emotional Well-Being Survey

Technical Report on Tool Development

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In early 2020, with support from Aetna Student Health, the American College Health Foundation (ACHF) convened a subject matter expert (SME) team to create a survey tool to measure emotional well-being across campus constituencies, including staff, students, and faculty. This Report details the process used by the SME team to develop the tool, as well as technical information for schools that participated in the pilot. For campuses that may utilize the tool in the future, this report details the scales determined by exploratory and confirmatory factory analyses as well as the dimensions they are measuring and how those map to conceptual constructs of emotional well-being.

This is the fourth paper in the series of research projects related to framing and measuring well-being among higher education staff, students, and faculty. The first paper, Framing Well-Being in a College Campus Setting (Travia et al., 2020), was an investigatory study that examined the range and variation of well-being initiatives across a selection of U.S. and Canadian colleges and universities.

The second paper, *Measuring Well-Being in a College Campus Setting* (Travia et al., 2021), discussed the process of developing, testing, and validating a new survey instrument that can be used to measure mental health and emotional well-being of the whole campus community, including staff, students, and faculty. This report expands upon the technical information available in that paper for schools participating in the pilot and for subsequent administrations. We will describe the development of the conceptual definition of emotional well-being that guided survey development and analysis. Then we will turn to the process used in survey item selection and psychometric analysis of the items and scales of the survey.

The previous papers in this series conceptualized well-being in the higher education context, examined campus activities associated with well-being and put forward challenges for colleges and universities related to addressing emotional well-being and finally, reported on the ACHF Emotional Well-Being Survey for the first time. The process for instrument development and initial implementation is listed below:

1. Reviewed the literature in Travia, Larcus, Andes & Gomes (2020) related to framing well-being.
2. Developed a working definition of emotional well-being based upon the literature review and the CDC definition of well-being.
3. Developed a conceptual model of emotional well-being to guide survey development.
4. Reviewed existing surveys, scales, and items associated with the measurement of emotional well-being.
5. Created a pilot survey of existing scales and items guided by the definition and conceptual model of emotional well-being.
6. Conduct an initial administration of the survey to validate the instrument in terms of utility and as a measurement tool.

Each step of the process was completed by the collaborative SME research team which included expertise in health education, public health, well-being, higher education, and research methods.

Conceptual Definition

The first step of the research team in survey design was to review the work of Travia, Larcus, Andes & Gomes (2020), and then to arrive upon a working definition of Emotional Well-being. Using the existing

literature, along with the CDC definition of emotional well-being, collaborators arrived at a definition that had four latent components that were deemed fundamental to emotional well-being (Figure A):

Figure A: Conceptual Model of Emotional Well-Being in ACHF 2020 Emotional Well-Being Pilot Survey

1. Purpose and Meaning – whereas purpose and meaning are in reference to a person's life purpose and/or meaning.

2. Community and Belonging – whereas community and belonging are seen as social connection, confidence in having community or belonging to a community, and the safety and/or trust that comes with belonging to and having a community in which one lives.

3. Coping and Stress Management – whereas coping and stress management is defined as resilience to life challenges, flexibility and adaptability to obstacles, and the presence of anxiety in a person's life.

4. Subjective Well-Being – is the self-belief and report of happiness, life satisfaction, depression, and loneliness.
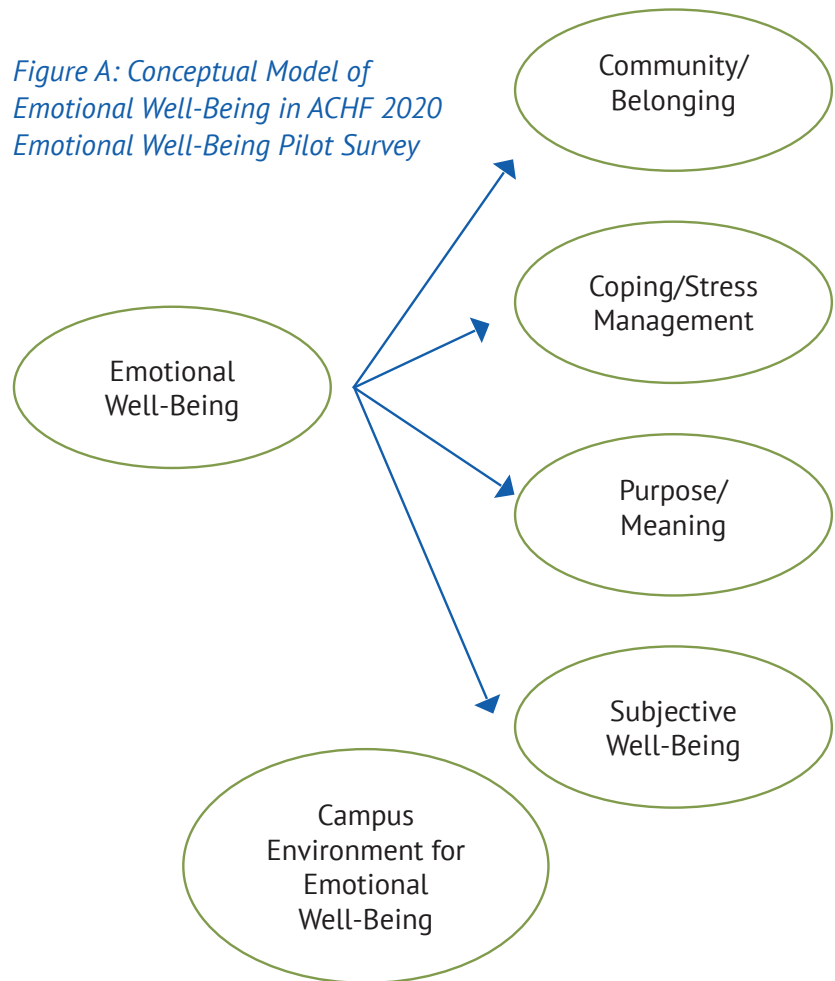
In addition to the above four latent components (variably described below as dimensions, components, variables, or constructs) of the definition of emotional well-being, an environmental approach to measuring emotional well-being was explicitly included as a unique contribution to the field, noted in Figure A as "Campus Environment for Emotional Well-Being" (Centers for Disease Control and Prevention, 2020). This environmental approach attempted to measure the relationship between perceptions of institutional support and emotional well-being. As was described in *The Influence of Environmental Factors, Including Diversity, Equity, and Inclusion, on the Emotional Well-Being of Students, Staff, and Faculty* (Travia, et al., 2022) the level of trust in an institution was strongly predictive of scales measuring subjective well-being. Conceptually, the environmental aspect was included to gain insight into how survey respondents perceived the context of their campus as a component of their perception of well-being.

The initial definition of emotional well-being was built upon to include second level concepts in Figure B, thus more completely displaying the conceptual framing of emotional well-being that was then used in survey scale and items selection (Figure B).

Figure B: Conceptual Measurement Model of Emotional Well-Being in ACHF 2020 Emotional Well-Being Pilot Survey with Second Level Concepts

Methods

The multidisciplinary team of researchers, working with ACHF, collaborated to create a 43-question survey of emotional well-being. The survey drew upon pre-existing established items and scales from published research in the following dimensions of well-being: community and belonging; social connectedness/belonging; confidence, safety, and trust; coping and stress management; resilience and stress management; flexibility and adaptability; anxiety; purpose and meaning; subjective well-being; loneliness and depression; and institutional environment. The conceptual definition of emotional well-being was then employed in developing an extensive list of surveys and scales that have been previously developed to measure components of the definition of emotional well-being. Table 1 (see Appendix) outlines 19 of the surveys or scales that were gathered and considered for inclusion in the pilot instrument because they were initially seen to align with the operational definition of emotional well-being. In some instances,

scales such as the Ryff Scales of Psychological Well-Being, Diener Flourishing Scale, and the post-traumatic growth scale were identified for inclusion as scales measuring particular components of the operational definition of emotional well-being. In other instances, entire surveys, with multiple subscales were identified. Examples include the VIA Character Strengths Survey, Student Well-Being Process Questionnaire, and the Wake Forest Wellbeing Assessment.[*] Each existing survey under consideration was examined for scales or individual questions that might align with the team's operating definition of emotional well-being. Each scale or question chosen was examined to determine what rights were reserved on the part of the initial researchers. All the surveys drawn upon for the ACHF Emotional Well-Being Survey either included open permission to use the survey research with appropriate citation or permission was granted by the initial tool developers.

To establish face validity, the research team focused most heavily on the item-pool development research. By utilizing pre-existing scales and questions, the team was able to build out the survey in its entirety first, and then analyze the psychometrics of the newly developed Emotional Well-Being Survey. This process entailed using an expert panel to review existing scales and measures, review the literature, and then develop a construct map to plot out the agreed-upon latent variables. By taking this approach which emphasized construct validity, the team was able to bolster confidence in the trustworthiness of the survey as well as the overall research study.

After a preliminary review of all identified surveys and scales, the team chose 11 pre-existing and previously validated surveys and scales to examine more intensively. The more intensive review involved mapping each item on the selected surveys or scales to the previously outlined conceptual definition of emotional well-being. The emotional well-being definition categories and sub-categories used for this mapping are the same as the definition visual portrayal in Figure B, and they are displayed again in Table 2 (see Appendix). This mapping was done on a question-by-question basis for each survey or scale to the conceptual definition with results of the mapping portrayed in Table 2. The mapping activity revealed questions, and in most, but not all cases, scales for each of the constructs of the operational definition of emotional well-being.

Following the mapping activity of survey questions and scales to the constructs of emotional well-being, a draft survey was developed. The initial survey design was guided by three priorities: 1) to create a survey that fully measured the constructs of emotional well-being present in the operational definition; 2) to use existing scales whenever possible to measure constructs; and 3) to aim for parsimony in the number of items on the survey so as to keep the length of the survey as short as possible while still measuring all constructs. Following initial development, an iterative process of review, revision, and refinement was conducted to arrive at the pilot version of the ACHF Emotional Well-Being Survey.

Once the tool was complete, it was piloted in the spring and fall semesters of 2021. This quantitative survey research project involved data collection from staff, students, and faculty who were at least 18 years of age.

Survey Administration

All ACHA member institutions were invited to participate in the pilot. Six institutions agreed to participate

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[*] The Wake Forest Wellbeing Assessment is now the ACHA Well-Being Assessment.

in the spring 2021 administration of the survey and two participated in the fall 2021 administration, for a total of eight participating institutions. Participating institutions were not intended to be a representative sample; rather, intentional efforts were made to generate a broad representation of institutions. Participating institutions agreed to three items. First, they agreed to participate as a whole institution. Second, they agreed to develop their own sample of faculty, staff, and students. Sample size was determined by each institution. Third, they agreed to provide the research team with their samples' contact first names and email addresses and whether the contacts were students, staff, or faculty members. It is important to note that email addresses were used only for a single survey effort and are not retained for future implementations. Institutions were unable to change or customize the survey.

Following IRB approval from Advarra, Inc., the research team delivered the survey using Qualtrics Research Suite software. Invitations were sent using email through Qualtrics. Data were collected from January 2021 to April 2021 and again from September 2021 to November 2021. The procedure for survey administration was as follows: the survey at each participating campus opened with an invitation to participate email coming from the research team on a Tuesday. On Monday of the second week of survey implementation, a reminder email was sent from the research team. Participants were able to opt out of the project at any time and not receive follow-up email solicitations. On Wednesday of the second week of survey implementation, a second reminder to participate email was sent to participants. The survey closed on Friday of the second week of implementation.

Survey administration was completed electronically via email and the web through Qualtrics. The Qualtrics survey interface can be taken via the phone, tablet, or computer. For the Spring (January-April) administration, the Qualtrics interface was not accessible to screen readers and was not fully accessible to keyboard-only users or screen magnified users. Individuals needed only to click on the survey link with the email they received to access the survey. The survey was then displayed in their web browser window. Beginning in Fall 2021, the Qualtrics interface became accessible to screen readers. Individual consent was programmed into the beginning of the Qualtrics survey platform.

Data Analysis and Results

For this report, the data from the eight participating institutions were combined, and data was cleaned, specifically a limited number of outliners were removed, demographics variables were recoded for analysis, and missing variables within scales imputed using mean substitution. Once this step was completed, descriptive statistics were run for each variable. There were 7,594 survey responses, 3,385 from the six schools surveyed in spring of 2021 and 4,209 from the two schools surveyed in fall of 2021. An initial code book was created for the data set and missing values were recoded. Metric coding was utilized to review all responses, and then the descriptive statistics were rerun for each variable. Given limited missing data, and to ensure that missing data did not impact scales development, mean data imputation was used for all missing data. A component factor analysis was performed using varimax rotation for known scales. The scales in the dataset were consistent with the emotional well-being mapping chart that was created to develop the ACHF Emotional Well-Being Survey. The latent concepts and related scales which were included to measure the multidimensional concept of emotional well-being included:

A. Community/Belonging measured by two scales: (1) community/belonging and (2) confidence, safety, and trust,

B.   Coping/Stress Management measured by three scales: (1) anxiety I, (2) anxiety II, and (3) coping.

C.   Purpose /Meaning measured by three scales: (1) purpose I, (2) purpose II, and (3) meaning.

D.   Subjective Well-Being measured by three scales: (1) life satisfaction, (2) depression, and (3) loneliness.

E.   Campus Environment for Emotional Well-Being measured by three scales: (1) organizational support for health, (2) organizational diversity, and (3) organizational trust.

In the next sections we report on the technical elements of each scale, specifically the steps taken to establish face validity, and then provide example measures of statistical validity and reliability. For each latent variable and related scales in the following sections we followed these steps:

1.   Data was cleaned, descriptive statistics were run. Missing data was imputed using mean substitution.

2.   Descriptive statistics were rerun.

3.   We described the survey questions that the expert panel identified to measure each latent concept. We identified the source of the survey questions, where the questions came from (i.e., the source or existing survey) and what, if any, modifications were made to the question(s) wording or response metric.

4.   We described the conceptual latent concepts measurement model.

5.   We presented two sets of factor analysis for all scales. We ran an exploratory factor analysis using the spring 2021 survey administration, then we ran a second factor analysis to confirm those results using the responses from fall 2021.

6.   We identified each survey question's scale designation based upon the factor analysis and reported the Cronbach Alpha for each scale.

7.   We shared any variable recoding and if we created standardized scores prior to scale construction.

8.   We reported the formula used to create each scale.

Community/Belonging

Community and belonging were measured through the constructs of social connectedness/belonging and confidence, safety, and trust. This section of the survey drew more upon disparate items from multiple existing surveys than any other section of the survey. Table 1 outlines each item in the Community/ Belonging section of the survey, where the item was drawn from and what, if any, modifications were made to the item. Eight of the items were included as individual questions and drawn from multiple surveys, with one scale being included in this section drawn from the Wake Forest Well-Being Assessment associated with confidence, safety, and trust (See Table 1).

Table 1: Community/ Belonging Survey Items

Survey Item Number	Item Question	Where Identified	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
1a	When I find myself in stressful situations, I take a problem-focused approach (e.g., I take one step at a time, I change things about the situation or my-self to deal with the issue, I don't let my feelings interfere too much).	Well-being process	Originally – Coping/ Stress Management Shifted to: Community/ Belonging	Originally – Resilience & Stress Management and Flexibility & Adaptability Shifted to: Confidence, safety, and trust	Was 10 point Disagree Strongly to Agree Strongly Shifted to 7 point Strongly Disagree to Strongly Agree
1b	It is important to me to actively contribute to the happiness and well-being of others	Diener Flourishing Scale	Community/ Belonging	Social Connectedness & Belonging	Wording changed from: I actively contribute to the happiness and well-being of others
1c	I am comfortable accepting love from others	VIA Character Strengths Survey	Community/ Belonging	Social Connectedness & Belonging Confidence, safety, and trust	Wording changed from: I can accept love from others. Shifted to 7 point Strongly Disagree to Strongly Agree
1d	I am comfortable expressing love to someone else	VIA Character Strengths Survey	Community/ Belonging	Social Connectedness & Belonging Confidence, safety, and trust	Wording changed from: I am good at expressing love to someone else Shifted to 7 point Strongly Disagree to Strongly Agree
2a	During the past month, how often have you felt: That you belonged to a community (like a social group, your school, or your neighborhood)	MHC – Short Form	Community/ Belonging	Social Connectedness & Belonging	No Changes
2b	During the past month, how often have you felt: That you had warm and trusting relationship with others	MHC – Short Form	Community/ Belonging	Social Connectedness & Belonging Confidence, safety, and trust	No Changes
3	Over the past two weeks, how often have you experienced any of the following: Feeling nervous, anxious or on edge Not being able to stop of control worrying Worrying too much about different things Being concerned that something bad might happen Feeling an intense and persistent fear of a social situation in which people might judge you Fearing that you will embarrass yourself Fearing that people will notice that you are anxious	Wake Forest Well-Being Assessment	Originally - Coping/ Stress Management Shifted to: Community/ Belonging	Originally – Anxiety Shifted to: Confidence, safety, and trust	Taken from Wake Forest Well-Being Assessment as is.

Following exploratory factor analysis, three constructs were identified from the community and belonging questions. However, confirmatory analysis only identified two constructs that were consistent with our original theory of measurement. Here we report out the final two constructs of community/belonging made up of six questions with an alpha of .791 and confidence, safety and trust made up of seven survey questions with an alpha of .924 (see Figure C and Table 2).

Figure C: Community and Belonging Conceptual Model
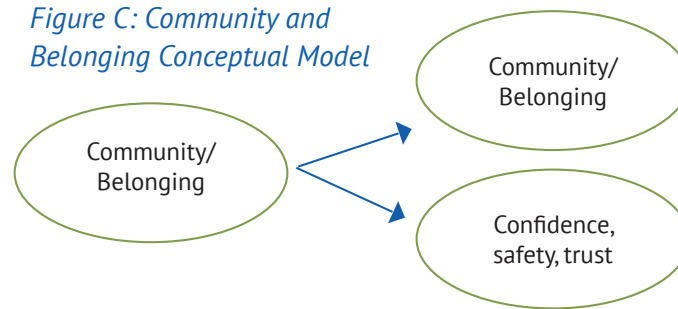
Due to the survey questions in this section having different response metrics, we transformed each variable into a standardized score prior to scale construction so as to avoid individuals having more influence on one scale versus the other. Our formula for scale construction of the community/belonging scale was:

Table 2: Community/ Belonging Survey Items (Questions 1,2 and 3)

		Spring 2021			Fall 2021			
Name	Variable	1	2	3	1	2	Scale	Alpha Scale
CB1	When I find myself in stressful situations, I look for social support	-.004	**.686**	-.046	-.039	**.690**	Community/ Belonging	.791
CB2	It is important to me to actively contribute to the happiness and well- being of others	.131	**.665**	.020	.132	**.647**	Community/ Belonging	
CB3	I am comfortable accepting love from others	-.123	**.752**	-.244	-.212	**.763**	Community/ Belonging	
CB4	I am comfortable expressing love	.002	**.783**	-.171	-.109	**.771**	Community/ Belonging	
CB5	That you belonged to a community (like a social group, your school, or your neighborhood)	-.557	**.530**	-.171	-.329	**.580**	Community/ Belonging	
CB6	That you had warm and trusting relationships with others	-.442	**.625**	.021	-.278	**.680**	Community/ Belonging	
CST1	Feeling nervous, anxious or on edge	**.782**	.001	.365	**.837**	-.066	Confidence, Safety, Trust	.924
CST2	Not being able to stop or control worrying	**.830**	-.016	.390	**.881**	-.102	Confidence, Safety, Trust	
CST3	Worrying too much about different things	**.813**	-.012	.396	**.872**	-.081	Confidence, Safety, Trust	
CST4	Being concerned that something bad might	**.695**	-.007	.443	**.695**	-.089	Confidence, Safety, Trust	
CST5	Feeling an intense and persistent fear of a social situation in which people might judge you	.313	-.121	**.825**	**.780**	-.191	Confidence, Safety, Trust	
CST6	Fearing that you will embarrass yourself	.260	-.126	**.860**	**.773**	-.184	Confidence, Safety, Trust	
CST7	Fearing that people will notice that you are anxious	.351	-.102	**.783**	**.778**	-.154	Confidence, Safety, Trust	

CB1 + CB2 + CB3 + CB4 + CB5 + CB6 = Community/Belonging

A higher scale score would reflect a higher level of community/belonging as measured by the combined six items in the scale. The formula for scale construction of the confidence/safety/trust scale was:

CST1 + CST2 + CST3 + CST4 + CST5 + CST6 + CST7 = Confidence/Safety/Trust

A higher scale score would reflect a lower level of confidence/safety/trust as measured by the combined seven items in the scale.

Coping/Stress Management

The coping and stress management section of the survey drew upon one scale made up of seven items taken from the Well-Being Process survey along with two individual questions drawn from the same instrument (See Table 3). All questions were taken from the Well-Being Process Survey and responses were scored on 10 point scales, with 1 being low response and 10 being high.

Table 3: Coping/Stress Management Survey Items

Survey Item Number	Item Question	Where Identified	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
4	Please respond about the extent to which you agree with each statement: I feel able to relax when I want to In general, I feel optimistic about the future (For example: I usually expect the best, I expect more good things to happen to me than bad, it's easy for me to relax) I feel that I am laid-back about things (For example: I do just enough to get by, I tend to not complete what I've started, I find it difficult to get down to work When I find myself in stressful situations, I take a problem-focused approach (e.g., I take on¡e step at a time, I change things about the situation or my- self to deal with the issue, I don't let my feelings interfere too much). When I find myself in stressful situations, I blame myself (e.g., I criticize or lecture myself, I realize I brought the problem on myself). When I find myself in stressful situations, I wish for things to improve (e.g., I hope a miracle will happen, I wish I could change things about myself or circumstances, I daydream about a better situation). When I find myself in stressful situations, I try to avoid the problem (e.g. I keep things to myself, I go on as if nothing has happened, I try to make myself feel better by eating/drinking/smoking).	Well-being Process	Coping/ Stress Management	Resilience & stress management Flexibility & adaptability Anxiety	Taken as is from Well-being Process
5	Using the scale below, please indicate how much time pressures are a part of your life?	Well-being Process	Coping/ Stress Management	Anxiety	No changes
6	Using the scale below, please indicate overall, how stressful is your life?	Well-being Process	Coping/ Stress Management	Anxiety	No changes

Following exploratory factor analysis, three constructs were identified from the community and belonging questions and confirmed using the fall 2021 survey responses. The constructs measuring the idea of coping/stress management included 4 items that made up the anxiety I scale with an alpha of .861; anxiety II was made up of two survey questions with an alpha of .798 and coping made up of four survey questions with an alpha of .615 (see Figure D and Table 4).

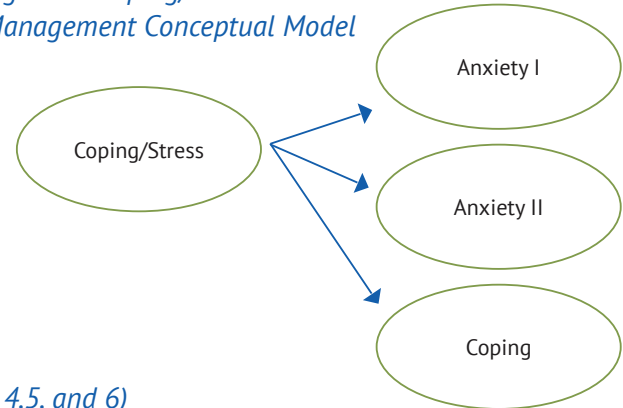*Figure D: Coping/Stress Management Conceptual Model*

Table 4: Coping/Stress Management Survey Items (Questions 4,5, and 6)

Name	Variable	Spring 2021			Fall 2021			Scale	Scale Alpha
		1	2	3	1	2	3		
A1	I feel able to relax when I want to	**.662**	-.486	-.003	**.664**	-.479	-.010	Anxiety I	.816
A2	In general, I feel optimistic about the future	**.796**	-.216	-.087	**.812**	-.220	-.081	Anxiety I	
A3	I am confident in my ability to solve problems that I might face in life	**.838**	-.041	-.172	**.840**	-.044	-.178	Anxiety I	
A4	When I find myself in stressful situations, I take a problem-focused approach	**.742**	-040	-106	**.766**	-.039	-.146	Anxiety I	
C1	I feel that I am laid-back about things	.164	-.220	**.685**	.183	-.208	**.664**	Coping	**.615**
C2	When I find myself in stressful situations, I blame myself	-.267	.231	**.578**	-.268	.296	**.576**	Coping	
C3	When I find myself in stressful situations, I wish for things to improve	-.117	.179	**.680**	-.131	.189	**.692**	Coping	
C4	When I find myself in stressful situations, I try to avoid the problem	-.280	.062	**.707**	-.324	.049	**.708**	Coping	
AA1	Please indicate how much time pressures are a part of your life	-036	**.892**	.082	-.045	**.888**	.087	Anxiety II	.798
AA2	Please indicate overall, how stressful is your life?	-.258	**.851**	.095	-.232	**.852**	.079	Anxiety II	

Due to the survey questions in this section having the same response metric of a 1-10 scale, there was no need to transform each variable. The formula for scale construction of the anxiety I scale was:

A1 + A2 + A3 + A4 = Anxiety I

A higher scale score would reflect a higher level of coping with anxiety on the scale. A higher scale score reflects the ability to cope, not a higher level of anxiety. The formula for scale construction of anxiety II scale was:

AA1 + AA2 = Anxiety II

A higher scale score would reflect a higher level of self-reported stress or anxiety. The formula for the scale construction of coping was:

C1 + C2 + C3 + C4 + Coping

A higher scale score would reflect a lower level of coping in this instance based upon the questions that make up the scale.

Purpose/Meaning

The purpose and meaning section of the survey was entirely made up of the Claremont Purpose Scale (Bronk et. al., 2018) This was a direct replication of the Claremont Purpose Scale which examines three dimensions of purpose of life (Table 5).

Table 5: Purpose and Meaning Survey Items

Survey Item Number	Item Question	Where Identified	Original Latent Concept (Bronk et. al., 2018)	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
7	How clear is your sense of purpose in your life?	Claremont Purpose Scale (Bronk et al.)	Meaning	Purpose and Meaning	Purpose and Meaning	No changes
8	How well do you understand what gives you life meaning?	Claremont Purpose Scale (Bronk et al.)	Meaning	Purpose and Meaning	Purpose and Meaning	No changes
9	How confident are you that you have discovered a satisfying purposes for your life?	Claremont Purpose Scale (Bronk et al.)	Meaning	Purpose and Meaning	Purpose and Meaning	No changes
10	How clearly do you understand what it is that makes your life feel worthwhile?	Claremont Purpose Scale (Bronk et al.)	Meaning	Purpose and Meaning	Purpose and Meaning	No changes
11	How hard are you working to make your long-term aims a reality?	Claremont Purpose Scale (Bronk et al.)	Goal Orientation	Purpose and Meaning	Purpose and Meaning	No changes
12	How much effort are you putting into making your goals a reality?	Claremont Purpose Scale (Bronk et al.)	Goal Orientation	Purpose and Meaning	Purpose and Meaning	No changes
13	How engaged are you in carrying out the plans that you set for yourself?	Claremont Purpose Scale (Bronk et al.)	Goal Orientation	Purpose and Meaning	Purpose and Meaning	No changes
14	What portion of your daily activities move you closer to your long-term aims?	Claremont Purpose Scale (Bronk et al.)	Goal Orientation	Purpose and Meaning	Purpose and Meaning	No changes
15	How often do you hope to leave the world a better than you found it?	Claremont Purpose Scale (Bronk et al.)	Self-Transcendence	Purpose and Meaning	Purpose and Meaning	No changes
16	How often do you find yourself hoping that you will make a meaningful contribution to the broader world?	Claremont Purpose Scale (Bronk et al.)	Self-Transcendence	Purpose and Meaning	Purpose and Meaning	No changes
17	How often do you hope that the work that you do positively influences others?	Claremont Purpose Scale (Bronk et al.)	Self-Transcendence	Purpose and Meaning	Purpose and Meaning	No changes
18	How important is it for you to make the world a better place in some way?	Claremont Purpose Scale (Bronk et al.)	Self-Transcendence	Purpose and Meaning	Purpose and Meaning	No changes

Consistent with past research (See Bronk et al., 2018), three dimensions were identified from the purpose and meaning questions in analysis, and then confirmed. The three dimensions included four items that made up the Purpose I scale with an alpha of .921, Purpose II made up of four survey questions with an alpha of .878, and meaning made up of four survey questions with an alpha of .880 (see Figure E and Table 6).
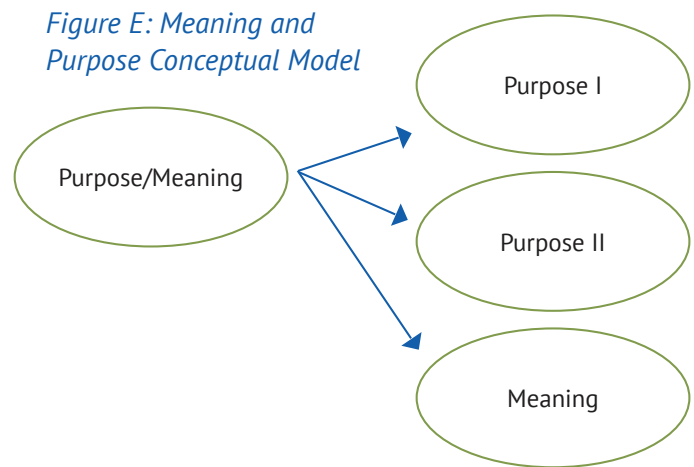
Figure E: Meaning and Purpose Conceptual Model

*Table 6: Purpose and Meaning (Questions 7-**18**)*

Name	Variable	Spring 2021			Fall 2021			Scale	Alpha
		1	2	3	1	2	3		
P1	How clear is your sense of purpose in your life?	**.848**	.108	.260	**.863**	.247	.109	Purpose I	.921
P2	How well do you understand what gives your life meaning?	**.888**	.123	.145	**.884**	.162	.127	Purpose I	
P3	How confident are you that you have discovered a satisfying purpose for your life?	**.874**	.105	.223	**.877**	.238	.115	Purpose I	
P4	How clearly do you understand what it is that makes your life feel worthwhile?	**.859**	.117	.144	**.859**	.195	.101	Purpose I	
PP1	How hard are you working to make your long-term aims a reality?	.137	.104	**.864**	.164	**.856**	.148	Purpose II	**.878**
PP2	How much effort are you putting into making your goals a reality?	.157	.116	**.877**	.167	**.882**	.152	Purpose II	
PP3	How engaged are you in carrying out the plans that you set for yourself?	.271	.105	**.796**	.288	**.809**	.125	Purpose II	
PP4	What portion of your daily activities move you closer to your long-term aims?	.169	.109	**.744**	.209	**.748**	.129	Purpose II	
M1	How often do you hope to leave the world better than you found it?	.103	**.837**	.095	.095	.136	**.842**	Meaning	.880
M2	How often do you find yourself hoping that you will make a meaningful contribution to the broader world?	.074	**.870**	.109	.060	.141	**.874**	Meaning	
M3	How often do you hope that the work that you do positively influences others?	.125	**.802**	.106	.164	.133	**.800**	Meaning	
M4	How important is it for you to make the world a better place in some way?	.113	**.865**	.109	.097	.110	**.855**	Meaning	

Due to the survey questions in this section having the same response metric of 1-5, there was no need to transform each variable. The formula for scale construction of the Purpose I scale was:

P1 + P2 + P3 + P4 = Purpose I

A higher scale score would reflect a higher level of clarity related to life purpose. The formula for scale construction of Purpose II scale was:

PP1 + PP2 + PP3 + PP4 = Purpose II

A higher scale score would reflect a higher level of carrying out your purpose in life. The formula for the scale construction of meaning was:

M1 + M2 + M3 + M4 = Meaning

A higher scale score would reflect a higher level of feeling that you positively impact the world around you.

Subjective Well-Being

The items in the subjective well-being section of the survey were drawn from the Diener Satisfaction with Life Scale to measure life satisfaction and happiness, along with loneliness and depression items taken from the Wake Forest Well-Being Assessment (Table 11).

Table 7: Subjective Well-Being Survey Items

Survey Item Number	Item Question	Where Identified	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
19	Below are five statements that you may agree to disagree with. Using the scale below, indicate your agreement with each items by selecting your response to each statement: See Table 8 below for Item variables.	Diener Satisfaction with Life Scale	Subjective Well-Being	Life Satisfaction and Happiness	No changes
20	Over the past two weeks, how often have you experienced any of the following: See Table 9 below for item variables	Wake Forest Well-Being Assessment	Subjective Well-Being	Depression and Loneliness	No Changes

Consistent with past research (Diener, Emmnos, Larsen & Griffin, 1985), the five items from the life satisfaction group together with an alpha of .886. The 10 items taken from the Wake Forest Well-Being Assessment that measured depression and loneliness grouped into two dimensions as anticipated following exploratory and confirmatory analysis. Five items made up the depression dimension with an alpha of .907 and five survey questions made up the loneliness dimension with an alpha of .914 (see Figure F and Tables 8 and 9).
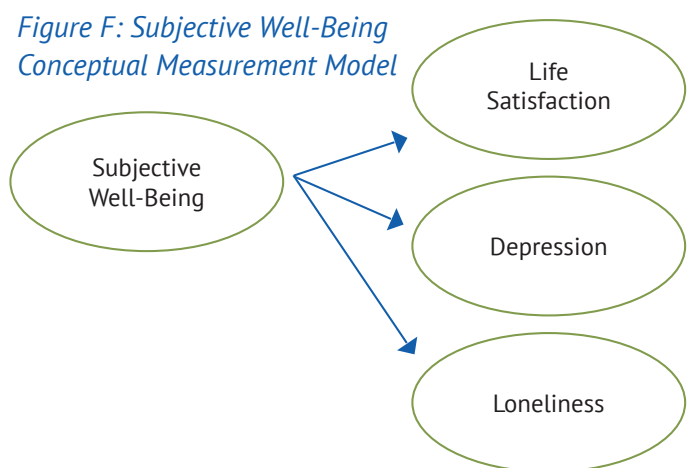

Figure F: Subjective Well-Being Conceptual Measurement Model

Table 8: Subjective Well-Being Survey Items: Diener Satisfaction with Life Scale (Question 19) - Spring 2021 Administration

Name	Item Question/ Variable	Spring 2021	Fall 2021	Scale	Alpha
	Below are five statements that you may agree to disagree with. Using the scale below, indicate your agreement with each items by selecting your response to each statement:				
D1	In most ways my life is close to my ideal.	.869	.872	Life Satisfaction	.886
D2	The conditions of my life are excellent.	834	.839	Life Satisfaction	
D3	I am satisfied with my life.	.891	.896	Life Satisfaction	
D4	So far I have gotten the important things I want in life.	.823	.830	Life Satisfaction	
D5	If I could live my life over, I would change almost nothing.	.746	.720	Life Satisfaction	

Due to the survey questions of the Diener Satisfaction with Life Scale have a common response metric of 1-7, there was no need to transform each variable. Our formula for scale construction of the Life Satisfaction scale was:

D1 + D2 + D3 + D4 = Life Satisfaction

A higher scale score would reflect a higher satisfaction with life. A score of 31-35 would reflect strongly agreeing with being satisfied with life, 26-30 agreeing with being satisfied with life, 21-25 slightly agreeing with life satisfaction, 16-20 neither agree or disagreeing, 11-15 slightly disagreeing, 6-10 disagreeing, and 5 strongly disagreeing with life satisfaction.

Table 9: Subjective Well-Being Survey Items: Wake Forest Well-Being Assessment (Question 20)

Name	Item Question/Variable	Spring 2021		Fall 2021			
		1	2	1	2	Scale	Alpha
	Over the past two weeks, how often have you experienced any of the following						
Dp1	Feeling depressed	**.859**	.281	**.862**	.263	Depressed	.907
Dp2	Feeling sad	**.815**	.322	**.855**	.271	Depressed	
Dp3	Feeling like nothing can make you happy	**.831**	.296	**.826**	.345	Depressed	
Dp4	Thinking that others would be better off without you	**.723**	.307	**.693**	.360	Depressed	
Dp5	Feeling like you have let yourself, friends, or family down	**.731**	.341	**.723**	.369	Depressed	
L1	Feeling like you don't have friends	.304	**.816**	.297	**.808**	Loneliness	.914
L2	Feeling left out	.280	**.885**	.280	**.886**	Loneliness	
L3	Feeling isolated from others	.367	**.756**	.376	**.740**	Loneliness	
L4	Feeling like no one understands you	.517	**.612**	.502	**.644**	Loneliness	
L5	Feeling excluded	.298	**.850**	.296	**.864**	Loneliness	

Due to the survey questions related to depression and loneliness having a common response metric of 1-5, there was no need to transform each variable. The formula for scale construction of Purpose II scale was:

Dp1 + Dp2 + Dp3 + Dp4 + Dp5= Depression

A higher scale score would reflect a higher incident of self-reported depression. The formula for the scale loneliness was:

L1 + L2 + L3 + L4 + L5 = Loneliness

A higher scale score would reflect a higher incident of self-reported loneliness.

Campus Environment

The campus environment section the survey was drawn from the Canadian Guarding Minds @ Work Survey (Workplace Strategies for Mental Health, 2023), but significantly adapted. The questions and scale were revised significantly to fit the university students, staff, and faculty context of the ACHF Emotional Well-Being Pilot survey (Table 14).

Table 10: Campus Environment Survey Items

Survey Item Number	Item Question	Where Identified	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
21	To what extent do you agree with the following statements about your institution. I feel that I am part of a community at my institution. I would describe my institution as psychologically healthy. My institution prioritizes staff mental well-being. My institution prioritizes faculty well-being. People at my institution have a good understanding of the importance of mental health. I feel valued and respected by my manager, supervisor or instructor. I feel my work is valued by my manager, supervisor or instructor.	Guarding Minds at Work Survey Tool	Campus Environment	Campus Environment	Newly adapted
22	To what extent do you agree with the following statement about your institution. People from diverse backgrounds are treated with respect and fairness at my institution. People treat each other with respect and consideration at my institution. People at my institution show sincere respect for others' ideas, values and beliefs. People from all backgrounds are treated fairly at our institution. My institution offers services or benefits that adequately address my psychological and mental health. I trust my institution.	Guarding Minds at Work Survey Tool	Campus Environment	Campus Environment	Newly adapted

Results from exploratory and then confirmatory analysis revealed three dimensions of the campus environment latent idea. Dimension one was made up of seven items concerned with organizational support for health with an alpha of .932. The second dimension related to organizational diversity and was made up of four items with an alpha of .931. The third dimension was related to organizational trust and had three items with an alpha of .815 (see Figure G and Table 11).
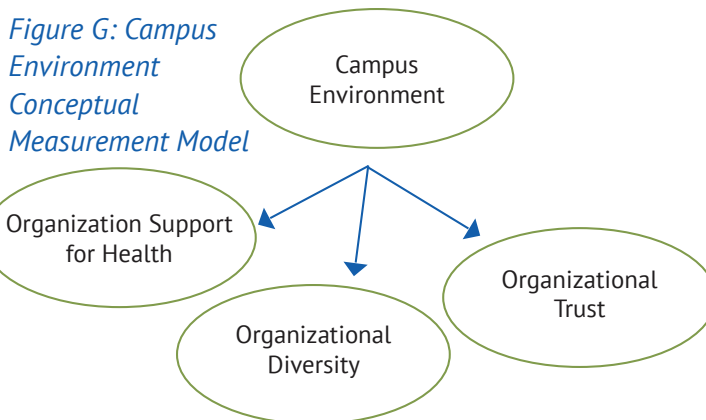
Figure G: Campus Environment Conceptual Measurement Model

Table 11: Institutional Environment Survey Items (Questions 20 and 21)

Name	Variable	Spring 2021			Fall 2021			Scale	Alpha
		1	2	3	1	2	3		
OT1	I feel that I am part of a community at my institution	.351	.123	**.576**	.400	.086	**.554**	Organizational Trust	.815
OH1	I would describe my institution as psychologically healthy	**.686**	.376	.338	**.711**	.296	.373	Organizational Support for Health	.932
OH2	My institution prioritizes student mental well-being	**.788**	.212	.283	**.802**	.228	.285	Organizational Support for Health	
OH3	My institution prioritizes staff mental well-being	**.827**	.317	.175	**.831**	.309	.165	Organizational Support for Health	
OH4	My institution prioritizes faculty well-being	**.840**	.249	.144	**.837**	.248	.137	Organizational Support for Health	
OH5	People at my institution have a good understanding of the importance of mental health	**.710**	.294	.144	**.694**	.323	.252	Organizational Support for Health	
OT2	I feel valued and respected by my manager, supervisor or instructor	.231	.165	**.894**	.234	.233	**.882**	Organizational Trust	
OT3	I feel my work is valued by my manager, supervisor	.203	.151	**.906**	.225	.219	**.892**	Organizational Trust	
Od1	People from diverse backgrounds are treated with respect and fairness at my institution	.291	**.854**	.073	.287	**.851**	.101	Organizational Diversity	.931
OD2	People treat each other with respect and consideration at my institution	.284	**.836**	.220	.261	**.841**	.243	Organizational Diversity	
OD3	People at my institution show sincere respect for others' ideas, values and beliefs	.285	**.814**	.226	.280	**.814**	.263	Organizational Diversity	
OD4	People from all backgrounds are treated fairly at our institution	.312.	**.876**	.092	.297	**.871**	.117	Organizational Diversity	
OH6	My institution offers services or benefits that adequately address my psychological and mental health	**.622**	.434	.240	**.591**	.460	.249	Organizational Support for Health	
OH7	I trust my institution	**.592**	.458	.340	**.599**	.486	.324	Organizational Support for Health	

Due to the survey questions related to campus environment have a common response metric of 1-6, there was no need to transform each variable. The formula for scale construction of the organizational support for health dimension was:

OH1 + OH2 + OH3 + OH4 + OH5 + OH6 +OH7 = Organizational Support for Health

A higher scale score would reflect a higher self-reported perception of the support for health at the institution. The formula for the organizational diversity was:

OD1 + OD2 + OD3 + OD4 = Organizational Diversity

A higher scale score would reflect a higher self-reported perception of support for diversity and inclusion at the institution. The formula for the organizational trust was:

OT1 + OT2 + OT3 = Organizational Trust

A higher scale score would reflect a higher self-reported perception of being valued, respected, and a part of the university community.

Final Conceptual Measurement Model

After the initial two administrations of the survey, we clarified and added to our original conceptual measurement model. We retained the four major latent constructs of emotional well-being derived from our definition that was the basis for survey development, but added to and clarified the dimensions that we measured in our survey. In comparing Figures H and I, it's clear that the Community/Belonging construct is the only construct that remained unchanged. The Coping/Stress management construct was clarified to have three dimensions, which differed from our initial conceptualization. The Purpose/Meaning construct was clarified to have three dimensions from the Claremont Purpose Scale. The Subjective Well-being construct was clarified to have three dimensions as well as being associated with life satisfaction, depression, and loneliness. We developed the Campus Environment construct as well by identifying three dimensions associated with perceived organizational support for health, diversity, and trust.

Background Characteristics

The final section of the survey was adapted from the ACHA-NCHA III background characteristic questions and modified to fit the student, staff, and faculty respondents of this survey, rather than just student respondents. In addition, several questions associated with understanding the specific intended population of this survey were developed and included (Table 12).

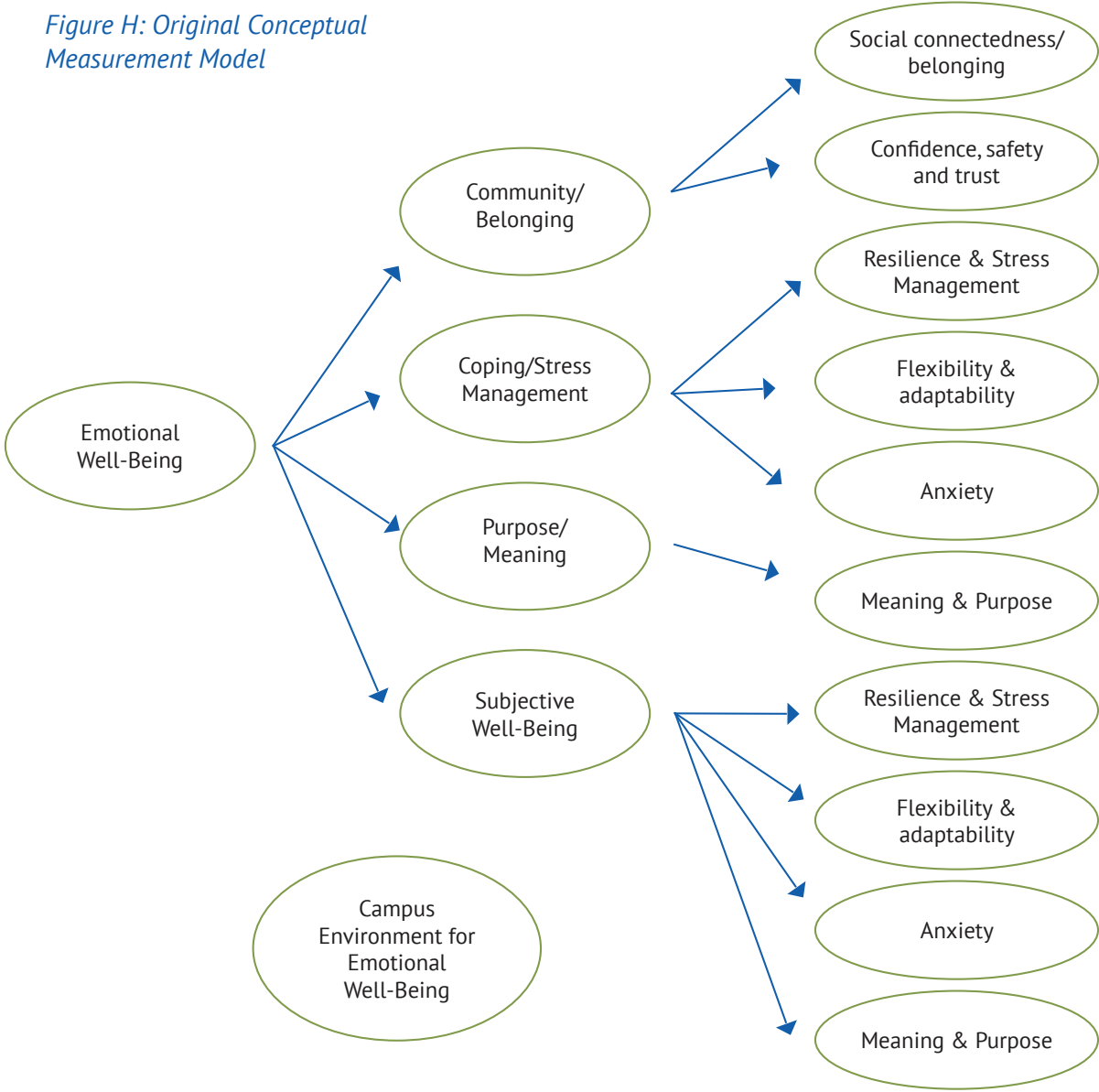*Figure H: Original Conceptual Measurement Model*

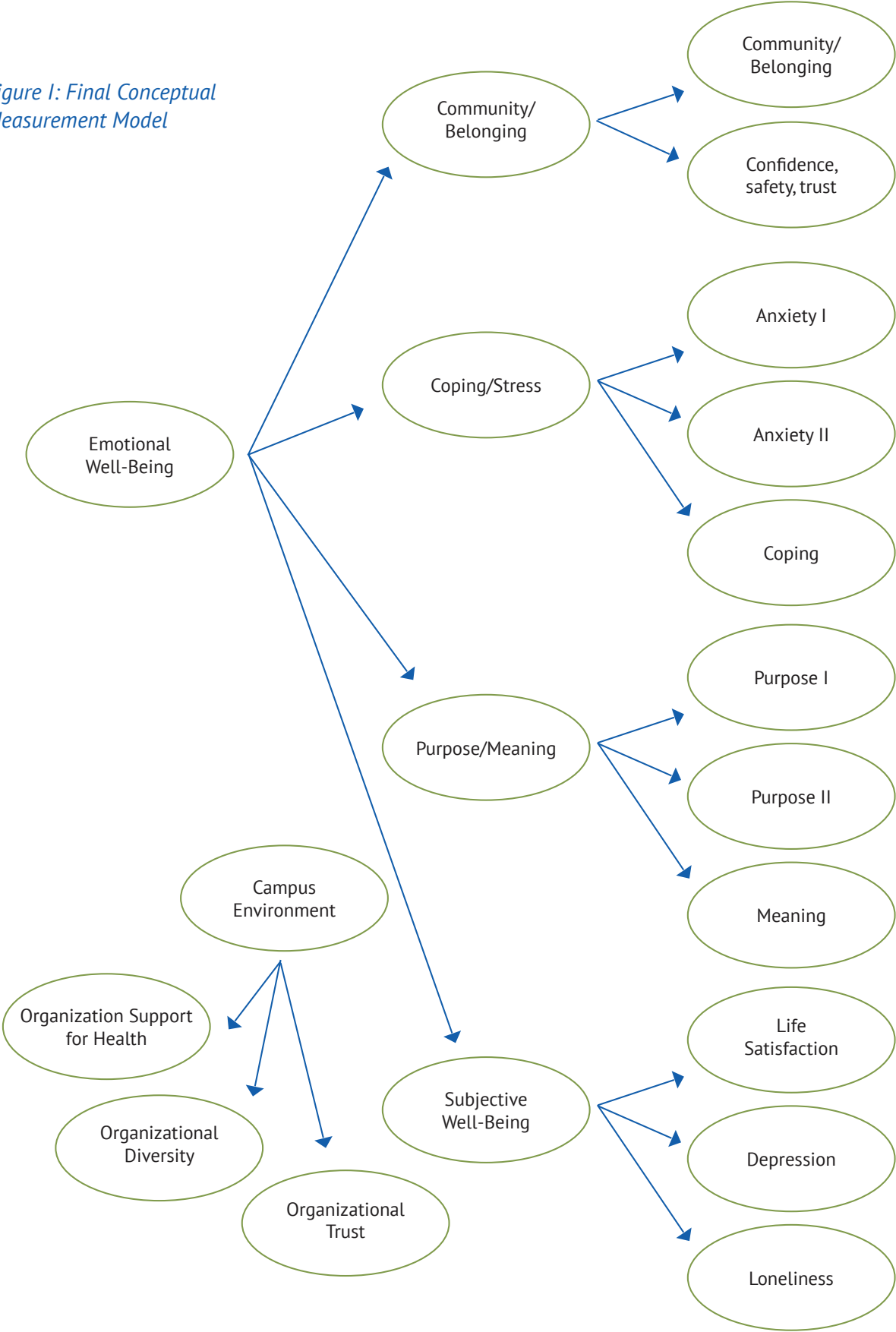*Figure I: Final Conceptual Measurement Model*

Table 12: Background Characteristic Survey Items

Survey Item Number	Item Question	Where Identified	Emotional Well-Being Latent Construct	Emotional Well-Being Sub-Construct	Notes
Questions 23 to 41 are demographic questions taken from NCHA (only noting added or modified questions here) See Appendix C for full table of demographic questions.					
28	If you are a student, what is your primary role as a student at your institution.				Altered response categories.
29	If you are a staff member at your institution, what is your primary role.				Added question.
30	If you are a faculty member, what is your primary role at your institution.				Added question.
31	Are you a member of a union?				Added question.
32	You have a visa?				Added question.
35	Do you have any of the following disabilities or ongoing medical conditions that affect your everyday functioning?				Added question.
36	Do you identify as a person with a disability?				Added question.
37	If I am a student, I am...				Added question.
38	If I am a faculty or staff member I am working.				Added question.
41	In an average week, do you participate in any of the following:				Altered response categories.

Conclusion

This report describes the development of the conceptual definition of emotional well-being that guided the design of a new instrument, the ACHF Emotional Well-Being Survey. The paper outlines the process of mapping latent concepts associated with the selected definition of well-being to various scales and measures. The report also includes a detailed description of the testing, validation, and implementation of the survey, and ultimately, our approach to psychometric analysis of the data. The methodology described in this report will assist institutions to better understand the origins and evolution of the survey, how to implement it across populations (students, staff, and faculty), and what analytical choices might be made to use data collected through the survey to measure the mental health and emotional well-being of participants.

Appendix A: Emotional Well-Being Measurement Tools

Name of Instrument	Brief Description of Measurement	References
Ryff Scales of Psychological Well-being	Multiple forms (long 84 items, mid length 54 items, 18 items short form). 6 areas of psychological well-being; autonomy, environmental mastery, personal growth, positive relationship with others, purpose in life, self-acceptance.	Ryff Scales of Psychological Well-being: https://centerofinquiry.org/wp-content/uploads/2018/04/Ryff_Scales.pdf Center of Inquiry at Wabash College https://centerofinquiry.org/uncategorized/ryff-scales-of-psychological-well-being/ Stanford/SPARQtools (Social Psychological Answers to Real-world Questions) http://sparqtools.org/mobility-measure/psychological-wellbeing-scale/ Users Guide - Ryff Scale https://www.ifs.org.uk/elsa/user_guides/wave_2_ryff_scale.pdf
Mental Health Continuum Short Form	14 items related to social connectedness, resilience, stress management, purpose, flexibility and adaptability.	https://www.aacu.org/sites/default/files/MHC-SFEnglish.pdf -
Diener Scales	Satisfaction with Life Scale – 5 item scale Flourishing Scales – 8 item scale	Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2009). http://labs.psychology.illinois.edu/~ediener/SWLS.html http://labs.psychology.illinois.edu/~ediener/Documents/FS.pdf
Adult Hope Scale	12 item scale – includes self-management and responsible decision-making	Snyder, Irving and Anderson (1996).
Meaning In Life Quest	10 items about feel about their life meaning/ purpose	Steger, M.F. Fraizer, P., Oishi, S., U Kaler, M. (2006)
Mindful Attention Awareness Scale	15 item addresses mindrfulness, receptiveness to attention to what is taking place at present, (resilience, stress management as sub constructs)	Brown, K.W. & Ryan, R.M. (2003) https://ppc.sas.upenn.edu/resources/questionnaires-researchers/mindful-attention-awareness-scale
PERMA Profiler	Positive emotion, engagement, relationship, meaning and accomplishment.	Butler, J.& Kern, M.L. (2015) https://ppc.sas.upenn.edu/resources/questionnaires-researchers
Personal Growth Initiative Scale	9 item measuring personal growth initiative	Robitschek (1998) https://ppc.sas.upenn.edu/resources/questionnaires-researchers
Post Traumatic Growth Scale	21 items with five factors around new possibilities, relating to others, personal strengths, spiritual change, and appreciation of life.	https://www.emdrhap.org/content/wp-content/uploads/2014/07/VIII-B_Post-Traumatic-Growth-Inventory.pd
Silver Lining Questionnaire	Measures the extent to which people believe their illness has had a positive benefit despite the negative consequences of being ill.	https://ppc.sas.upenn.edu/resources/questionnaires-researchers/silver-lining-questionnaire
VIA Survey of Character Strengths	240 items that measures 24 strengths	Perterson & Seligman (2004) https://www.viacharacter.org/survey/account/register
Guarding Minds at Work Survey Tool	13 elements related to Canadian Workplace Standards for psychological health and safety.	https://www.guardingmindsatwork.ca
Canadian Campus Wellbeing Survey	Instrument in pilot development measuring social connectedness; belongingness and resilience; stress management.	https://www.ccws-becc.ca

Resilience at Work Scale	Examines resilience, stress management, purpose and meaning	https://www.viacharacter.org/research/findings#nav
PHQ-9 – Patient Health Questionnaire	9 question depression screening.	Williams & Kroenke (1999)
Campaign to End Loneliness Measurement Tool	3 questions	(2014)
De Jong Gieveld Loneliness Scale	6 questions examining causes of loneliness	De Jong Gieveld (2006)
Student Well-being Process Questionnaire	43 items measuring Social connectedness; belongingness, Resilience; stress management, Confidence; safety and trust , Purpose; meaning, Flexibility and adaptability - stress and re-framing	Williams, G.M., Pendlebury, H., Thomas K., & Smith A.P. (2017)
Wake Forest Wellbeing Process Questionnaire	Dimensions measured Happiness; Self-esteem, Life satisfaction (which historically struggles with measurement invariance), Anxiety, Depression, Loneliness and Social anxiety; uses a series of existing validated scales.	Brocato, N. W., Ni, X., & Hix, L. E. (2020). *Technical report: Wellbeing Assessment methods and psychometric properties for the spring 2019 administration.* Wake Forest University. https://wellbeingcollaborative.wfu.edu/the-wellbeing-assessment/development/technical-reports/

Appendix B: Survey Item Mapping of Emotional Well-being Constructs

	Community/ Belonging		Coping/ Stress Management			Purpose/ Meaning	Subjective Well-Being			
	Social Connectedness & Belonging	Confidence, safety and trust	Resilience & stress management	Flexibility & adaptability	Anxiety	Purpose and Meaning	Happiness	Life Satisfaction	Depression	Loneliness
VIA Character Strengths Survey	20	18	14	13	0	30	23	25	0	0
Wake Forest Well-Being Assessment	33	4	3	3	3	22	4	3	5	5
Well-being Process	16	2	15	10	4	0	3	15	7	3
MHC-Short Form	2	5	2	1	0	2	1	3	0	0
GM&W	9	8	12	2	0	0	0	4	0	0
CCWS	2	2	2	0	0	0	0	0	0	0
R&W	0	0	2	0	0	0	0	0	0	0
Diener Flourishing Scale	3	1	1	1	0	2	0	5	0	0
Connor-Davidson Resilience Scale 10	0	2	9	10	0	0	0	0	0	0
Diener Satisfaction with Life Scale	0	0	0	0	0	0	0	5	0	0
Claremont Purpose and Meaning Scale	0	0	0	0	0	10	0	0	0	0

Appendix C: Background Characteristic Survey Items

Survey Item Number	Item Question	Variables	Notes
23	What is your biological sex?	Female Male Intersex I prefer not to answer	
24	Which term do you use to describe your gender identity?	Woman or female Man or male Trans woman Trans man Genderqueer Agender Intersex Non-binary My identity is not listed above I prefer not to answer	
25	What term best describes your sexual orientation?	Straight/Heterosexual Bisexual Gay Lesbian Pansexual Queer Questioning My identity is not listed above I prefer not to answer	
26	How old are you?	[Blank} years	
27	If you are a student, what is your primary role as a student at your institution.	1st year undergraduate student 2nd year undergraduate student 3rd year undergraduate student 4th year undergraduate student 5th year or more undergraduate student Student not seeking a degree Master's student (MA, MS, MFA, MBA, MPP, MPA, MPH, etc) Doctoral Student (PhD, EdD, MD, JD, etc) Not applicable Other I prefer not to answer	Altered response categories.
28	If you are a staff member at your institution, what is your primary role.	Full-time staff member Part-time staff member Administrative leadership Student work-study Student employee Temporary employee Graduate assistant Other I prefer not to answer	Added question.
29	If you are a faculty member, what is your primary role at your institution.	Full-time faculty member Part-time faculty member Adjunct faculty Not applicable I prefer not to answer	Added question.
30	Are you a member of a union?	No Yes Not applicable I prefer not to answer	Added question.
31	You have a visa? (example: F-1, J-1, or M-1) to study or work in the United States?	No Yes I prefer not to answer	Added question.

32a	How do you usually describe yourself? (Please select ALL that apply)	American Indian or Native Alaskan Asian or Asian American Black or African American Hispanic or Lantino/a/x Middle Eastern/North African (MENA) or Arab Origin Native Hawaiian or Other Pacific Islander Native White Biracial or Multiracial My identity is not listed above I prefer not to answer	
32b	Are you? (Please select ALL that apply)	Mexican, Mexican American, Chicano Puerto Rican Cuban Another Hispanic, Latino/a/x, or Spanish origin I prefer not to answer	
32c	Are you? (Please select ALL that apply)	East Asian (for example: Chinese, Japanese, or Korean) Southeast Asian (for example: Cambodian, Vietnaese, Hmong, or Filipino) South Asian (for example: Indian, Pakistani, Nepalese, or Sri Lankan) Other Asian I prefer not to answer	
33	If you are a University employee, are you in a supervisory role at the University?	Yes No Not applicable I prefer not to answer	
34	Do you have any of the following disabilities or ongoing medical conditions that affect your everyday functioning?	Difficulty seeing Difficulty hearing Difficulty walking Difficulty learning Emotional, psychological or mental health conditions (e.g. anxiety, depression, bipolar disorder, substance abuse) Other health problem or long-term condition that has lasted or is expected to last for six or more months I do not have any difficulty or long-term condition that has lasted or is expected to last for six or more months I prefer not to answer	Added question.
35	Do you identify as a person with a disability?	Yes No I prefer not to answer	Added question.
36	If I am a student, I am...	Commuting as a student A distance learner or living off campus and taking classes online Living on campus and taking classes in person Living on campus and taking classes online Not applicable Other I prefer not to answer	Added question.
37	If I am a faculty or staff member I am working.	Remotely On site A combination of remotely and on site Not applicable I prefer not to answer	Added question.
38	When you came to this school, which geographic area did you come from?	Outside of the US Midwest US – IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI Northeast US – CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT Southeast US – AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV Southwest US – AZ, NM, OK, TX West US – AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY I prefer not to answer	

39	What is your religious affiliation: (select one)	Agnostic Atheist Buddhist Christian: Catholic Christian: Protestant Christian: Other Hindu Jewish Muslim Other religious affiliations Multiple affiliations No affiliations Unknown I prefer not to answer	Altered response categories
40	In an average week, do you participate in any of the following:	Social fraternity or sorority Academic, pre-professional and honors societies Academic organization Professional organization Campus spirit and traditions Intercollegiate sport Sports – club, intramural sport Campus recreation activities (e.g. group fitness classes, outdoor excursions, etc.) Arts group (e.g., performing arts, visual arts, mustic, etc.) Civic engagement or service groups Spiritual/faith-based group Political group Student government/leadership initiatives Education and mentoring Cultural/ethnic organization Media group (e.g. newspaper, radio station, etc.) Book club Other I prefer not to answer	
41	Please feel free to input any additional information or clarifications on the above you would like to share with us	[Blank]	

Appendix D: Scales

Dimension/Scale	Item Numbers
Community/Belonging	CB1 + CB2 + CB3 + CB4 + CB5 + CB6 = Community/Belonging
Confidence/Safety/Trust	CST1 + CST2 + CST3 + CST4 + CST5 + CST6 + CST7 = Confidence/Safety/Trust
Anxiety 1	A1 + A2 + A3 + A4 = Anxiety I
Anxiety 2	AA1 + AA2 = Anxiety II
Coping	C1 + C2 + C3 + C4 + Coping
Purpose 1	P1 + P2 + P3 + P4 = Purpose I
Purpose 2	PP1 + PP2 + PP3 + PP4 = Purpose II
Meaning	M1 + M2 + M3 + M4 = Meaning
Life Satisfaction	D1 + D2 + D3 + D4 = Life Satisfaction
Depression	Dp1 + Dp2 + Dp3 + Dp4 + Dp5= Depression
Loneliness	L1 + L2 + L3 + L4 + L5 = Loneliness
Organizational Support for Health	OH1 + OH2 + OH3 + OH4 + OH5 + OH6 +OH7 = Organizational Support for Health
Organizational Diversity	OD1 + OD2 + OD3 + OD4 = Organizational Diversity
Organizational Trust	OT1 + OT2 + OT3 = Organizational Trust