NHLBI grant: Ancillary to HCHS/SOL: Sociocultural Factors and CVD risk/prevalence in Hispanics (RC2 HL101649, LC Gallo & FJ Penedo)

# The Hispanic Community Health Study / Study of Latinos (HCHS/SOL)

# Sociocultural Ancillary Study

## DERIVED VARIABLE DICTIONARY INV5 update

**April 2015**

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**Analytic Notes for this Release:**

1. **Missing item rule for scores.** The Coordinating Center computed subscale or summary scores if a particular scale has an author designated algorithm for handling missing values, or more than 80% of the items used in the score are present then the variable is computed; otherwise, it is set to missing. Overall, the derived scores in the ancillary study now have less than 2% missing values using this conservative approach.
2. **Sociocultural Ancillary Study derived variables.** The dataset, SES_PART_DERV_SOCIO includes additional derived variables including missing item value count indicators ( _cnt ). Changes in this April 2015 version of INV5 to derived variables are described on page 6 of Chapter 2. Summary scoring statistics from these applied changes to algorithms are shown in Table 4. Follow the cited usage guidelines as recommended by the investigators in for each score in order to perform analyses that are consistent with the psychometric properties of the questionnaire battery used in the HCHS/SOL Sociocultural Ancillary Study.

## 1. Sociocultural AS Administrative Derived Variables

### 1.1 HSCAS_Visit_Date (Date of the Sociocultural AS visit)

This is a SAS date variable which documents the date of the participant's clinic visit. It is derived from the Sociocultural AS Immigration and Ethnicity form (IME).

Sociocultural_Visit_DATE= IMEA0a

Source variable(s):
IMEA0A. Date of completion of the Immigration and Ethnicity Form

### 1.2 HSCAS_PART (HCHS/SOL Sociocultural AS Participants)

This is a binary derived variable which serves as the flag variable for HCHS/SOL Sociocultural AS Participants. The Sociocultural AS Participants was defined as those in the Main study & Sociocultural AS participant derived file, in the Immigration and Ethnicity (IME) interview, and agree to participate in the screen (ANE) and with non-missing final sampling weight.

Response Format: 0= Not HCHS/SOL Sociocultural AS Participants
1= HCHS/SOL Sociocultural AS Participants

Source variable(s):
In the Main study part_derv file list;
In the Sociocultural AS part_derv file list;
In the Immigration and Ethnicity (IME) interviewed ID list;
ANEA3: Sociocultural AS Participants Status.
Weight_Final_Norm: final sampling weight.

### 1.3 HSCAS_LANG_SWITCH (Language Switching status, Sociocultural AS)

This is a derived variable with 3 categories to distinguish language switching across HCHS/SOL Sociocultural AS forms and main study language of preference.

Response Format: 1= Language switched during HSCAS forms
2= Lang_Pref from Main study different to Language used in all HSCAS forms
3= Same language in all HSCAS forms and LANG_PREF

Source variable(s):

The 'FORM' variables in all Sociocultural AS, excluding the screening form ANE, which was done in English only.
The Language preference derived variable from HCHS/SOL Main study: LANG_PREF

## 2. Sociocultural AS Derived Variables

The Coordinating Center (CC) has updated the SCAS psychometric scores using algorithms from the Final SCAS scoring memo from the Sociocultural Investigators Working Group, and the standard partial missing items control guideline. All the updates have been reviewed and confirmed by the SCAS investigators during the review period of 11/21/2014-21/04/2014.

According to the CC current partial missing items control guideline, the acceptable missing level would be missing ≤ 20% of total items for scoring. The scores with number of missing items > 20% will be set to missing, *unless* the missing control level had been pre-specified by the investigators (i.e. exceptions for some scores).

We also applied the adjustment per CC guideline on those SUM base scores when they have acceptable level missing items, by using the rule:

Adjusted Score = (score/non-missing count)*total item count.

This adjustment corrects the tendency for low raw (sum) score values when there were partial missing items for the scale. No adjustment was applied on the 14 mean based scores.

### 2.1 From Acculturation Stress (ACE):

**Acculturation Stress: Hispanic Stress Inventory (17 items)**

**17 Items –** participants indicate if the particular stressor occurred in the last three months (Yes/No, or N/A for some items), and if answered yes, rate how worried/tense it made them from 1 = not all worried/tense to 5 = extremely worried/tense.

To score→ If answers “No” (or N/A for applied items), assign 0 points. If answers “Yes”, add the number of points from the Likert scale and total all items or total the items from each subscale to obtain subscale scores.

According to the SCAS memo recommendation, Use the total scores of two subscales or the total scores of 5 subscales. Do not use the immigration subscale for English speakers due to low internal consistency.
*Note:* The marital subscale, which is composed of only 1 item (item 2), fits very well in the Parental subscale (psychometrically and conceptually), with comparable model fit and configural language invariance. Could use a 4-factor solution with item 2 in Parental.

**Five-factor Subscales:**

#### 2.1.1 Occupational/economic stress:

HSI_Occ_Eco = sum scores of items 5, 6, 12, 13 and 15;

Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_Occ_Eco='Hispanic Stress Inventory: Occupational/economic stress';

**2.1.2 Parental stress:**
HSI_Parental = sum scores of items 4, 7, 10, 11;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_Parental='Hispanic Stress Inventory: Parental stress';

**2.1.3 Marital stress:**
HSI_Marital = Score of item 2;
label HSI_Marital='Hispanic Stress Inventory: Marital stress';

**2.1.4 Immigration stress:**
HSI_Immig = sum scores of items 1, 3, 9, 17;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_Immig='Hispanic Stress Inventory: Immigration stress';

**2.1.5 Familial/cultural conflict:**
HSI_fam_cul = sum scores of items 8, 14, 16;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_fam_cul='Hispanic Stress Inventory: Familial/cultural conflict';

**Two-factor Subscales:**

**2.1.6 Intrafamilial stress:**

HSI_Intrafam = sum scores of items 2, 4, 7, 8, 10, 11, 14, 16;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_Intrafam='Hispanic Stress Inventory: Intrafamilial stress';

**2.1.7 Extrafamilial Stress:**

HSI_Extrafam = sum scores of items 1, 3, 5, 6, 9, 12, 13, 15, 17;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.

label HSI_Extrafam='Hispanic Stress Inventory: Extrafamilial stress';

### 2.1.8 Hispanic Stress Inventory (HSI) Total Score:

HSI_tot = sum scores of item 1 - item 17;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label HSI_tot ='Hispanic Stress Inventory: Total score';

Source variable(s):
ACEA1a – ACEA17a: whether the particular stressor was occurred in the last three months or not (or N/A for some items).
ACEA1 – ACEA17: the degree of the particular stressor (1 - 5).

### 2.1.9 Hispanic Stress Inventory (HSI) Individual Scores:

IND_ACE1 = Summary of ACEA1 and ACEA1a (value=0 OR ACEA1a when ACEA1=1, if no missing);
Label IND_ACE1 = 'HSI Individual score -ACE Item 1, 0-5 '.

IND_ACE2 = Summary of ACEA2 and ACEA2a (value=0 OR ACEA2a when ACEA2=1, if no missing);
Label IND_ACE2 = 'HSI Individual score -ACE Item 2, 0-5 '.

IND_ACE3 = Summary of ACEA3 and ACEA3a (value=0 OR ACEA3a when ACEA3=1, if no missing);
Label IND_ACE3 = 'HSI Individual score -ACE Item 3, 0-5 '.

IND_ACE4 = Summary of ACEA4 and ACEA4a (value=0 OR ACEA4a when ACEA4=1, if no missing);
Label IND_ACE4 = 'HSI Individual score -ACE Item 4, 0-5 '.

IND_ACE5 = Summary of ACEA5 and ACEA5a (value=0 OR ACEA5a when ACEA5=1, if no missing);
Label IND_ACE5 = 'HSI Individual score -ACE Item 5, 0-5 '.

IND_ACE6 = Summary of ACEA6 and ACEA6a (value=0 OR ACEA6a when ACEA6=1, if no missing);
Label IND_ACE6 = 'HSI Individual score -ACE Item 6, 0-5 '.

IND_ACE7 = Summary of ACEA7 and ACEA7a (value=0 OR ACEA7a when ACEA7=1, if no missing);
Label IND_ACE7 = 'HSI Individual score -ACE Item 7, 0-5 '.

IND_ACE8 = Summary of ACEA8 and ACEA8a (value=0 OR ACEA8a when ACEA8=1, if no missing);
Label IND_ACE8 = 'HSI Individual score -ACE Item 8, 0-5 '.

IND_ACE9 = Summary of ACEA9 and ACEA9a (value=0 OR ACEA9a when ACEA9=1, if no missing);
Label IND_ACE9 = 'HSI Individual score -ACE Item 9, 0-5 '.

IND_ACE10 = Summary of ACEA10 and ACEA10a
(Value=0 OR ACEA10a when ACEA10=1, if no missing);
Label IND_ACE10 = 'HSI Individual score -ACE Item 10, 0-5 '.

IND_ACE11 = Summary of ACEA11 and ACEA11a
(Value=0 OR ACEA11a when ACEA11=11, if no missing);
Label IND_ACE1 = 'HSI Individual score -ACE Item 11, 0-5 '.

IND_ACE12 = Summary of ACEA12 and ACEA12a
(Value=0 OR ACEA12a when ACEA12=12, if no missing);
Label IND_ACE1 = 'HSI Individual score -ACE Item 12, 0-5 '.

IND_ACE13 = Summary of ACEA13 and ACEA13a
(Value=0 OR ACEA13a when ACEA13=1, if no missing);
Label IND_ACE13 = 'HSI Individual score -ACE Item 13, 0-5 '.

IND_ACE14 = Summary of ACEA14 and ACEA14a
(Value=0 OR ACEA14a when ACEA14=1, if no missing);
Label IND_ACE14 = 'HSI Individual score -ACE Item 14, 0-5 '.

IND_ACE15 = Summary of ACEA15 and ACEA15a

(Value=0 OR ACEA15a when ACEA15=1, if no missing);
Label IND_ACE15 = 'HSI Individual score -ACE Item 15, 0-5 '.

IND_ACE16 = Summary of ACEA16 and ACEA16a
(Value=0 OR ACEA16a when ACEA16=1, if no missing);
Label IND_ACE16 = 'HSI Individual score -ACE Item 16, 0-5 '.

IND_ACE17 = Summary of ACEA17 and ACEA17a
(Value=0 OR ACEA17a when ACEA17=1, if no missing);
Label IND_ACE17 = 'HSI Individual score -ACE Item 17, 0-5 '.

## 2.2 From Discrimination and Neighborhood Stress (DCE):

### Racism/discrimination Scale, DCEA1-DCEA17:

Based on SPSS scoring syntax for the PEDQ (racism, discrimination scale) provided by PIs. The convention is to score the measure if at least 75% of the items are present (hence the mean.13, in the first section, which means “create a mean if at least 13 items are present”. These are sum scores, but creating the mean and then multiplying by the total of items, instead of simply summing the items, allows for calculation of a sum with some missing data present). The variable labels shown in the first section, for the total score, represent each item, 1-17, shown consecutively).

### 2.2.1 Racism, discrimination scale:

Set RACISM as missing if the number of missing of dcea1-dcea17 >**4**;
Otherwise let racism=(mean of non-missing values in dcea1-dcea17) x **17**;
label Racism='Racism/discrimination Scale Score';

racism_cnt=Non-missing count of dcea1-dcea17;
label Racism_cnt='Racism scale non-missing items count,0-17, current standard: 13-17';

### 2.2.2 Exclusion subscale:

Set R_EXCL as missing if the number of missing of (dcea8 dcea11-dcea13) >**1**;
Otherwise r_excl=(mean of non-missing values in dcea8 dcea11-dcea13) x **4**;
label r_excl='Exclusion subscale Score';

r_excl_cnt=Non-missing count of dcea8 dcea11-dcea13;
label r_excl_cnt='Exclusion subscale non-missing items count,0-4';

### 2.2.3 Stigma subscale:

Set R_stigma as missing if the number of missing of (dcea5, dcea10 dcea15-dcea17) >**1**;
Otherwise r_stigma=(mean of non-missing values in deca5, dcea10 dcea15-dcea17)x**5**;
label r_stigma='Stigma subscale Score';

r_stigma_cnt=Non-missing count of deca5, dcea10 dcea15-dcea17;
label r_stigma_cnt='Stigma subscale non-missing items count,0-5';

**2.2.4 Discrimination subscale:**
Set R_DISCRIM as missing if the number of missing of (dcea1 dcea2 dcea9 dcea14) >**1**;
Otherwise r_discrim=(mean of non-missing values in dcea1 dcea2 dcea9 dcea14) x **4**;
label r_discrim='Discrimination Subscale Score';

r_discrim_cnt=Non-missing count of dcea1 dcea2 dcea9 dcea14;
label r_discrim_cnt='Discrimination Subscale non-missing items count,0-4';

**2.2.5 Threat subscale:**
Set R_THREAT as missing if the number of missing from (dcea3 dcea4 dcea6 dcea7)>**1**;
Otherwise r_threat=(mean of non-missing values in dcea3 dcea4 dcea6 dcea7) x **4**;
label r_threat='Threat Subscale Score';

r_threat_cnt=Non-missing count of dcea3 dcea4 dcea6 dcea7;
label r_threat_cnt='Threat Subscale non-missing items count,0-4';

Source variable(s):
DCEA1-DCEA17: questions on the particular ethnic discrimination.

**Neighborhood Stress, 14 items, DCEA18-DCEA32**

**2.2.6 Neighborhood social cohesion**

NCOHES1C = sum scores for the 5 items related to neighborhood social cohesion (nclose1, nhelp1, ndgalng1, ntrust1, nvalues1)

For (dcea20, dcea21, dcea23) assign scores 5 - 1 to the “strongly agree - strongly disagree” continuum (decreasing order, by using 6 minus the original values→ dcea20R, dcea21R, dcea23R);

For (dcea22, dcea24) assign scores 1 - 5 to the “strongly agree - strongly disagree” continuum (increasing order, keeping the original values)

Now all the resulting score increases with increasing cohesion.

If any items are missing, do not score (missing).
Otherwise Neighbor_Cohesion=sum scores of dcea20R, dcea21R, dcea22, dcea23R, dcea24;
label='Neighborhood Social Cohesion Score';

Source variable(s):
DCEA20-DCEA24: statements for particular neighborhood social cohesion.

### 2.2.7 Neighborhood problems

Assign scores 4,3,2,1 for “very serious problem” to “not really a problem”
→Reverse DCEA26-DCEA32 by using 5 minus each original values to create DCEA26R -DCEA32R.

If any items are missing, do not score (missing);
Otherwise Neighbor_Problem=sum scores of dcea26r dcea27r dcea28r dcea29r dcea30r dcea31r dcea32r;
label='Neighborhood Problem Score';

Source variable(s):
DCEA26-DCEA32: particular neighborhood problem.

## 2.3 From Emotions Questionnaire (EME):

### 2.3.1 CES-D Scale (Depression) -10 items, EMEA1-EMEA10

-items scored from 0-3 with 0 being “Rarely or none of the time” and 3 being “All of the time”
-**Reverse code:** items 5 and 8 (0=3, 1=2, 2=1, 3=0) by using 3 minus original values.
-sum all items for total depression score
-scores can range from 0-30
-higher scores →more symptomatology

CES_D=sum scores of items 1, 2, 3, 4, 5R, 6, 7, 8R, 9, 10;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label CES_D='CES-D (Depression) Scale';

Source variable(s):
EMEA1-EMEA10: Particular depression CES-D scale statements.

### 2.3.2 Spielberger Trait Anxiety Scale-10 items, EMEA11-EMEA20

-items scored 1-4 with 1 “almost never” to 4 “almost always”

-recode items 12, 17, 19 (1=4, 2=3, 3=2, 4=1) by using 5 minus original values;

-sum the all items to obtain total score

-higher scores → higher trait anxiety

STAS=sum scores of items 11, 12R, 13, 14, 15, 16, 17R, 18, 19R, 20;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label STAS='Spielberger Trait Anxiety Scale';

Source variable(s):
EMEA11-EMEA20: Particular Spielberger Trait Anxiety statements.

### 2.3.3 Spielberger Trait Anger Scale, EMEA21-EMEA30

**Assessment of Trait Anger (cited algorithm from ARIC)**

The Spielberger Trait Anger Scale was used to assess the frequency and degree to which each participant had anger (see Appendix). This scale was a component of the Health-Life Profile that participants completed at visit 2. The Spielberger scale consists of 10 items endorsed on a 4-point anchor, including almost never=1, sometimes=2, often=3, and almost always=4. The sum of the response category for each of the individual items comprised the overall trait anger score, which ranged from 10 to 40. High trait anger was defined by scores of 22 to 40, moderate anger by scores of 15 to 21, and low anger by scores of 10 to 14. The chosen cut-points were comparable with those used in previously published work with the Spielberger scale

-items scored 1-4 with 1 “almost never” to 4 “almost always”

-sum all 10 trait anger items to obtain total anger score (STANG)

-higher scores → higher trait anger

STANG= sum of items 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label STANG='Spielberger Trait Anger Scale; High trait anger:22-40, moderate:15-21, low anger:10-14';

Source variable(s):
EMEA21-EMEA30: Particular Spielberger Trait Anger statements.

**2.3.4 Angry Temperament Subscale,** EMEA21-EMEA23, EMEA26
Note from SCAS memo:
Calculating a total score all 10 items should be included. In accordance with the STAXI-2 scoring manual, when planning to include the 2 subscales in analyses, only use 8 items:
Angry Temperament (emea21, emea22, emea23, emea26)

Angry_Temperament = sum of items 21, 22, 23, 26
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
Label Angry_Temperament = “Angry_Temperament subscale from EME Form”;

**2.3.5 Angry Reaction Subscale,** EMEA24, EMEA25, EMEA28, EMEA30

Angry Reaction (emea24, emea25, emea28, emea30).

Angry_Reaction = sum of items 24, 25, 28, 30
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
Label Angry_Reaction = “Angry_Reaction subscale from EME Form”;

**2.3.6 Hostility – Cook Medley Cynicism Scale-13 items,** EMEA31-EMEA43

-True = 1, False = 2 on the EME questionnaire

-Recoding Procedure: True = 1 point, False = 0 points (2 minus original values)

-Total Scale Scoring: Can add the 13 recoded items for a total score, OR can account for missing values by finding the mean of the non-missing items and then multiplying by 13 (the number of items in the scale). Scores can range from 0-13.

-Higher score reflects higher cynical hostility.

Cyn_Host_tot=(mean of items 31-43) x **13**;
label Cyn_Host_tot='Hostility-Cook Medley Cynicism Scale total score';

Cyn_Host_tot_cnt=non-missing count of items 31-43;
label='Hostility-Cook Medley Cynicism Scale non-missing items count,0-13';

Source variable(s):
EMEA31-EMEA43: Particular Cook-Medley Cynicism statements.

**2.4 From Familism and Fatalism (FME):**

**Familism -14 items,** FMEA1-FMEA14

-items scores 1-5, from 1 “strongly agree” to 5 “strongly disagree”

**Reverse code all items** so agreement corresponds with higher values (1=5, 2=4, 3=3, 4=2, 5=1) by using 6 minus the original scores.

**Subscales:**
-Sum items within each subscale to obtain each subscale score
-higher scores → higher levels of Familism

**2.4.1 Familial Obligations**: Items 1-6
Fam_Ob=sum scores of reversed items 1-6;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fam_Ob='Familism - Familial Obligations Subscale';

Source variable(s):
FMEA1–FMEA6: particular familism statement: Familial obligations.

**2.4.2 Support from the Family**: Items 7-9
Fam_supt=sum scores of reversed items 7-9;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fam_supt='Familism - Family Support Subscale';

Source variable(s):
FMEA7–FMEA9: particular familism statement: Family support.

**2.4.3 Family as referents**: Items 10-14
Fam_Ref=sum scores of reversed items 10-14;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fam_Ref='Familism - Family as Referents Subscale';

Source variable(s):
FMEA10–FMEA14: particular familism statement: Family as referents.

**NO total score for Familism in the instruction.**

**2.4.4 Fatalism -8 items,** FMEA15-FMEA22

-items on questionnaire marked 1=true, 2=False

-**Scoring**: Score item with 1 point if answered true (1). Score item with 0 points if answered false (2). (1=1, 2=0)

-**reverse code** item 21 (1=0, 2=1) → 21R

-Score range = 0-8

Fatalism=sum scores of items 15, 16, 17, 18, 19, 20, 21R, 22;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fatalism='Fatalism Scale';

Source variable(s):
FMEA15–FMEA22: particular fatalism statement.

### 2.5 From Gender Role Questionnaire (GNE):

**Male Gender Roles (Machismo)-10 items,** GNEA1-GNEA10

-10 item subscale from the Man for Health survey
-items scored 1-4 with 1 being “strongly disagree” and 4 being “strongly agree”
-To obtain total score, add all items in scale
-Reverse code item 6
3 items from MACC (items 1-3)
3 items from Neff “Male Honor”
3 items from Neff “Machismo”
1 item about job (item 10)

According to the SCAS memo, only the following subscales (Traditional Machismo and Caballerismo) are recommended to be used in analysis:

#### 2.5.1 Male Gender Roles subscales: Traditional Machismo (GNEA1 GNEA3 GNEA4 GNEA5 GNEA10)

Trad_machismo=sum scores of items 1, 3, 4, 5, 10;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Trad_machismo ='Traditional Machismo subscale from GNE Form';

#### 2.5.2 Male Gender Roles subscales: Caballerismo (GNEA7 GNEA8 GNEA9)

Caballerismo=sum scores of items 7, 8, 9;

Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Caballerismo =' Caballerismo subscale from GNE Form';

Source variable(s):
GNEA1-GNEA10: Particular male gender roles statements (now excluding GNEA2 and GNEA6 per SCAS memo).

**Female Gender Roles -24 items,** GNEA11-GNEA34

-Items scored 1-4, with 1 being “strongly disagree” and 4 being “strongly agree”
-Items can be added without recoding to obtain a score
-5 Subscales can be obtained by adding the items for each subscale

### 2.5.3 Family Pillar: 11-15

Frole_Fmly_Pillar=sum scores of items 11 -15;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
Label='Female Gender Role - Family Pillar';

Source variable(s):
GNEA11-GNEA15: Particular female gender roles statements -family pillar.

### 2.5.4 Virtuous and Chaste: 16-20

Frole_Virt_Chaste= sum scores of items 16-20;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Female Gender Role - Virtuous and Chaste';

Source variable(s):
GNEA16-GNEA20: Particular female gender roles statements -virtuous & chaste.

### 2.5.5 Subordinate to Others: 21-25

Frole_Subordin= sum scores of items 21 -25;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Female Gender Role - Subordinate to Others';

Source variable(s):
GNEA21-GNEA25: Particular female gender roles statements -subordinate to others.

### 2.5.6 Silencing Self to Maintain Harmony: 26-31

Frole_Silen_Harmony= sum scores of items 26 -31;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Female Gender Role - Silencing Self to Maintain Harmony';

Source variable(s):
GNEA26-GNEA31: Particular female gender roles statements –silencing self to maintain harmony.

### 2.5.7 Spiritual Pillar: 32-34

Frole_Spir_Pillar= sum scores of items 32 -34;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Female Gender Role - Spiritual Pillar';

Source variable(s):
GNEA32-GNEA34: Particular female gender roles statements -spiritual pillar.

## 2.6 From Immigration and Ethnicity Questionnaire (IME):

Per SCAS memo recommendation: Use of measure (scoring recommendations) on hold until psychometric analyses are completed.

**Scale of Ethnic Experience (SEE) -32 items,** IMEA6-IMEA37

-No total score for this measure – use subscales

-Higher subscale scores reflect greater endorsement of the construct being assessed

-items scored 1-5, with 1 being “strongly agree” and 5 being “strongly disagree”

-To get a score for each subscale, find the sum of the appropriate items, **being sure to reverse code the items with an R**. Then divide the total by the number of items in that scale to find the mean subscale score.

-reverse coding: (1=5, 2=4, 3=3, 4=2, 5=1) by using 6 minus the original raw scores

-reverse items
10, 11, 14, 15, 18, 19, 20, 21, 22, 23,
24, 25, 27, 28, 29, 30, 31, 33, 34, 35
→
10R, 11R, 14R, 15R, 18R, 19R, 20R, 21R, 22R, 23R
24R, 25R, 27R, 28R, 29R, 30R, 31R, 33R, 34R, 35R

**2.6.1 Ethnic Identity Subscales:** Items 6, 9, 12, 13, 17, **19R, 21R, 25R, 28R, 30R**, 32, **35R**

*Ethnic Identity;
SEE_EI=mean scores of Items 6, 9, 12, 13, 17, **19R, 21R, 25R, 28R, 30R**, 32, **35R**;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label ='Scale of Ethnic Experience (SEE)- Ethnic Identity subscale';

Source variable(s):
IMEA6, IMEA9, IMEA12, IMEA13, IMEA17, IMEA19,
IMEA21, IMEA25, IMEA28, IMEA30, IMEA32, IMEA35.

**2.6.2 Social affiliation/intimacy Subscales:** Items **10R, 15R, 20R, 23R, 27R**,

SEE_SAI=mean scores of Items **10R, 15R, 20R, 23R, 27R**;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label SEE_SAI='Scale of Ethnic Experience (SEE)- Social Affiliation/Intimacy subscale';

Source variable(s):
IMEA10, IMEA15, IMEA20, IMEA23, IMEA27
.

**2.6.3 Mainstream Comfort Subscales:** Items **11R, 14R**, 16, **22R, 33R**, 37

SEE_MC=mean scores of Items **11R, 14R**, 16, **22R, 33R**, 37;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Scale of Ethnic Experience (SEE)- Mainstream Comfort subscale';

Source variable(s):
IMEA11, IMEA14, IMEA16,
IMEA22, IMEA33, IMEA37
.

**2.6.4 Perceived Discrimination Subscales:** Items 7, 8, **18R, 24R**, 26, **29R, 31R, 34R**, 36

SEE_PD=mean scores of Items 7, 8, **18R, 24R**, 26, **29R, 31R, 34R**, 36;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label ='Scale of Ethnic Experience (SEE)- Perceived Discrimination subscale';

Source variable(s):
IMEA7, IMEA8, IMEA18,
IMEA24, IMEA26, IMEA29,
IMEA31, IMEA34, IMEA36.

## 2.7 From Intrapersonal Resources (IPE):

### 2.7.1 Self-esteem scale -10 items, IPEA1-IPEA10

-Items are scored 1-4 on the IPE, with 1 being “strongly agree” and 4 being “strongly disagree”
-reverse code (1=4, 2=3, 3=2, 4=1) the following items: 1, 2, 4, 6, 7 → 1R, 2R, 4R, 6R, 7R by using 5 minus original values;
-add up values from all items after reverse coding to receive a total score
-higher scores signify higher self-esteem

Self_Estm_Scale= sum scores of items 1R, 2R, 4R, 6R, 7R, and items 3, 5, 8, 9, 10;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label = 'Self Esteem Scale Score from IPE Form';

Source variable(s):
IPEA1-IPEA10: Particular self-esteem statements.

### 2.7.2 Optimism (LOT-R) -9 items, IPEA11-IPEA19

-Items 12, 15, and 17 are fillers and are not scored
-Items are scored on the IPE with values 1-5 with 1 being “I disagree a lot” and 5 being “I agree a lot”
-Recoding Procedure: Items should be scored from 0-4 with 0 being “I disagree a lot” and 4 being “I agree a lot” (1=0, 2=1, 3=2, 4=3, 5=4) by using original values minus 1;
-Reverse code (0=4, 1=3, 2=2, 3=1, 4=0) the following items: 13, 16, 18 → 13R, 16R, 18R by using 4 minus original values;
-after reverse coding, add values for items 11, 13R, 14, 16R, 18R, 19 to receive a total score.
-higher scores signify higher levels of optimism

Optim_LOT_R = sum scores of items 11, 13R, 14, 16R, 18R, 19;
label Optim_LOT_R = 'Optimism (LOT_R) Score from IPE Form';

Source variable(s):
IPEA11-IPEA19: Particular optimism statements.

**2.7.3 Optimism Subscale,** IPEA11, IPEA14, IPEA19
Optimism = sum scores of items 11, 14, 19;
Label Optimism = 'Optimism Subscale from IPE Form';

**2.7.4 Pessimism Subscale,** based on IPEA13, IPEA16, IPEA18
Pessimism = sum scores of items 13R, 16R, 18R;
Label Pessimism = 'Optimism Subscale from IPE Form';

**2.7.5 Life Engagement Test (LET) -6 items,** IPEA20-IPEA25

-Items are scored 1-5 with 1 being “strongly disagree” and 5 being “strongly agree”
-reverse code (1=5, 2=4, 3=3, 4=2, 5=1) items 20, 22, 24 → 20R, 22R, 24R by using 6 minus original values;
-after reverse coding, add all 6 items to obtain a total score
-higher values signify greater levels of life engagement

Life_Engage = sum scores of items 20R, 21, 22R, 23, 24R, 25;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Life_Engage = 'Life Engagement Test (LET) from IPE Form';

Source variable(s):
IPEA20-IPEA25: Particular life engagement statements.

**2.8 From Personal Relations Form (PRE):**

**2.8.1 Simpatia – 10 items** (PREA1-PREA10)

-Item scoring – 0-4 with 0 being Not Important and 4 being extremely important

-Total Scale Score – Add the points (0-4) from each item to receive a total score. Scores can range from 0-40.

-Higher scores reflect greater levels of simpatia.

Simpatia_tot=sum of prea1 - prea10;

label Simpatia_tot='Simpatia Total Score';

Source variable(s):
PREA1-PREA10: Particular simpatia statements (1=True, 2=False)

### 2.8.2 Social Desirability (Marlow Crowne Social Desirability Scale) – 10 items (PREA11-PREA20)

-True = 1, False = 2

-Recoding procedure:
-For items 11, 13, 14, 16, 19: True = 1 point, False = 0 points (2 minus original scores)
-For items 12, 15, 17, 18, 20: False = 1 point, True = 0 points (original scores minus 1)

-Total Score – add up the points from all 10 items. Scores can range from 0-10.

-A higher score reflects higher levels of social desirability

Soc_Dis_tot=sum of item11 - item20;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Soc_Dis_tot='Marlow Crowne Social Desirability Scale';

Source variable(s):
PREA11-PREA20: Particular social desirability statements (1=True, 2=False)

## 2.9 From Religion Questionnaire (RLE):

**Spiritual Well-being -23 items,** RLEA1-RLEA23

From the Functional Assessment in Chronic Illness Therapy—Spiritual Well-Being Scale (FACIT-sp)
-items scored 0-4 with 0 being “not at all” and 4 being “very much”
-**reverse code items 4 and 8** (0=4, 1=3, 2=2, 3=1, 4=0) → 4R, 8R by using 4 minus the original values

SCAS memo recommendation: Use total score (23 items) or 2 subscales (8 items and 4 items)

**Subscales:**

### 2.9.1 Meaning/peace subscale score:

- items 1-8
-sum item scores, multiply by 8, and divide by number of items answered
-score range is 0=32

M_Peace=(mean scores of items 1, 2, 3, 4R, 5, 6, 7, 8R) x **8**;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label M_Peace='FACIT-SP Meaning/peace subscale';

Source variable(s):
RLEA1-RLEA8: Particular spiritual well-being statements: Meaning/peace subscale.

### 2.9.2 Faith Subscale score:

-items 9-12
-sum item scores, multiply by 4, divide by number of items answered

Faith=(mean scores of items 9-12) x **4**;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Faith='FACIT-SP Faith subscale';

Source variable(s):
RLEA9-RLEA12: Particular spiritual well-being statements: Faith subscale.

### 2.9.3 Total FACIT-SP score:

-Sum the subscale scores

FACIT_SP_tot=sum scores of M_Peace, Faith, and items 13-23;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label FACIT_SP_tot='FACIT-SP Scale total score, partially item-based';

Source variable(s):
RLEA1-RLEA23: Particular spiritual well-being statements: all subscales.

**Spirituality (from the Duke University Religion Index- DUREL),** RLEA24-RLEA28

SCAS memo recommendation: Use total score for intrinsic religiosity subscale. Commonly, the attendance and private activity items are examined as separate 1 item subscales, but these analyses suggest they can also be used to calculate one 2-item subscale.

### 2.9.4 Spirituality frequency of religious attendance subscale

Reverse score item 24 (1=6, 2=5, 3=4, 4=3, 5=2, 6=1) to obtain **frequency of religious attendance** subscale score

Freq_REL_Attend = **7** - RLEA24;
label = 'Spirituality (DUREL) - Frequency of Religious Attendance Subscale';
count,0 or 1';

Source variable(s):
RLEA24: How often do you attend church or other religious meeting?

### 2.9.5 Spirituality private religious activity subscale

Reverse score item 25 (1=6, 2=5, 3=4, 4=3, 5=2, 6=1) to obtain frequency of **private religious activity** subscale score

Priv_REL_Act = **7** - RLEA25;
label = 'Spirituality (DUREL) - Private Religious Activity Subscale';

Source variable(s):
RLEA25: How often do you spend time in private religious activities?

### 2.9.6 Spirituality intrinsic religiosity subscale

Reverse score items 26, 27, 28 (1=5, 2=4, 3=3, 4=2, 5=1 by using 6 minus the original scores) → 26R, 27R, 28R, and total to obtain **intrinsic religiosity** subscale score

Intr_rel = sum scores of items 26R, 27R, 28R;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label = 'Spirituality (DUREL) - Intrinsic Religiosity Subscale';

Source variable(s):
RLEA26-RLEA28: particular intrinsic religiosity subscale statements.

### 2.9.7 Overall Religiosity Score

For overall religiosity, sum up reversed scores for items 24-28 (**NOT RECOMMENDED**)

Rel_Overall = sum scores of items 24, 25, 26R, 27R, 28R

Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label = 'Spirituality (DUREL) - Overall Religiosity Score, NOT RECOMMENDED';

Source variable(s):
RLEA224-RLEA28: particular religiosity questions or statements.

**Points**:

Be sure to reverse score items before analysis

- Examine each dimension (subscale) in a separate regression model when examining health outcomes
- Don't recommend including all subscales in a single model due to strong multiple collinearity between subscales
- Don't recommend using the total score, since subscale scores may cancel out the effects of each other.

## 2.10 From Interpersonal Resources (SOE):

**Interpersonal Support Evaluation List (ISEL)** based on Social Support 12 items (SOEA1- SOEA12)

Scoring process:

**Step 1: convert** the 12 item values from 1, 2, 3, 4 to 0, 1, 2, 3 by minus one;

**Step 2: reverse Items** 1, 2, 7, 8, 11, 12 to 1R, 2R, 7R, 8R, 11R, 12R by using 3 minus the values of Items 1, 2, 7, 8, 11, 12;

**Step 3: Subscale scoring:**

### 2.10.1 Overall Support: Sum of 3 Subscales

ISEL_all=sum of items (2R, 4, 6, 11R) , (1R, 5, 7R, 9) and (3, 8R, 10, 12R)
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label ISEL_all='Interpersonal Support Evaluation List (ISEL)-overall';

Primary Reference:

Cohen, S., Memelstein, R., Kamarck, T., & Hoberman, H. (1985). Measuring the functional components of social support. In I.G. Sarason & B. Sarason (Eds.), Social support: Theory, research and application (pp.73-94). The Hague: Martinus Nijhoff.
Type of Measure: Modified. Original scale consists of 40 items (ten items in each of the four sub-cales measuring separate aspects of social support). The modified version includes only three sub-scales (the self-esteem sub-scale was excluded because it

overlaps with the self-esteem measure) and only four highest-loading items for each sub-scale.
Purpose: To assess perceived availability of four types of social support (appraisal, belonging, self-esteem, and tangible). Availability of social support has been linked to reduced mortality (Rosenberg, Orth-Gomer, Wedel, & Wilhemsen, 1993) and improved psychological state (Cohen & Wills, 1985).
Description: Respondents indicate the extent to which sentences describing availability of different types of social support in their lives are true or false. No time frame or referent period is used.

Scaling: 0 = Definitely False; 1 = Probably False; 2 = Probably True; 3 = Definitely True
# items: 12
Sample items: “If I were sick, I could easily find someone to help me with me daily chores.” (tangible) “I don’t often get invited to do things with others.” (reversed; belonging) “When I need suggestions on how to deal with a personal problem, I know someone I can turn to.” (appraisal)

Psychometrics:

Reliability: undergraduate students, alpha = .77 - .86 general population, alpha = .88 - .90
Validity: Correlates positively with other support scales (Inventory of Socially Supportive Behaviors), with number of close friends, and with the measure of the quality of marital relationships (Partner Adjustment Scale). The sub-scales are also associated in the predicted direction with related trait measures: self-esteem subscales correlates with self-esteem measure whereas appraisal subscale correlates with self-disclosure measure.

Source variable(s):
SOEA1 – SOEA12: the degree of response to the particular social support statements (from 1 - 4).

Note: the following 3 subscales are not recommended to be used in analysis and had been removed from the part_derv data. Please only use the total score:

**Scoring the Social Network Index (25 items)** based on SOEA13 – SOEA37

**MEASURES:**

### 2.10.2 Number of high-contact roles (network diversity)

Definition: This is the number of social roles in which the respondent has regular contact (i.e., at least once every 2 weeks) with at least one person. The maximum number of high-contact roles is 12. They are: spouse, parent, child, child-in-law, close relative, close friend, church/temple member, student, employee, neighbor, volunteer, and group member. [It would also be possible to count each group a person belongs to (question 34) as a separate social role, however we have not done this in our previous work.]

Computation: For each of the 12 possible high-contact roles, assign a 0 if the respondent does not have the role and a 1 if he/she does. The total number of high-contact roles is computed by summing the 0s and 1s.

The table below shows which scale items are used in the computation and how each is scored.

Table 1 Network Diversity Roles

| Role (var) | Item # | Role Scores=1 if non-missing response is | Role Score 0 if non-missing response is |
|---|---|---|---|
| Spouse (role_spouse) | SOEA13 | 1 | Other than 1 |
| Child (role_child) | SOEA 15 | not 0 | 0 |
| Parent (role_parent) | SOEA 17 | not 0 | 0 |
| Parent-in-law (role_inlaw) | SOEA 19 | not 0 | 0 |
| Other relative (role_relat) | SOEA 21 | not 0 | 0 |
| Close friend (role_friend) | SOEA 23 | not 0 | 0 |
| Church/temple (role_chrch) | SOEA 25 | not 0 | 0 |
| Student (role_class) | SOEA 27 | not 0 | 0 |
| Employee (role_work) | SOEA 29&SOEA 30 | not 0 for both items | 0 for either items |
| Neighbor (role_neighbor) | SOEA 31 | not 0 | 0 |
| Volunteer (role_volunteer) | SOEA 33 | not 0 | 0 |
| group member (role_group) | SOEA 34 | not 0 | 0 |

SNI_role=sum of role_spouse role_child role_parent role_inlaw role_relat role_friend role_chrch role_class role_work role_neighbor role_volunteer role_group;
label SNI_role='Social Network Index (SNI)- High contact Role Number (Network diversity)';

### 2.10.3 Number of people in social network

Definition: This is the total number of people with whom the respondent has regular contact (i.e., at leastonce every 2 weeks).

Computation: For each of the 12 possible roles, determine the number of people with whom the respondent has regular contact. The total number of people in the social network is computed by summing across the 12 roles.
The table below shows which scale items are used in the computation and how each is scored.

Table 2 Number of people in Social Network

| Role (var) | Item # | # People Scoring |
|---|---|---|
| Spouse (pl_spouse) | SOEA13 | scores 1 if respondent is married, otherwise scores 0 |
| Child (pl_child) | SOEA 15 | use the number indicated |
| Parent (pl_parent) | SOEA 17 | 1,2=1; 3=2 |
| Parent-in-law (pl_inlaw) | SOEA 19 | 1,2=1; 3=2 |
| Other relative (pl_relat) | SOEA 21 | use the number indicated |
| Close friend (pl_friend) | SOEA 23 | use the number indicated |
| Church/temple (pl_chrch) | SOEA 25 | use the number indicated |
| Student (pl_class) | SOEA 27 | use the number indicated |
| Employee (pl_work) | SOEA 29&SOEA 30 | sum of 29 & 30 |
| Neighbor (pl_neighbor) | SOEA 31 | use the number indicated |
| Volunteer (pl_volunteer) | SOEA 33 | use the number indicated |
| group member (pl_group) | SOEA 35a, 36a & 37a | sum of number of group members talked to at least once every 2 wks (35a, 36a & 37a) |

SNI_people=sum of pl_spouse pl_child pl_parent pl_inlaw pl_relat pl_friend pl_chrch pl_class pl_work pl_neighbor pl_volunteer pl_group;
label SNI_people='Social Network Index (SNI)- Number of People in Social Network';

### 2.10.4 Number of embedded networks

Definition: This measure is meant to reflect the number of different network domains in which a respondent is active. The maximum possible is 8. They are: family, friends, church/temple, school, work, neighbors, volunteering, and groups. To receive a point for a domain, a respondent must have at least 4 high-contact people within that domain. The 5 family roles are collapsed into one network for this measure. To receive a point for family, they are required to have at least 3 high-contact family roles as well as 4 high-contact people.

Computation: If the subject meets the criteria for an embedded network, assign a score of 1 for that network, otherwise assign a 0. The total number of embedded networks is computed by summing the 0s and 1s.
The table below shows the criteria used for each embedded network.

Embedded Network Scores 1 if S has at least 4 high-contact…
family members and at least 3 high-contact family roles

Table 3 Number of Embedded Networks

| Role (var) | Item # | # embedded network Scoring |
|---|---|---|
| family (embd_family) | SOEA13,15,17,19, 21 | Scores 1 if sum of pl_spouse, pl_child, pl_parent, pl_inlaw and pl_relat has at least 3 high-contacts, otherwise scores as 0 if non-missing |
| Close friend (embd_friend) | SOEA 23 | Scores 1 if pl_friend has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| Church/temple (embd_chrch) | SOEA 25 | Scores 1 if pl_chrch has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| Student (embd_class) | SOEA 27 | Scores 1 if pl_class has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| Employee (embd_work) | SOEA 29&SOEA 30 | Scores 1 if pl_work has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| Neighbor (embd_neighbor) | SOEA 31 | Scores 1 if pl_neighbor has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| Volunteer (embd_volunteer) | SOEA 33 | Scores 1 if pl_volunteer has at least 4 high-contacts, otherwise scores as 0 if non-missing |
| group member (embd_group) | SOEA 35a, 36a & 37a | Scores 1 if pl_group has at least 4 high-contacts, otherwise scores as 0 if non-missing |

Although we have found this useful in a number of exploratory analyses, we have not published any data using number of embedded networks.

Reference: Cohen S, Doyle WJ, Skoner DP, Rabin BS, Gwaltney JM (1997). Social ties and susceptibility to the common cold. JAMA, 277, 1940-4.

SNI_embd=sum of embd_family embd_friend embd_chrch embd_class embd_work embd_neighbor embd_volunteer embd_group;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label SNI_embd='Social Network Index (SNI)- Number of Embedded Network';

**Family Cohesion and Family Conflict scales (18 items)** based on SOEA38-SOEA55

Each true/false item is recoded from values True=1 and False=2 to values of either “0” or “1” based on the Scoring Key on page 130 of the Family Environment Score (FES)

manual. Raw scores for each subscale are then computed by summing the values and then recoded into scaled scores from the conversion table on page 107 of the FES manual.

Step 1: record SOEA38 - SOEA55 by using 2 minus the values of each item (1→1, 2→0).
Step 2: Reverse SOEA40 SOEA41 SOEA45 SOEA46 SOEA50 SOEA51 SOEA55 to SOEA40r SOEA41r SOEA45r SOEA46r SOEA50r SOEA51r SOEA55r, by using the recorded value minus 1.
Step 3: raw score and scaled score:

### 2.10.5 Cohesion Subscale Raw Score:

Fmly_Cohesion_raw=sum of SOEA38 SOEA40r SOEA42 SOEA44 SOEA48 SOEA50r SOEA52 SOEA54;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fmly_Cohesion_raw='Family Cohesion Subscale Scaled Raw Score';

Cohesion Subscale Scaled Score;
if Fmly_Cohesion_raw=**0** then Fmly_Cohesion_scale= **4**;
if Fmly_Cohesion_raw=**1** then Fmly_Cohesion_scale=**11**;
if Fmly_Cohesion_raw=**2** then Fmly_Cohesion_scale=**18**;
if Fmly_Cohesion_raw=**3** then Fmly_Cohesion_scale=**25**;
if Fmly_Cohesion_raw=**4** then Fmly_Cohesion_scale=**31**;
if Fmly_Cohesion_raw=**5** then Fmly_Cohesion_scale=**38**;
if Fmly_Cohesion_raw=**6** then Fmly_Cohesion_scale=**45**;
if Fmly_Cohesion_raw=**7** then Fmly_Cohesion_scale=**52**;
if Fmly_Cohesion_raw=**8** then Fmly_Cohesion_scale=**59**;
if Fmly_Cohesion_raw=**9** then Fmly_Cohesion_scale=**65**;

label Fmly_Cohesion_scale='Family Cohesion Subscale Scaled Score';

### 2.10.6 Conflict Subscale Raw Score:

Fmly_Conflict_raw=sum of SOEA39 SOEA43 SOEA45r SOEA47 SOEA49 SOEA51r SOEA53 SOEA55r;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label Fmly_Conflict_raw='Family Conflict Subscale Scaled Raw Score';

Conflict Subscale Scaled Score;
if Fmly_Conflict_raw=**0** then Fmly_Conflict_scale=**33**;
if Fmly_Conflict_raw=**1** then Fmly_Conflict_scale=**39**;
if Fmly_Conflict_raw=**2** then Fmly_Conflict_scale=**44**;
if Fmly_Conflict_raw=**3** then Fmly_Conflict_scale=**49**;

if Fmly_Conflict_raw=**4** then Fmly_Conflict_scale=**54**;
if Fmly_Conflict_raw=**5** then Fmly_Conflict_scale=**60**;
if Fmly_Conflict_raw=**6** then Fmly_Conflict_scale=**65**;
if Fmly_Conflict_raw=**7** then Fmly_Conflict_scale=**70**;
if Fmly_Conflict_raw=**8** then Fmly_Conflict_scale=**75**;
if Fmly_Conflict_raw=**9** then Fmly_Conflict_scale=**80**;

label Fmly_Conflict_scale='Family Conflict Subscale Scaled Score';

### 2.11 From Life, Chronic and Perceived Stress (STE):

**Life Stress: Traumatic Stress Schedule (TSS),** STEA1-STEA10:

Reference: Norris, F. H. (1990). Screening for traumatic stress: A scale of use in the general population. *Journal of Applied Social Psychology, 20,* 1704-1718.
Items: 1-10 on STE
Description: Each question consists of 4 parts (did event occur, frequency of event occurrence, time since event occurred, last time event occurred).
# Items: 10

#### 2.11.1 Event Prevalence of trauma exposure frequency:

Examine frequency of yes for each event (STEA1-STEA10);
The prevalence scores range from 0 (No or Don't know/refused) to 1 (Yes).

Convert the source variables (STEA1-STEA10: 1=Yes, 2=No, 9=Don't know/refused) to the derived variables (STRA_1 – STEA_10, 1=Yes, 0=Other)

Pre_TSS=mean of (stea_1 - stea_10);
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Event Prevalence of trauma exposure frequency,0(N/dont Know)-1(Y)';

#### 2.11.2 Lifetime burden/exposure to stress Count:

Sum each event (STEA1-STEA10) that participants report occurred (Yes);
Scores range from 0-10.

Convert the source variables (STEA1-STEA10: 1=Yes, 2=No, 9=Don't know/refused) to the derived variables (STRA_1 – STEA_10, 1=Yes, 2=Other)
LBES_cnt=sum of event number with "Yes" response (stea_1 - stea_10);
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.

label='Life Stress: Lifetime burden/exposure to stress Count';

**2.11.3 Past year Occurrence of stressors Items B sum score**
For the following items (STEA1b, STEA2b, STEA3b, STEA4b, STEA5b, STEA6b, STEA7b, STEA8b, STEA9b, STEA10b) responses 1 (less than 6 months ago) or 2 (6-12 months ago) should be assigned a 1 (assign other non-missing values as 0) and summed.
Scores range from 0-10.

B_sum=sum item count of (STEA1b, STEA2b, STEA3b, STEA4b, STEA5b, STEA6b, STEA7b, STEA8b, STEA9b, STEA10b) with response of 1 or 2;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Past year Occurrence of stressors: items B score';

**2.11.4 Past year Occurrence of stressors Items C sum score**
For the following items (STEA1c, STEA2c, STEA 3c, STEA4c, STEA5c, STEA6c, STEA7c, STEA8c, STEA9c, STEA10c) responses 1 (less than 6 months ago) or 2 (6-12 months ago) should be assigned a 1 (assign other non-missing values as 0) then summed.
Scores range from 0-10.

C_sum=sum item count of (STEA1c, STEA2c, STEA 3c, STEA4c, STEA5c, STEA6c, STEA7c, STEA8c, STEA9c, STEA10c) with response of 1 or 2;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Past year Occurrence of stressors: items C score';

**2.11.5 Aggregate burden of past year traumatic stress exposure**
Items B sum score and Items C sum score should be summed.
Scores range from 0-20.

BC_sum = sum scores of B_sum and C_sum;
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Aggregate burden of past year traumatic stress exposure, B&C sum score';

**2.11.6 Childhood Stress Exposure (ACE Scale) total score,** STEA11-STEA20;

-For Items 11-20 on the STE
-No = 0, Yes = 1

-Total Score – add up the points from each item (No=0, yes=1). Scores can range from 0-10.
-Higher scores reflect greater Stress Exposure

ACE_tot=sum scores of (stea11 - stea20);
label ACE_tot='Childhood Stress Exposure Total Score (ACE)';

### **2.11.7 Chronic Stress** (STEA21-STEA28)

According to Patty Gonzalez's email on 11/08/2011, add the Chronic Stress scores for STEA data item 21-28:

Reference: Bromberger, J. T., & Matthews, K. A. (1996). A longitudinal study of the effects of pessimism, trait anxiety, and life stress on depressive symptoms in middle-aged women. Psychol Aging, 11, 207-213.

Items: 21-28 on STE

Description: Each question consists of 3 parts (did participants experience the stressor (0=No, 1=Yes); has the stressor been a problem for six months or more (0=No, 1=Yes); and severity of stressor (1=Not very stressful, 2=Moderately stressful, 3=Very stressful)

# Items: 8

**Scoring:**

Total number of Chronic stressors: Sum each event that participants answered affirmatively (Yes=1): Item 21, Item 22, Item 23, Item 24, Item 25, Item 26, Item 27, Item 28. Scores range from 0 to 8.

Per Linda Gallo's email on June 13, 2012:

Add together the number of chronic stressors, meaning stressors endorsed as having occurred, and indicated to have lasted at least 6 months based on part a of the item. So to score one point, the person would both have to state that 1) yes the stressor occurred and 2) yes it lasted at least 6 months. (Regardless of severity-Patricia Gonzalez, 06/29/2012) Add up these points and that is the total number of "chronic" (stressors lasting at least 6 months) stressors.

Recoded items of STEA21 – STEA28 for CHR_STR_TOT:
**n_cs_21 - n_cs_28**

CHR_STR_TOT= Sum of (recode items of STEA21 – STEA28) ),
The score was calculated only if there is no missing item.

Label = Total number of Chronic Stressors.

Moderate to very chronic stress score: Recode (Item 21b, 22b, 23b, 24b, 25b, 26b, 27b, 28c) into 1=0, 2=1, 3=1.

Per Linda Gallo's email on June 13, 2012:

Add together the number of "chronic" stressors rated as moderately or very stressful. To score one point, the person would have to state that 1) yes the stressor occurred and 2) yes it lasted at least 6 months and 3) it was moderately or very stressful. Then add the number of these points and that is the total number of "moderately or very stressful chronic stressors".

Recoded items of STEA21 – STEA28 for M_V_TOT:

**m_v_21 - m_v_28**

M_V_TOT= Sum Recoded Items (STEA21b, 22b, 23b, 24b, 25b, 26b, 27b, 28c),
The score was calculated only if there is no missing item.
Label=Total Moderate to Very Chronic Stress Score.

**2.11.8 Perceived Stress Scale (PSS)** STEA29-STEA38;

First Reverse the scale values for (STEA32, STEA33, STEA35, and STEA36) →(STEA32R, STEA33R, STEA35R, and STEA36R) by using 4 minus each original value (0-4 →4-0);

**Total Perceived Stress Score:**
PSS_tot=Sum scores of (stea29, stea30, stea31, stea32r, stea33r, stea34, stea35r, stea36r, stea37, stea38);
Missing level control at CSCC: the score was calculated only when missing < 20% of total items.
label='Total Perceived Stress Score (PSS)';

Primary Reference:

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 385-396.
Purpose: To assess the degree to which people perceive their lives as stressful. High levels of stress are associated with poor self-reported health, elevated blood pressure, depression, and susceptibility to infection.
Description: Subjects indicate how often they have found their lives unpredictable, uncontrollable, and overloaded in the last month.

Scaling: 1 = Never; 2 = Almost Never; 3 = Sometimes; 4 = Fairly often; 5 = Very often

# Items: 10

Sample Items: “In the last month, how often have you been upset because of something the happened unexpectedly?” “In the last month, how often have you felt nervous and “stressed”?”

Psychometrics:

Reliability: alpha = .78

Validity: Correlates in a predicted way with other measure of stress (Job Responsibilities Scale, life events scales).

Scoring:

Reversed Items: 4, 5, 7, 8

Total Perceived Stress: Sum Items: 1, 2, 3, 4R, 5R, 6. 7R, 8R, 9, 10

Variable Names:

pss_tot: Total Perceived Stress Score

NOTE: STEA29-STEA38 = Q1-Q10 in above algorithm

## Table 4. The HCHS/SOL Sociocultural AS Psychometric Scoring Summary for all of the 5313 Participants:

| Source FORM | Score Variable name | Score Var Label | Lead person | Last email updated time | Non-missing score # | % missing |
|---|---|---|---|---|---|---|
| **SOE** | **ISEL_ALL** | Interpersonal Support Evaluation List (ISEL)-overall | Sheldon Cohen, Linda Gallo, Erin Merz/San Diego | 6/13/2014 | 5277 | 0.68 |
| | **SNI_ROLE** | Social Network Index (SNI)- High contact Role Number (Network diversity) | Sheldon Cohen, Linda Gallo | 4/7/2011 | 5288 | 0.47 |
| | **SNI_PEOPLE** | Social Network Index (SNI)- Number of People in Social Network | Sheldon Cohen, Linda Gallo | 4/7/2011 | 5288 | 0.47 |
| | **SNI_EMBD** | Social Network Index (SNI)- Number of Embedded Network | Sheldon Cohen, Linda Gallo | 4/7/2011 | 5288 | 0.47 |
| | **FMLY_COHESION_RAW** | Family Cohesion Subscale Scaled Raw Score | Madeline Krause, Carrie Brintz | 4/14/2011 | 5260 | 1.00 |
| | **FMLY_COHESION_SCALE** | Family Cohesion Subscale Scaled Score | Madeline Krause, Carrie Brintz | 4/14/2011 | 5260 | 1.00 |
| | **FMLY_CONFLICT_RAW** | Family Conflict Subscale Scaled Raw Score | Madeline Krause, Carrie Brintz | 4/14/2011 | 5265 | 0.90 |
| | **FMLY_CONFLICT_SCALE** | Family Conflict Subscale Scaled Score | Madeline Krause, Carrie Brintz | 4/14/2011 | 5265 | 0.90 |
| **DCE** | **RACISM** | Racism/discrimination Scale Score | Scott Roesch/San Diego | 6/13/2014 | 5295 | 0.34 |
| | **R_EXCL** | Exclusion subscale/Stigma subscale Score | Scott Roesch/San Diego | 6/13/2014 | 5290 | 0.43 |
| | **R_STIGMA** | Stigma subscale Score | Scott Roesch/San Diego | 6/13/2014 | 5294 | 0.36 |
| | **R_DISCRIM** | Discrimination Subscale Score | Scott Roesch/San Diego | 6/13/2014 | 5294 | 0.36 |
| | **R_THREAT** | Threat Subscale Score | Scott Roesch/San Diego | 6/13/2014 | 5296 | 0.32 |
| | **NEIGHBOR_COHESION** | Neighborhood Social Cohesion Score | Ana-Diez-Roux based on MESA, Linda Gallo | 4/7/2011 | 5238 | 1.41 |
| | **NEIGHBOR_PROBLEM** | Neighborhood Problem Score | Ana-Diez-Roux based on MESA, Linda Gallo | 4/7/2011 | 5258 | 1.04 |
| **STE** | **PRE_TSS** | Event Prevalence of trauma exposure frequency,0(N/dont Know)-1(Y) | Linda Gallo, Patricia Gonzalez, Wendy Davila-Fraga | 5/10/2011 | 5264 | 0.92 |
| | **LBES_CNT** | Life Stress: Lifetime burden/exposure to stress Count | Linda Gallo, Patricia Gonzalez, Wendy Davila-Fraga | 5/10/2011 | 5264 | 0.92 |
| | **B_SUM** | Past year Occurrence of stressors: items B score | Linda Gallo, Patricia Gonzalez, Wendy Davila-Fraga | 5/10/2011 | 5313 | 0.00 |
| | **C_SUM** | Past year Occurrence of stressors: items C score | Linda Gallo, Patricia Gonzalez, Wendy Davila-Fraga | 5/10/2011 | 5313 | 0.00 |
| | **BC_SUM** | Aggregate burden of past year traumatic stress exposure, B&C sum score | Linda Gallo, Patricia Gonzalez, Wendy Davila-Fraga | 5/10/2011 | 5313 | 0.00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **STE (cont)** | **ACE_TOT** | Childhood Stress Exposure Total Score (ACE) | Madeline Krause | 4/18/2011 | 5244 | 1.30 |
| | **CHR_STR_TOT** | Total Number of Chronic Stressors | Linda Gallo, Patricia Gonzalez | 6/30/2012 | 5178 | 2.54 |
| | **M_V_TOT** | The Total Moderate to Very Chronic Stress Score | Linda Gallo, Patricia Gonzalez | 6/30/2012 | 5035 | 5.23 |
| | **PSS_TOT** | Total Perceived Stress Score (PSS) | Sheldon Cohen, Linda Gallo | 4/7/2011 | 5251 | 1.17 |
| **PRE** | **SIMPATIA_TOT** | Simpatia Total Score | Madeline Krause | 4/18/2011 | 5298 | 0.28 |
| | **SOC_DIS_TOT** | Marlow Crowne Social Desirability Scale | Madeline Krause | 4/18/2011 | 5300 | 0.24 |
| **EME** | **CES_D** | EMOTIONS CES-D (Depression) Scale | Madeline Krause | 5/12/2011 | 5272 | 0.77 |
| | **STAS** | Spielberger Trait Anxiety Scale | Madeline Krause | 5/12/2011 | 5273 | 0.75 |
| | **STANG** | Spielberger Trait Anger Scale; High trait anger:22-40, moderate:15-21, low anger:10-14 | Marston based on ARIC | 9/22/2011 | 5275 | 0.72 |
| | **Angry_Temperament** | Angry_Temperament subscale from EME Form | Patty Gonzalez/San Diego | 6/13/2014 | 5249 | 1.20 |
| | **Angry_Reaction** | Angry_Reaction subscale from EME Form | Patty Gonzalez/San Diego | 6/13/2014 | 5246 | 1.26 |
| | **CYN_HOST_TOT** | Hostility-Cook Medley Cynicism Scale total score | Madeline Krause | 4/18/2011 | 5272 | 0.77 |
| **GNE** | **Trad_machismo** | Traditional machismo subscale from GNE Form | Patty Gonzalez, Alicia Nunez/San Diego | 6/13/2014 | 5290 | 0.43 |
| | **Caballerismo** | Caballerismo subscale from GNE Form | Patty Gonzalez, Alicia Nunez/San Diego | 6/13/2014 | 5281 | 0.60 |
| | **FROLE_FMLY_PILLAR** | Female Gender Role - Family Pillar | Madeline Krause | 4/21/2011 | 5297 | 0.30 |
| | **FROLE_VIRT_CHASTE** | Female Gender Role - Virtuous and Chaste | Madeline Krause | 4/21/2011 | 5274 | 0.73 |
| | **FROLE_SUBORDIN** | Female Gender Role - Subordinate to Others | Madeline Krause | 4/21/2011 | 5279 | 0.64 |
| | **FROLE_SILEN_HARMONY** | Female Gender Role - Silencing Self to Maintain Harmony | Madeline Krause | 4/21/2011 | 5286 | 0.51 |
| | **FROLE_SPIR_PILLAR** | Female Gender Role - Spiritual Pillar | Madeline Krause | 4/21/2011 | 5246 | 1.26 |
| **IPE** | **SELF_ESTM_SCALE** | Self Esteem Scale Score from IPE Form | Madeline Krause | 4/21/2011 | 5290 | 0.43 |
| | **OPTIM_LOT_R** | Optimism (LOT_R) Score from IPE Form | Madeline Krause | 4/21/2011 | 5281 | 0.60 |
| | **Optimism** | Optimism subscale from IPE Form | Carrie Brintz/Miami | 6/13/2014 | 5269 | 0.83 |
| | **Pessimism** | Pessimism subscale from IPE Form | Carrie Brintz/Miami | 6/13/2014 | 5235 | 1.47 |
| | **LIFE_ENGAGE** | Life Engagement Test (LET) from IPE Form | Madeline Krause | 4/21/2011 | 5285 | 0.53 |
| **RLE** | **M_PEACE** | Spiritual Well-Being Scale (FACIT-SP)-Meaning/peace subscale | Madeline Krause | 5/12/2011 | 5269 | 0.83 |
| | **FAITH** | Spiritual Well-Being Scale (FACIT-SP)- Faith subscale | Madeline Krause | 5/12/2011 | 5257 | 1.05 |
| | **FACIT_SP_TOT** | Spiritual Well-Being Scale (FACIT-SP)- total score, partially item-based | Madeline Krause | 5/12/2011 | 5272 | 0.77 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **RLE (cont)** | **FREQ_REL_ATTEND** | Spirituality (DUREL) - Frequency of Religious Attendance Subscale | Madeline Krause | 4/21/2011 | 5269 | 0.83 |
| | **PRIV_REL_ACT** | Spirituality (DUREL) - Private Religious Activity Subscale | Madeline Krause | 4/21/2011 | 5270 | 0.81 |
| | **INTR_REL** | Spirituality (DUREL) - Intrinsic Religiosity Subscale | Madeline Krause | 4/21/2011 | 5245 | 1.28 |
| | **REL_OVERALL** | Spirituality (DUREL) - Overall Religiosity Score, NOT RECOMMENDED | Madeline Krause | 4/21/2011 | 5259 | 1.02 |
| **IME** | **SEE_EI** | Scale of Ethnic Experience (SEE)- Ethnic Identity subscale | Madeline Krause | 5/12/2011 | 5260 | 1.00 |
| | **SEE_SAI** | Scale of Ethnic Experience (SEE)- Social Affiliation/Intimacy subscale | Madeline Krause | 5/12/2011 | 5301 | 0.23 |
| | **SEE_MC** | Scale of Ethnic Experience (SEE)- Mainstream Comfort subscale | Madeline Krause | 5/12/2011 | 5259 | 1.02 |
| | **SEE_PD** | Scale of Ethnic Experience (SEE)- Perceived Discrimination subscale | Madeline Krause | 5/12/2011 | 5261 | 0.98 |
| **FME** | **FAM_OB** | Familism - Familial Obligations Subscale | Madeline Krause | 5/12/2011 | 5308 | 0.09 |
| | **FAM_SUPT** | Familism - Family Support Subscale | Madeline Krause | 5/12/2011 | 5303 | 0.19 |
| | **FAM_REF** | Familism - Family as Referents Subscale | Madeline Krause | 5/12/2011 | 5307 | 0.11 |
| | **FATALISM** | Fatalism Scale | Madeline Krause | 5/12/2011 | 5293 | 0.38 |
| **ACE** | **HSI_OCC_ECO** | Hispanic Stress Inventory: Occupational/economic stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5259 | 1.02 |
| | **HSI_PARENTAL** | Hispanic Stress Inventory: Parental stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5275 | 0.72 |
| | **HSI_MARITAL** | Hispanic Stress Inventory: Marital stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5299 | 0.26 |
| | **HSI_IMMIG** | Hispanic Stress Inventory: Immigration stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5258 | 1.04 |
| | **HSI_FAM_CUL** | Hispanic Stress Inventory: Familial/cultural conflict | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5278 | 0.66 |
| | **HSI_INTRAFAM** | Hispanic Stress Inventory: Intrafamilial stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5296 | 0.32 |
| | **HSI_EXTRAFAM** | Hispanic Stress Inventory: Extrafamilial stress | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5251 | 1.17 |
| | **HSI_TOT** | Hispanic Stress Inventory: Total score | Frank Penedo,Patricia Gonzalez | 8/19/2011 | 5286 | 0.51 |