Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

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Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: ACTIVITIES OF DAILY LIVING CONSTRUCT

Variable Name: ACTDLY

ACTDLY Values: Score scale: 4 – 12; a higher score indicates more difficulty performing activities of daily living

Description: Score assessing the participant's ability to perform four primary activities of daily functioning

Long Description: Measures of activities of daily living describe functional independence on a variety of different domains. For the WHI study, four items describing basic activities are included.

Form Used: 37, v6, Items 85-88
38, v6.2, Items 39-42
151, v9, Items 17-20
155, v1, Items 22-25

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		How much of the time during the past 4 weeks…	
EAT	85	Can you eat	1="Without help (able to feed self completely)", 2="With some help (need help cutting, etc.)", 3= "Completely unable to feed self"
DRESS	86	Can you dress and undress self	1="Without help (can pick clothes, dress and undress)", 2="With some help (from a person or device)", 3="Unable to dress and undress self"
INOUTBED	87	Can you get in and out of bed	1="Without any help or aids", 2="With some help (from a person or device)", 3="Totally dependent to person to lift self"
SHOWER	88	Can you take a bath or shower	1="Without help", 2="With some help (help in/out of tub, tub attach)", 3="Completely unable to bathe self"

Algorithm: Sum response values of all four questions

SAS code:

```
/*************************************************************/
/* CREATE  ACTIVITIES OF DAILY LIVING CONSTRUCT          */
/*************************************************************/

actdly=eat+dress+inoutbed+shower;
```

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: CARE GIVING #1 (0, 1 scoring)

Variable Name: CAREGIV1

CAREGIV1 Values: 0 = No; 1 = Yes

Description: Indicator for whether the participant reported currently providing caregiving

Long Description: Care giving may be a particular source of social strain and stress for women. As the population ages, more of the women in the study may be assuming care giving roles. Care giving items were included to determine whether these responsibilities predict morbidity and mortality independently of other stress and social support measures. The care giving items were obtained from the Cardiovascular Health Survey (Brown et al, 1990). The information is obtained from a single two-part item in Form 37 (15) and two summary ratings are defined. One rating uses the four point frequency scale and the other rating uses an indicator variable.

Form Used: 37, v6, Item 15

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
HLPSICK	15	Are you now helping at least one sick, limited, or frail family member or friend on a regular basis?	0="No", 1="Yes"

Algorithm: Use response value of question 15

SAS code:

```
/*************************************************************************/
/* CREATE CAREGIVING CONSTRUCT - #1                                      */
/*************************************************************************/

caregiv1=hlpsick
```

References

Brown LJ, Potter, Foster BG. Caregiver burden should be evaluated during geriatric assessment. JAGS 1990; 38:456-460.

Stull DE, Wells K, Leake B, Landsverk J. Development of a brief screening instrument for detecting depressing disorders. Medical care 1988; 26:775-789.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: CARE GIVING #2 (0-5+ scoring)

Variable Name: CAREGIV2

CAREGIV2 Values: Score scale: 0 - 4; a higher score indicates greater frequency of caregiving

Description: Score assessing the frequency of caregiving currently provided by the participant

Long Description: Care giving may be a particular source of social strain and stress for women. As the population ages, more of the women in the study may be assuming care giving roles. Care giving items were included to determine whether these responsibilities predict morbidity and mortality independently of other stress and social support measures. The care giving items were obtained from the Cardiovascular Health Survey (Brown et al, 1990). The information is obtained from a single two-part item in Form 37 (15) and two summary ratings are defined. One rating uses the four point frequency scale and the other rating uses an indicator variable.

Form Used: 37, v6, Items 15

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
HLPSICK	15	Are you now helping at least one sick, limited, or frail family member or friend on a regular basis?	0="No", 1="Yes"
HLPSICKT	15.1	In the past 4 weeks, how often have you helped this friend or family member?	1="Less than once a week" to 4="5 or more times a week"

Algorithm: Use response value of question 15.1 if they mark “Yes” to question 15; else 0

SAS code:

```
/*************************************************************************************/
/* CREATE CAREGIVING CONSTRUCT - #2                                                  */
/*************************************************************************************/

IF hlpsick=0 THEN caregiv2=0;
ELSE IF hlpsick=. THEN caregiv2=.;
ELSE caregiv2=hlpsickt
```

References

Brown LJ, Potter, Foster BG. Caregiver burden should be evaluated during geriatric assessment. JAGS 1990; 38:456-460.

Stull DE, Wells K, Leake B, Landsverk J. Development of a brief screening instrument for detecting depressing disorders. Medical care 1988; 26:775-789.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: DEPRESSION

Variable Name: PSHTDEP

PSHTDEP Values: Score scale: 0 - 1; a higher score indicates a greater likelihood of depression

Description: Score (probability) for depression; based on the paper: Burman et al. 1988. (Note: Severe depression is an exclusion criteria for CT and OS)

Long Description: Depression is more common among women than among men, but population based studies of depression in postmenopausal women are rare. Measures of depression were included in the WHI to determine whether there is an association between depression, morbidity and mortality. In addition, depression may occur as a consequence of chronic illness. Further, depression may be associated with retention in the study.

Depression is measured in two different ways. In Form 37, there are nine items taken from the medical outcome study, Short Form 36 (Burnman et al, 1988). These items present a brief screening test for depression and mood disorders that have been validated in a large study of office-based practices. These items are a shortened version of the Center for Epidemiological Studies Depression Scale (CES-D). The CES-D has been used in population based studies and has been shown to be a valid and reliable measure of depressed mood (Weissman et al, 1977).

Forms Used: 37, v6, Items 103-110.1
38, v6.2, Items 55-57.1
155, v1, Items 117-124.1

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		These questions are about your feelings during the past week. For each of the statements, please indicate the choice that tells how often you felt that way	
FELTDEP	103	You felt depressed (blue or down)	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
RESTSLP	104	Your sleep was restless	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
ENJLIF	105	You enjoyed life	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
CRYSPELL	106	You had crying spells	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
FELTSAD	107	You felt sad	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
PEOPDIS	108	You felt that people disliked you	0="Rarely or none of the time (less than 1 day)" to 3="Most or all of the time (5-7 days)"
SAD2WK	109	In the past year, have you had two weeks or more during which you felt sad, blue, or depressed, or lost pleasure in things that you usually cared about or enjoyed?	0="No", 1="Yes"
SAD2YRS	110	Have you had two years or more in your life when you felt depressed or sad most days, even if you felt okay sometimes?	0="No", 1="Yes"
SADMUCH	110.1	Have you felt depressed or sad much of the time in the past year?	0="No", 1="Yes"

Intermediate variables:

Variable Name	Description
ENJOYLFR	Reverse coding of ENJLIF; how often participant would not indicate "You enjoyed life"
BX	Intermediate calculation used to determine participant's probability of having MOS-defined depressive disorder; uses prediction equation developed by Burnam et al.
PSHTDEP	Predicted probability of having MOS-defined depressive disorder, uses prediction equation developed by Burnam et al.

Algorithm: Predicts a probability of having MOS-defined depressive disorder, using a prediction equation developed by Burnam et al. and considers those with a score greater or equal to 0.06 as depressive.

SAS code:

```
/*************************************************************************************/
/* CREATE SHORTENED CES-D DEPRESSION ALGORITHM                                       */
/*************************************************************************************/

* RECODE FELT DEPRESSED TWO YEARS VARIABLE ;

IF sad2yrs=0 THEN sadmuchr=0;
ELSE IF sad2yrs=. THEN sadmuchr=.;
ELSE sadmuchr=sadmuch;

IF enjlif=0 THEN enjoylfr=3;
ELSE IF enjlif=1 THEN enjoylfr=2;
ELSE IF enjlif=2 THEN enjoylfr=1;
ELSE IF enjlif=3 THEN enjoylfr=0;

bx=1.078*feltdep + .185*restslp - .269*enjoylfr + .329*cryspell - .28*feltsad + .288*peopdis + 2.712*sad2wk + 2.182*sadmuchr;

pshtdep=(exp(-6.543+bx))/(1 + exp(-6.543+bx));
```

References

Burman M, Wells K, Leake B, Landsverk J. Development of a brief screening instrument for detecting depressive disorders. Medical care 1988; 26: 8, 775-789.

Weissman M, Sholomskas D, Pottenger M, Prusoff B, Locke B. Assessing depressive symptoms in five psychiatric populations: A validation study. Am J Epidemiol 1977; 106: 203-214

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: EMOTIONAL EXPRESSIVENESS, AMBIVALENCE OVER (AEE)

Variable Name: AMBEMOT

AMBEMOT Values: Score scale: 1 - 5; high scores indicate greater ambivalence (less comfort) in expressing negative emotions

Description: Score assessing the comfort of the participant in expressing negative emotions

Long Description: Some evidence suggests that individuals who are unable to express negative emotions may be more prone to the development or progression of cancer and cardiovascular diseases. To assess the relationship between negative emotion and health outcomes, items from the Ambivalence Over Emotional Expression Questionnaire (AEQ) and Emotional Expressiveness Questionnaire (EEQ) are included (King and Emmons, 1990). The seven questions form two subscales: Negative Emotional Expressiveness (NEE) and Ambivalent over Emotional Expressiveness (AEE).

Form Used: 37, v6, Items 30-32

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		Please answer the following questions about yourself:	
BOTHER	30	After I express anger at someone, it bothers me for a long time	1="Strongly Disagree" to 5="Strongly Agree"
SUPPRESS	31	I try to suppress my anger, but I would like other people to know how I feel	1="Strongly Disagree" to 5="Strongly Agree"
APPRVNEG	32	I worry that if I express negative emotions such as fear and anger, other people will not approve of me	1="Strongly Disagree" to 5="Strongly Agree"

Algorithm: Average response values of the three questions

SAS code:

```
/*************************************************************************************/
/* CREATE AMBIVALENCE OVER EMOTIONAL EXPRESSIVENESS - AEE CONSTRUCT          */
/*************************************************************************************/

ambemot=(bother+suppress+apprvneg)/3;
```

References

King L, Emmons R. Conflict over emotional expression: Psychological and physical correlates. Journal of Personality and Social Psychology 1990; 58:864-877.

Michael YL, Perrin N, Bown DL, Cochrane BB, Wisdom J, Brzyski R, Brown D, Ritenbaugh C. Expression and ambivalence over expression of negative emotion: Psychometric analysis in the Woman's Health Initiative. J Women Aging. 2005; 17(1-2):5-18.

Title: EMOTIONAL EXPRESSIVENESS, NEGATIVE (NEE)

Variable Name: NEGEMOT

NEGEMOT Values: Score scale: 1 - 5; a higher score indicates a greater tendency to express negative emotions

Description: Score assessing participant's tendency to express negative emotions

Long Description: Some evidence suggests that individuals who are unable to express negative emotions may be more prone to the development or progression of cancer and cardiovascular diseases. To assess the relationship between negative emotion and health outcomes, items from the Ambivalence Over Emotional Expression Questionnaire (AEQ) and Emotional Expressiveness Questionnaire (EEQ) (King and Emmons, 1990). The seven questions form two subscales: Negative Emotional Expressiveness (NEE) and Ambivalent over Emotional Expressiveness (AEE).

Form Used: 37, v6, Items 26-29

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		Please answer the following questions about yourself:	
KNWANGRY	26	When I am angry, people around me usually know	1="Strongly Disagree" to 5="Strongly Agree"
TELLFEEL	27	People can tell from my facial expressions how I am feeling	1="Strongly Disagree" to 5="Strongly Agree"
DISAPPNT	28	I always express disappointment when things don't go as I'd like them to	1="Strongly Disagree" to 5="Strongly Agree"
SCENEPUB	29	If someone makes me angry in a public place, I will "cause a scene"	1="Strongly Disagree" to 5="Strongly Agree"

Algorithm: Average response values of the four questions

SAS code:

```
/*************************************************************************************/
/* CREATE NEGATIVE EMOTIONAL EXPRESSIVENESS - NEE CONSTRUCT                          */
/*************************************************************************************/

negemot=(knwangry+tellfeel+disappnt+scenepub)/4;
```

References

King L, Emmons R. Conflict over emotional expression: Psychological and physical correlates. Journal of Personality and Social Psychology 1990; 58:864-877.

Michael YL, Perrin N, Bown DL, Cochrane BB, Wisdom J, Brzyski R, Brown D, Ritenbaugh C. Expression and ambivalence over expression of negative emotion: Psychometric analysis in the Woman's Health Initiative. J Women Aging. 2005; 17(1-2):5-18.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: HOSTILITY

Variable Name: HOSTIL

HOSTIL Values: Score scale: 0 - 13; a higher score indicates greater hostility

Description: Score assessing the participant's level of hostility

Long Description: The relationship between hostility and cardiovascular disease has been demonstrated in a variety of studies (Cook and Medley, 1954). Research on the type-A personality has given way to a focus on cynicism and hostility which may be the active components of personality related to heart disease. Hostility is measured using the 13-item Cynicism Subscale of the Cook-Medley Questionnaire (Cook and Medley, 1954). Higher scores on the scale indicate greater levels of hostility (Barefoot et al, 1989).

Form Used: 37, v6, Items 33-45.

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		The following questions are about your opinions and beliefs. Read each statement and decide whether it is true as applied to you or false as applied to you. If the statement is true or mostly true, or usually false, mark the oval under the "True" column. If it is false, mark the oval under the "False" column. Remember to give your own opinion of yourself.	
ORDERS	33	I have often had to take orders from someone who did not know as much as I did	0="False", 1="True"
BADLUCKP	34	I think a great many people make a lot of their bad luck in order to gain the sympathy and help from others	0="False", 1="True"
TRUTH	35	It takes a lot of argument to convince most people of the truth	0="False", 1="True"
LIE	36	I think most people would lie to get ahead	0="False", 1="True"
HONEST	37	Most people are honest mainly through fear of being caught	0="False", 1="True"
UNFAIR	38	Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it	0="False", 1="True"
NOCARE	39	No one cares much what happens to you	0="False", 1="True"
TRUSTNO	40	It is safer to trust nobody	0="False", 1="True"
FRNDSUSE	41	Most people make friends because friends are likely to be useful to them	0="False", 1="True"
NOHELP	42	Most people inwardly do not like putting themselves out to help other people	0="False", 1="True"
EXPERTS	43	I have often met people who were supposed to be experts who were no better than I	0="False", 1="True"
RESPECTP	44	People often demand more respect for their own rights than they are willing to allow for others	0="False", 1="True"
BADSEX	45	A large number of people guilty of bad sexual behavior	0="False", 1="True"

Algorithm: Sum of response values of all thirteen questions

SAS code:

```
/*************************************************************************************/
/* CREATE HOSTILITY CONSTRUCT                                                        */
/*************************************************************************************/
hostil=orders+badluck+truth+lie+honest+unfair+nocare+trustno+frndsuse+nohelp+experts+respect+badsex
```

References

Barefootj, Dodge K, Dahlstrom W, Williams R. The Cook-Medley hostility scale: Item content and ability to predict survival. Psychosomatic Medicine, 1989; 51: 46-57.

Cook WW, Medley DM. Proposed hostility and pharisaic-virtue scales for the MMPI. Journal of Applies Psychology 1954; 38: 414-418.

Title: LIFE EVENT CONSTRUCT #1 (0, 1 scoring)

Variable Name: LFEVENT1

LFEVENT1 Values: Score scale: 0 – 11; a higher score indicates participant experienced a greater number of life upsetting events

Description: Score counting the number of life events experienced by each participant

Long Description: A variety of studies have shown that people who have experienced life changes may be more susceptible to chronic illness and to death. Life events are an indicator of life stress. To evaluate life events, the WHI includes measures from the Alameda County Epidemiologic Study (Berkman and Syme, 1979). These items were later modified for the Beta Blocker Heart Attack Trial (BHAT), a study of the post-MI patients (Ruberman et al, 1984). To evaluate life events, two summary scores are defined using 11 items. One scale (lfevent1) uses indicator variables and the other scale (lfevent2) uses the three part intensity ratings.

Form Used: 37, v6, Items 91, 93 - 102
38, v6.2, Items 44.1 – 54
155, v1, Items 49-59

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		Below are some hard things that sometimes happen to people. Please try to think back over the past year to remember if any of these things happened. Over the past year:	
SPOUSDIE	91	Did your spouse or partner die?	0="No" to 3="Yes, and it upset me: Very much"
FRIENDIE	93	Did a close friend or family member die or have a serious illness (other than your spouse or partner?)	0="No" to 3="Yes, and it upset me: Very much"
MONPROB	94	Did you have major problems with money?	0="No" to 3="Yes, and it upset me: Very much"
DIVORCE	95	Did you have a divorce or break-up with a spouse or partner?	0="No" to 3="Yes, and it upset me: Very much"
FRNDIV	96	Did a family member or close friend have a divorce or break-up?	0="No" to 3="Yes, and it upset me: Very much"
CHILCON	97	Did you have a major conflict with children or grandchildren?	0="No" to 3="Yes, and it upset me: Very much"
MAJACC	98	Did you have any major accidents, disasters, muggings, unwanted sexual experiences, robberies, or similar events?	0="No" to 3="Yes, and it upset me: Very much"
FRNJOB	99	Did you or a family member or close friend lose their job or retire?	0="No" to 3="Yes, and it upset me: Very much"
PHYAB	100	Were you physically abused by being hit, slapped, pushed, shoved, punched or threatened with a weapon by a family member or close friend?	0="No" to 3="Yes, and it upset me: Very much"
VERBAB	101	Were you verbally abused by being made fun of, severely criticized, told you were a stupid or worthless person, or threatened with harm to yourself, your possessions, or your pets, by a family member or close friend?	0="No" to 3="Yes, and it upset me: Very much"
PETDIE	102	Did a pet die?	0="No" to 3="Yes, and it upset me: Very much"

Algorithm: Sum recoded response values (recode: 2=1, 3=1) of eleven questions

SAS code:

```
/*************************************************************************/
/* CREATE LIFE EVENTS - SCORE #1                                         */
/*************************************************************************/
```

```
IF 1<=spousdie<=3 THEN spousdir=1;  ELSE spousdir=spousdie;
IF 1<=friendie<=3 THEN friendir=1;  ELSE friendir=friendie;
IF 1<=monprob<=3 THEN monprobr=1;  ELSE monprobr=monprob;
IF 1<=divorce<=3 THEN divr=1;  ELSE divr=divorce;
IF 1<=frndiv<=3 THEN frndivr=1;  ELSE frnddivr=frndiv;
IF 1<=chilcon<=3 THEN chilconr=1;  ELSE chilconr=chilcon;
IF 1<=majacc<=3 THEN majaccr=1;  ELSE majaccr=majacc;
IF 1<=frnjob<=3 THEN frnjobr=1;  ELSE frnjobr=frnjob;
IF 1<=phyab<=3 THEN phyabr=1;  ELSE phyabr=phyab;
IF 1<=verbab<=3 THEN verbabr=1;  ELSE verbabr=verbab;
IF 1<=petdie<=3 THEN petdier=1;  ELSE petdier=petdie;

lfevent1=spousdir+friendir+monprobr+divr+frndivr+chilconr+majaccr+frnjobr+phyabr+verbabr+petdier;
```

References

Berkman L, Syme L. Social networks, host resistance and mortality: A nine-year follow-up study of Alameda County residents. Am J Epidemiol 1979; 109: 186-204.

Ruberman W, Weinblatt E, Goldberg J, Chaudharg B. Psychosocial influences on mortality after myocardial infarction. NEJM 1984; 311: 552-559.

Title: LIFE EVENT CONSTRUCT #2 (0-3 scoring)

Variable Name: LFEVENT2

LFEVENT2 Values: Score scale: 0 - 33; a higher score indicates participant experienced a greater number of more upsetting events

Description: Score counting the number of life events weighted by the participant's judgement of upset due to the event

Long Description: A variety of studies have shown that people who have experienced life changes may be more susceptible to chronic illness and to death. Life events are an indicator of life stress. To evaluate life events, the WHI includes measures from the Alameda County Epidemiologic Study (Berkman and Syme, 1979). These items were later modified for the Beta Blocker Heart Attack Trial (BHAT), a study of the post-MI patients (Ruberman et al, 1984). To evaluate life events, two summary scores are defined using 11 items. One scale (lfevent1) uses indicator variables and the other scale (lfevent2) uses the three part intensity ratings.

Form Used: 37, v6, Items 91, 93-102
38, v6.2, Items 44.1 -54
155, v1, Items 49-59

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		Below are some hard things that sometimes happen to people. Please try to think back over the past year to remember if any of these things happened. Over the past year:	
SPOUSDIE	91	Did your spouse or partner die?	0="No" to 3="Yes, and it upset me: Very much"
FRIENDIE	93	Did a close friend or family member die or have a serious illness (other than your spouse or partner?)	0="No" to 3="Yes, and it upset me: Very much"
MONPROB	94	Did you have major problems with money?	0="No" to 3="Yes, and it upset me: Very much"
DIVORCE	95	Did you have a divorce or break up with a spouse or partner?	0="No" to 3="Yes, and it upset me: Very much"
FRNDDIV	96	Did a family member or close friend have a divorce or break-up?	0="No" to 3="Yes, and it upset me: Very much"
CHILCON	97	Did you have a major conflict with children or grandchildren?	0="No" to 3="Yes, and it upset me: Very much"
MAJACC	98	Did you have any major accidents, disasters, muggings, unwanted sexual experiences, robberies, or similar events?	0="No" to 3="Yes, and it upset me: Very much"
FRNJOB	99	Did you or a family member or close friend lose their job or retire?	0="No" to 3="Yes, and it upset me: Very much"
PHYAB	100	Were you physically abused by being hit, slapped, pushed, shoved, punched or threatened with a weapon by a family member or close friend?	0="No" to 3="Yes, and it upset me: Very much"
VERBAB	101	Were you verbally abused by being made fun of, severely criticized, told you were a stupid or worthless person, or threatened with harm to yourself, your possessions, or your pets, by a family member or close friend?	0="No" to 3="Yes, and it upset me: Very much"
PETDIE	102	Did a pet die?	0="No" to 3="Yes, and it upset me: Very much"

Algorithm: Sum response values of eleven questions

SAS code:

```
/*************************************************************************************/
/* CREATE LIFE EVENTS - SCORE #2                                                     */
/*************************************************************************************/

lfevent2=spousdie+friendie+monprob+divorce+frnddiv+chilcon+majacc+frnjob+phyab+verbab+petdie;
```

References

Berkman L, Syme L. Social networks, host resistance and mortality: A nine-year follow-up study of Alameda County residents. Am J Epidemiol 1979; 109: 186-204.

Ruberman W, Weinblatt E, Goldberg J, Chaudharg B. Psychosocial influences on mortality after myocardial infarction. NEJM 1984; 311: 552-559.

Title: Living Alone

Variable Name: LIVALOR

LIVALOR Values: An indicator of whether the participant lives alone.

Description: Item 10 has seven subcomponents that assess living arrangements. Item 10 is a subset of the Social Integration items 10-14, which are eclectic, pooled, and modified from other studies.

Form Used: 37, v6, Item 10
155, v1, Item 29 (without 'brother/sister' item)

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		The next questions are about your living and social activities.	
	10	Who lives with you? (Mark one oval for each item.)	
LIVALN	10.1	I live alone	0="No", 1="Yes"
LIVPRT	10.2	I live with my husband or partner	0="No", 1="Yes"
LIVCHLD	10.3	I live with my children	0="No", 1="Yes"
LIVSIBL	10.4	I live with my brother and/or sister	0="No", 1="Yes"
LIVREL	10.5	I live with other relatives	0="No", 1="Yes"
LIVFRNDS	10.6	I live with friends	0="No", 1="Yes"
LIVOTH	10.7	Other (please describe)	0="No", 1="Yes"

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: OPTIMISM

Variable Name: OPTIMISM

OPTIMISM Values: Score scale: 6 – 30, with a higher score indicating greater optimism

Description: Score assessing participant's level of optimism

Long Description: Optimism represents a cluster of constructs, including perceived control, positive expectations, empowerment, fighting spirit, and lack of helplessness. Some evidence suggests that optimistic people have better outcomes from cardiovascular diseases and cancer. An optimism measure was included in the WHI to evaluate the role of optimistic outlook upon morbidity and mortality. Optimism is measured using a Life Orientation Test-Revised (LOT-R) six item scale (Scheier and Carver, 1985).

Form Used: 37, v6, Items 20-25;
157, Items 5.1-5.6

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		Please answer the following questions about yourself:	
EXPCTBST	20	In unclear times, I usually expect the best	1="Strongly Disagree" to 5="Strongly Agree"
WRONG	21	If something can go wrong for me, it will	1="Strongly Disagree" to 5="Strongly Agree"
HOPEFUL	22	I'm always hopeful about my future	1="Strongly Disagree" to 5="Strongly Agree"
NOTMYWAY	23	I hardly ever expect things to go my way	1="Strongly Disagree" to 5="Strongly Agree"
COUNTGD	24	I rarely count on good things happening to me	1="Strongly Disagree" to 5="Strongly Agree"
MOREGOOD	25	Overall, I expect more good things to happen to me than bad	1="Strongly Disagree" to 5="Strongly Agree"

Algorithm: Sum response values of question 20, 22, and 25 and add to the sum of the reverse recoding of the response values of question 21, 23 and 24.

SAS code:

```
/*************************************************************************************/
/* CREATE OPTIMISM CONSTRUCT                                                         */
/*************************************************************************************/
IF wrong=5 THEN wrongr=1;
ELSE IF wrong=4 THEN wrongr=2;
ELSE IF wrong=3 THEN wrongr=3;
ELSE IF wrong=2 THEN wrongr=4;
ELSE IF wrong=1 THEN wrongr=5;

IF notmyway=5 THEN notmywayr=1;
ELSE IF notmyway=4 THEN notmywayr=2;
ELSE IF notmyway=3 THEN notmywayr=3;
ELSE IF notmyway=2 THEN notmywayr=4;
ELSE IF notmyway=1 THEN notmywayr=5;

IF countgd=5 THEN countgdr=1;
ELSE IF countgd=4 THEN countgdr=2;
ELSE IF countgd=3 THEN countgdr=3;
ELSE IF countgd=2 THEN countgdr=4;
ELSE IF countgd=1 THEN countgdr=5;

optimism=expctbst+wrongr+hopeful+notmywayr+countgdr+moregood
```

References

Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neurotcism (and trait anxiety), self-mastery, and self-esteem): a reevaluation of the life orientation test. Journal of Personality & Social Psychology. 1994; 67; 1063-1078.

Scheier MF, Carver CS. Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. Health Psychology. 1985; 4:219-247.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: OVERALL SYMPTOM

Variable Name: SYMPTOM

SYMPTOM Values: Score scale: 0 - 3; a higher score indicates more symptoms

Description: Score assessing prevalence of symptoms of distress

Long Description: Much of the minor variation in wellness is captured by reports of symptoms. The WHI questionnaires include lists of symptoms that might be reported by participants. The lists were obtained from the PEPI (Postmenopausal Estrogen/Progestin Intervention) study and from national and other health surveys. Thirty-four symptoms are included. For scoring, symptoms will be aggregated in several ways. Overall symptoms scores might be calculated. In addition, specific subscores might be used to create an index for HT and DM related symptoms (PEPI, 1995; Matthews et al, 1994).

Form Used: 37, v6, Items 89.1-89.34
38, v6.2, Items 43.1-43.34

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		Below is a list of symptoms people sometimes have. For each item, mark the one oval that best describes how bothersome the symptom was during the past 4 weeks for you.	
BLOATING	89.1	Bloating or gas	0="Symptom did not occur" to 3="Severe"
CONSTIP	89.2	Constipation (difficulty having bowel movements)	0="Symptom did not occur" to 3="Severe"
NIGHTSWT	89.3	Night sweats	0="Symptom did not occur" to 3="Severe"
ACHES	89.4	General aches or pains	0="Symptom did not occur" to 3="Severe"
BRSTTEN	89.5	Breast tenderness	0="Symptom did not occur" to 3="Severe"
HOTFLASH	89.6	Hot flashes	0="Symptom did not occur" to 3="Severe"
DIARRHEA	89.7	Diarrhea	0="Symptom did not occur" to 3="Severe"
MOODSWNG	89.8	Mood swings	0="Symptom did not occur" to 3="Severe"
NAUSEA	89.9	Nausea	0="Symptom did not occur" to 3="Severe"
DIZZY	89.10	Dizziness	0="Symptom did not occur" to 3="Severe"
TIRED2	89.11	Feeling tired	0="Symptom did not occur" to 3="Severe"
FORGET	89.12	Forgetfulness	0="Symptom did not occur" to 3="Severe"
HUNGRY	89.13	Increased appetite	0="Symptom did not occur" to 3="Severe"
HEARTRAC	89.14	Heart racing or skipping beats	0="Symptom did not occur" to 3="Severe"
TREMORS	89.15	Tremors (shakes)	0="Symptom did not occur" to 3="Severe"
HEARTBRN	89.16	Heartburn	0="Symptom did not occur" to 3="Severe"
RESTLESS	89.17	Restless or fidgety	0="Symptom did not occur" to 3="Severe"
LOWBACKP	89.18	Low back pain	0="Symptom did not occur" to 3="Severe"
NECKPAIN	89.19	Neck pain	0="Symptom did not occur" to 3="Severe"
SKINDRY	89.20	Skin dryness or scaling	0="Symptom did not occur" to 3="Severe"
HEADACHE	89.21	Headaches or migraines	0="Symptom did not occur" to 3="Severe"
CLUMSY	89.22	Clumsiness	0="Symptom did not occur" to 3="Severe"
TRBSEE	89.23	Any trouble seeing that is uncorrected by lenses	0="Symptom did not occur" to 3="Severe"
VAGITCH	89.24	Vaginal or genital irritation or itching	0="Symptom did not occur" to 3="Severe"
CONCEN	89.25	Difficulty concentrating	0="Symptom did not occur" to 3="Severe"
JNTPAIN	89.26	Joint pain or stiffness	0="Symptom did not occur" to 3="Severe"
NOHUNGER	89.27	Decreased appetite	0="Symptom did not occur" to 3="Severe"
HEARLOSS	89.28	Hearing loss	0="Symptom did not occur" to 3="Severe"
SWELLHND	89.29	Swelling of hands or feet	0="Symptom did not occur" to 3="Severe"
VAGDRY	89.30	Vaginal or genital dryness	0="Symptom did not occur" to 3="Severe"

UPSTOM	89.31	Upset stomach or belly pain or discomfort	0="Symptom did not occur" to 3="Severe"
URINPAIN	89.32	Pain or burning while urinating	0="Symptom did not occur" to 3="Severe"
COUGH	89.33	Cough or wheezing	0="Symptom did not occur" to 3="Severe"
VAGDIS	89.34	Vaginal or genital discharge	0="Symptom did not occur" to 3="Severe"

Algorithm: Average response values of the 34 questions

SAS code:

```
/*************************************************************************************/
/* CREATE SYMPTOMS CONSTRUCT                                                         */
/*************************************************************************************/

symptom=(bloating+constip+nightswt+aches+brstten+hotflash+diarrhea+moodswng+nausea+dizzy+tired2+forget+hungry+heartrac+tremors+heartbrn+restless+lowbackp+neckpain+skindry+headache+clumsy+trbsee+vagitch+concen+jntpain+nohungert+hearloss+swellhnd+vagdry+upstom+urinpain+cough+vagdis)/34;
```

References

Greendale GA, Reboussin BA, Hogan P, Barnabei VM, Shumaker S, Johnson S, Barret-Conner E. Symptom relief and side effects of postmenopausal hormones: results from the Postmenopausal Estrogen/Progestin Interventions Trial. Obstet Bynecol. 1998 Dec; 92(6): 982-988.

Ganz PA, Day R, Ware JE Jr, Redmond C, Fisher B. Base-line quality0of-life assessment in the National Surgical Adjuvant Breast and Bowel Project Breast Cancer Prevention Trial. J Natl Cancer Inst 1995 Sep 20; 87(18): 1372-82.

Matthews KA, Wing RR, Kuller LH, Meilahn EN, Plautinga P. Influence of the perimenopause on cardiovascular risk factors and symptoms in middle-aged healthy women. Archives of Internal Medicine 1994; 154: 2349-55.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: PERCEIVED STRESS SCALE CONSTRUCT

Variable Name: PSSSHT

PSSSHT Values: Score scale: 0 – 16; a higher score indicates more perceived stress

Description: Score designed to measure the degree to which situations in one's life are appraised as stressful

Long Description: The perceived stress scale has been suggested for use in examining the role of nonspecific appraised stress in the etiology of disease and behavioral disorders and as an outcome measure of experienced levels of stress. For the WHI study, a four item version of the 14-item Perceived Stress Scale (PSS) instrument was included on Form 155/version 1, questions 82-85.

Purpose: Computed construct variable for perceived stress

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection (2011-2012).

Form Used: 155, v1, Items 82-85

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		In the past 4 weeks, how often have you felt…	
NOCONTROL	82	That you were unable to control the important things in your life	0="Never", 1="Almost never", 2="Sometimes", 3="Fairly often", 4="Very often"
HANDLEPROB	83	Confident about your ability to handle your personal problems	0="Never", 1="Almost never", 2="Sometimes", 3="Fairly often", 4="Very often"
GOINGURWAY	84	That things were going your way	0="Never", 1="Almost never", 2="Sometimes", 3="Fairly often", 4="Very often"
PILINGUP	85	That difficulties were piling up so high that you could not overcome them	0="Never", 1="Almost never", 2="Sometimes", 3="Fairly often", 4="Very often"

Algorithm: Reverse code the responses to questions 83 and 84, and then sum all four responses

SAS code:

```
/*************************************************************/
/* CREATE  PERCEIVED STRESS SCALE CONSTRUCT                  */
/*************************************************************/

IF handleprob=4 THEN handleprobr=0;
ELSE IF handleprob=3 THEN handleprobr=1;
ELSE IF handleprob=2 THEN handleprobr=2;
ELSE IF handleprob=1 THEN handleprobr=3;
ELSE IF handleprob=0 THEN handleprobr=4;

IF goingurway=4 THEN goingurwayr=0;
ELSE IF goingurway=3 THEN goingurwayr=1;
ELSE IF goingurway=2 THEN goingurwayr=2;
ELSE IF goingurway=1 THEN goingurwayr=3;
ELSE IF goingurway=0 THEN goingurwayr=4;

psssht=nocontrol+handleprobr+goingurwayr+pilingup;
```

References:

Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.

Cohen, S., Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapam & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on applied social psychology*. Newbury Park, CA: Sage.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: PERSONAL GROWTH CONSTRUCT (3-item score)

Variable Name: PGROWTH1

PGROWTH1 Values: Score scale: 0 – 12; a higher score indicates a higher sense of continued development

Category: Behavioral

Description: Score designed to measure the participant's sense of continued development and degree to which they see themselves growing and expanding

Long Description: Personal growth is one component of a Psychological Well-Being scale and may be relevant to an aging population of women. In the WHI Study, personal growth is assessed by three items included on Form 155/version 1, questions 126, 129 and 130.

Purpose: Computed construct variable for personal growth

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 126, 129-130

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		How true have the following been for you in the past week?	
NEWEXPERIENCE	126	I think it is important to have new experiences that challenge how you think about yourself and the world	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
LIFEPROCESS	129	For me, life has been a continuous process of learning, changing, and growth	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
GAVEUPIMPROVE	130	I gave up trying to make big improvements or changes in my life a long time ago	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"

Algorithm: Reverse code the responses to question 130, and then sum all three responses

SAS code:

```
/*************************************************************/
/* CREATE  PERSONAL GROWTH CONSTRUCT                         */
/*************************************************************/

IF gaveupimprove=4 THEN gaveupimprover=0;
ELSE IF gaveupimprove=3 THEN gaveupimprover=1;
ELSE IF gaveupimprove=2 THEN gaveupimprover=2;
ELSE IF gaveupimprove=1 THEN gaveupimprover=3;
ELSE IF gaveupimprove=0 THEN gaveupimprover=4;

pgrowth1=newexperience+lifeprocess+gaveupimprover;
```

References:

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.

Ryff, C.D., Keyes, C.L.M (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: PERSONAL GROWTH CONSTRUCT (7-item score)

Variable Name: PGROWTH2

PGROWTH2 Values: Score scale: 0 – 28; a higher score indicates a higher sense of continued development

Category: Behavioral

Description: Score designed to measure the participant's sense of continued development and degree to which they see themselves growing and expanding

Long Description: Personal growth is one component of a Psychological Well-Being scale and may be relevant to an aging population of women. In the WHI Study, personal growth is assessed by seven items included on Form 155/version 1, questions 125-131.

Purpose: Computed construct variable for personal growth

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 125-131

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		How true have the following been for you in the past week?	
NOEXPANDHORIZ	125	I am not interested in activities that will expand my horizons	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NEWEXPERIENCE	126	I think it is important to have new experiences that challenge how you think about yourself and the world	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NOTIMPROVPERS	127	When I think about it, I haven't really improved much as a person over the years	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
DEVELOPEDPERS	128	I have the sense that I have developed a lot as a person over time	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
LIFEPROCESS	129	For me, life has been a continuous process of learning, changing, and growth	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
GAVEUPIMPROVE	130	I gave up trying to make big improvements or changes in my life a long time ago	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NOENJOYNEW	131	I do not enjoy being in new situations that require me to change my old familiar ways of doing things	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"

Algorithm: Reverse code the responses to questions 125, 127, 130 and 131, and then sum all seven responses

SAS code:

```
/*********************************************************/
/* CREATE  PERSONAL GROWTH CONSTRUCT                     */
/*********************************************************/
IF noexpandhoriz=4 THEN noexpandhorizr=0;
ELSE IF noexpandhoriz=3 THEN noexpandhorizr=1;
ELSE IF noexpandhoriz=2 THEN noexpandhorizr=2;
ELSE IF noexpandhoriz=1 THEN noexpandhorizr=3;
ELSE IF noexpandhoriz=0 THEN noexpandhorizr=4;
IF notimprovpers=4 THEN notimprovpersr=0;
ELSE IF notimprovpers=3 THEN notimprovpersr=1;
ELSE IF notimprovpers=2 THEN notimprovpersr=2;
ELSE IF notimprovpers=1 THEN notimprovpersr=3;
ELSE IF notimprovpers=0 THEN notimprovpersr=4;
```

```
IF gaveupimprove=4 THEN gaveupimprover=0;
ELSE IF gaveupimprove=3 THEN gaveupimprover=1;
ELSE IF gaveupimprove=2 THEN gaveupimprover=2;
ELSE IF gaveupimprove=1 THEN gaveupimprover=3;
ELSE IF gaveupimprove=0 THEN gaveupimprover=4;


IF noenjoynew=4 THEN noenjoynewr=0;
ELSE IF noenjoynew=3 THEN noenjoynewr=1;
ELSE IF noenjoynew=2 THEN noenjoynewr=2;
ELSE IF noenjoynew=1 THEN noenjoynewr=3;
ELSE IF noenjoynew=0 THEN noenjoynewr=4;

pgrowth2=noexpandhorizr+newexperience+notimprovpersr+developedpers+lifeprocess+gaveupimprover+
        noenjoynewr;
```

References:

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.

Ryff, C.D., Keyes, C.L.M (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: PURPOSE IN LIFE CONSTRUCT (3-item score)

Variable Name: PURPOSE1

PURPOSE1 Values: Score scale: 0 – 12; a higher score indicates a higher sense of purpose in life

Description: Score designed to measure whether the participant has goals in life and a sense of directedness

Long Description: Purpose in life is one component of a Psychological Well-Being scale and may be relevant to an aging population of women. In the WHI Study, degree of purpose in life is assessed by three items included on Form 155/version 1, questions 132, 138 and 139.

Purpose: Computed construct variable for purpose in life

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 132, 138, 139

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		How true have the following been for you in the past week?	
LIVE1DAY	132	I live life one day at a time and don't really think about the future	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NOTAIMLESS	138	Some people wander aimlessly through life, but I am not one of them	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
DONEITALL	139	I sometimes feel as if I've done all there is to do in life	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"

Algorithm: Reverse code the responses to question 139, and then sum all three responses

SAS code:

```
/*************************************************************/
/* CREATE  PURPOSE IN LIFE CONSTRUCT                         */
/*************************************************************/
IF live1day=4 THEN live1dayr=0;
ELSE IF live1day=3 THEN live1dayr=1;
ELSE IF live1day=2 THEN live1dayr=2;
ELSE IF live1day=1 THEN live1dayr=3;
ELSE IF live1day=0 THEN live1dayr=4;

IF doneitall=4 THEN doneitallr=0;
ELSE IF doneitall=3 THEN doneitallr=1;
ELSE IF doneitall=2 THEN doneitallr=2;
ELSE IF doneitall=1 THEN doneitallr=3;
ELSE IF doneitall=0 THEN doneitallr=4;

purpose1=live1dayr+notaimless+doneitallr
```

References:

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.

Ryff, C.D., Keyes, C.L.M (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: PURPOSE IN LIFE CONSTRUCT (7-item score)

Variable Name: PURPOSE2

PURPOSE2 Values: Score scale: 0 – 28; a higher score indicates a higher sense of purpose in life

Description: Score designed to measure whether the participant has goals in life and a sense of directedness

Long Description: Purpose in life is one component of a Psychological Well-Being scale and may be relevant to an aging population of women. In the WHI Study, degree of purpose in life is assessed by seven items included on Form 155/version 1, questions 132-136, 138 and 139.

Purpose: Computed construct variable for purpose in life

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 132-139

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		How true have the following been for you in the past week?	
LIVE1DAY	132	I live life one day at a time and don't really think about the future	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
SENSEPURPOSE	133	I have a sense of direction and purpose in life	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NOSENSEACCOMP	134	I don't have a good sense of what it is I'm trying to accomplish in life	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
TRIVIALACTS	135	My daily activities often seem trivial and unimportant to me	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
PLANFUTURE	136	I enjoy making plans for the future and working to make them a reality	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
NOTAIMLESS	138	Some people wander aimlessly through life, but I am not one of them	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"
DONEITALL	139	I sometimes feel as if I've done all there is to do in life	0="Not at all", 1="A little bi", 2="Somewhat", 3="Quite a bit", 4="Very much"

Algorithm: Reverse code the responses to questions 132, 134, 135 and 139, and then sum all seven responses

SAS code:

```
/*************************************************************/
/* CREATE  PURPOSE IN LIFE CONSTRUCT                         */
/*************************************************************/
IF live1day=4 THEN live1dayr=0;
ELSE IF live1day=3 THEN live1dayr=1;
ELSE IF live1day=2 THEN live1dayr=2;
ELSE IF live1day=1 THEN live1dayr=3;
ELSE IF live1day=0 THEN live1dayr=4;

IF nosenseaccomp=4 THEN nosenseaccompr=0;
ELSE IF nosenseaccomp=3 THEN nosenseaccompr=1;
ELSE IF nosenseaccomp=2 THEN nosenseaccompr=2;
ELSE IF nosenseaccomp=1 THEN nosenseaccompr=3;
ELSE IF nosenseaccomp=0 THEN nosenseaccompr=4;

IF trivialacts=4 THEN trivialactsr=0;
ELSE IF trivialacts=3 THEN trivialactsr=1;
ELSE IF trivialacts=2 THEN trivialactsr=2;
```

```
ELSE IF trivialacts=1 THEN trivialactsr=3;
ELSE IF trivialacts=0 THEN trivialactsr=4;

IF doneitall=4 THEN doneitallr=0;
ELSE IF doneitall=3 THEN doneitallr=1;
ELSE IF doneitall=2 THEN doneitallr=2;
ELSE IF doneitall=1 THEN doneitallr=3;
ELSE IF doneitall=0 THEN doneitallr=4;

purpose2=live1dayr+sensepurpose+nonsenseaccompr+trivialactsr+planfuture+notaimless+doneitallr
```

References:

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.

Ryff, C.D., Keyes, C.L.M (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale #1 - EMOTIONAL WELL-BEING

Variable Name: EMOWELL

EMOWELL Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to emotional well-being

Description: Score assessing the participant's quality of life in regards to her ability to function physically

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		These questions are about how you feel and how things have been during the past 4 weeks. Give the one answer that comes closest to the way you have been feeling. How much of the time during the past four weeks…	
NERVOUS	77	Have you been a very nervous person?	1="All of the time" to 6="None of the time"
DWNDUMPS	78	Have you felt so down in dumps that nothing could cheer you up?	1="All of the time" to 6="None of the time"
CALM	79	Have you felt calm and peaceful?	1="All of the time" to 6="None of the time"
FELTBLUE	81	Have you felt downhearted and blue?	1="All of the time" to 6="None of the time"
HAPPY	83	Have you been happy?	1="All of the time" to 6="None of the time"

Algorithm: Average recoded response values (recode: for questions 79 and 83: 1=100, 2=80, 3=60, 4=40, 5=20 6=0; for questions 77, 78 and 81: 1=0, 2=20, 3=40, 4=60, 5=80, 6=100) of the five questions

SAS code:

```
**********************;
* Emotional well-being;
**********************;

IF nervous=1 THEN nervousr=0;
ELSE IF nervous=2 THEN nervousr=20;
ELSE IF nervous=3 THEN nervousr=40;
ELSE IF nervous=4 THEN nervousr=60;
ELSE IF nervous=5 THEN nervousr=80;
ELSE IF nervous=6 THEN nervousr=100;

IF dwndumps=1 THEN dwndumpsr=0;
ELSE IF dwndumps=2 THEN dwndumpsr=20;
ELSE IF dwndumps=3 THEN dwndumpsr=40;
```

```
ELSE IF dwndumps=4 THEN dwndumpsr=60;
ELSE IF dwndumps=5 THEN dwndumpsr=80;
ELSE IF dwndumps=6 THEN dwndumpsr=100;

IF calm=1 THEN calmr=100;
ELSE IF calm=2 THEN calmr=80;
ELSE IF calm=3 THEN calmr=60;
ELSE IF calm=4 THEN calmr=40;
ELSE IF calm=5 THEN calmr=20;
ELSE IF calm=6 THEN calmr=0;

IF feltblue=1 THEN feltbluer=0;
ELSE IF feltblue=2 THEN feltbluer=20;
ELSE IF feltblue=3 THEN feltbluer=40;
ELSE IF feltblue=4 THEN feltbluer=60;
ELSE IF feltblue=5 THEN feltbluer=80;
ELSE IF feltblue=6 THEN feltbluer=100;

IF happy=1 THEN happyr=100;
ELSE IF happy=2 THEN happyr=80;
ELSE IF happy=3 THEN happyr=60;
ELSE IF happy=4 THEN happyr=40;
ELSE IF happy=5 THEN happyr=20;
ELSE IF happy=6 THEN happyr=0;

emowell = (nervousr+dwndumpsr+calmr+feltbluer+happyr)/5;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale # 2 - ENERGY/FATIGUE

Variable Name: ENERFAT

ENERFAT Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to level of energy/fatigue

Description: Score assessing the participant's quality of life in regards to her level of energy/fatigue

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		These questions are about how you feel and how things have been during the past 4 weeks. Give the one answer that comes closest to the way you have been feeling. How much of the time during the past four weeks…	
FULLPEP	76	Did you feel full of pep?	1="All of the time" to 6="None of the time"
ENERGY	80	Did you have a lot of energy?	1="All of the time" to 6="None of the time"
WORNOUT	82	Did you feel worn out?	1="All of the time" to 6="None of the time"
TIRED	84	Did you feel tired?	1="All of the time" to 6="None of the time"

Algorithm: Average recoded response values of the four questions (recode: for questions 76 and 80: 1=100, 2=80, 3=60, 4=40, 5=20 6=0; for questions 82 and 84: 1=0, 2=20, 3=40, 4=60, 5=80, 6=100) of the four questions

SAS code:

```
**********
* Energy/Fatigue;
**********

IF fullpep=1 THEN fullpepr=100;
ELSE IF fullpep=2 THEN fullpepr=80;
ELSE IF fullpep=3 THEN fullpepr=60;
ELSE IF fullpep=4 THEN fullpepr=40;
ELSE IF fullpep=5 THEN fullpepr=20;
ELSE IF fullpep=6 THEN fullpepr=0;

IF energy=1 THEN energyr=100;
ELSE IF energy=2 THEN energyr=80;
ELSE IF energy=3 THEN energyr=60;
ELSE IF energy=4 THEN energyr=40;
ELSE IF energy=5 THEN energyr=20;
```

```
ELSE IF energy=6 THEN energyr=0;

IF wornout=1 THEN wornoutr=0;
ELSE IF wornout=2 THEN wornoutr=20;
ELSE IF wornout=3 THEN wornoutr=40;
ELSE IF wornout=4 THEN wornoutr=60;
ELSE IF wornout=5 THEN wornoutr=80;
ELSE IF wornout=6 THEN wornoutr=100;

IF tired=1 THEN tiredr=0;
ELSE IF tired=2 THEN tiredr=20;
ELSE IF tired=3 THEN tiredr=40;
ELSE IF tired=4 THEN tiredr=60;
ELSE IF tired=5 THEN tiredr=80;
ELSE IF tired=6 THEN tiredr=100;

enerfat=(fullpepr+energyr+wornoutr+tiredr)/4;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subclass #3 - GENERAL HEALTH

Variable Name: GENHLTH

GENHLTH Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to general health

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
GENHEL	49	In general, would you say your health is	1="Excellent" to 5="Poor"
		Of these statements, how true or false is each for you?	
SICKEASY	71	I seem to get sick a little easier than other people	1="Definitely true" to 5="Definitely false"
HLTHYANY	72	I am as healthy as anybody I know	1="Definitely true" to 5="Definitely false"
HLTHWORS	73	I expect my health to get worse	1="Definitely true" to 5="Definitely false"
HLTHEXCL	74	My health is excellent	1="Definitely true" to 5="Definitely false"

Algorithm: Average recoded response values (recode: for questions 49, 72 and 74: 1=100, 2=75, 3=50, 4=25, 5=0; for questions 71 and 73: 1=0, 2=25, 3=50, 4=75, 5=100) of the five questions

SAS code:

```
**********;
* General Health;
**********;

IF genhel=1 THEN genhelr=100;
ELSE IF genhel=2 THEN genhelr=75;
ELSE IF genhel=3 THEN genhelr=50;
ELSE IF genhel=4 THEN genhelr=25;
ELSE IF genhel=5 THEN genhelr=0;

IF hlthyany=1 THEN hlthanyr=100;
ELSE IF healany=2 THEN hlthanyr=75;
ELSE IF hlthyany=3 THEN hlthanyr=50;
ELSE IF hlthyany=4 THEN hlthanyr=25;
ELSE IF hlthyany=5 THEN hlthanyr=0;

IF hlthexcl=1 THEN hlthexclr=100;
ELSE IF hlthexcl=2 THEN hlthexclr=75;
ELSE IF hlthexcl=3 THEN hlthexclr=50;
ELSE IF hlthexcl=4 THEN hlthexclr=25;
```

```
ELSE IF hlthexcl=5 THEN hlthexclr=0;

IF sickeasy=1 THEN sickeasyr=0
ELSE IF sickeasy=2 THEN sickeasyr=25;
ELSE IF sickeasy=3 THEN sickeasyr=50;
ELSE IF sickeasy=4 THEN sickeasyr=75;
ELSE IF sickeasy=5 THEN sickeasyr=100;

IF hlthwors=1 THEN hlthworsr=0;
ELSE IF hlthwors=2 THEN hlthworsr=25;
ELSE IF hlthwors=3 THEN hlthworsr=50;
ELSE IF hlthwors=4 THEN hlthworsr=75;
ELSE IF hlthwors=5 THEN hlthworsr=100;

genhlth=(genhelr+hlthanyr+hlthexclr+sickeasyr+hlthworsr)/5;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Title: Quality of Life Subscase #4: PAIN

Variable Name: PAIN

PAIN Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to pain

Description: Score assessing the participant's quality of life in regards to her experience with pain

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
BODPAIN	62	During the past 4 weeks, how much bodily pain have you had?	0="None" to 5="Severe" (note: values 0, 2, 3, 4, 5)
PAININT	63	During the past 4 weeks, how much did pain interfere with your normal work (both outside your home and at home?)	1="Not at all" to 5="Extremely (A lot)"

Algorithm: Average of the recoded response values (recode: 1=100 [0=100 for question 62], 2=75, 3=50, 4=25, 5=0) of the two questions

SAS code:

```
**********;
* Pain Construct;
**********;

IF bodpain=0 THEN bodpainr=100;
ELSE IF bodpain=2 THEN bodpainr=75;
ELSE IF bodpain=3 THEN bodpainr=50;
ELSE IF bodpain=4 THEN bodpainr=25;
ELSE IF bodpain=5 THEN bodpainr=0;

IF painint=1 THEN painintr=100;
ELSE IF painint=2 THEN painintr=75;
ELSE IF painint=3 THEN painintr=50;
ELSE IF painint=4 THEN painintr=25;
ELSE IF painint=5 THEN painintr=0;

pain=(bodpainr+painintr)/2;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale #5: PHYSICAL FUNCTIONING

Variable Name: PHYSFUN

PHYSFUN Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to physical functioning

Description: Score assessing the participant's quality of life in regards to her ability to function physically

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		The following are questions about a typical (or usual) day's activities. Does your health now limit you in these activities and, if so, how much?	
VIGACT	51	Vigorous activities, such as running, lifting heavy objects, or strenuous sports	3="No, not limited at all" to 1="Yes, limited a lot"
MODACT	52	Moderate activities, such as moving a table, vacuuming, bowling, or golfing	3="No, not limited at all" to 1="Yes, limited a lot"
LIFTGROC	53	Lifting or carrying groceries	3="No, not limited at all" to 1="Yes, limited a lot"
STAIRS	54	Climbing several flights of stairs	3="No, not limited at all" to 1="Yes, limited a lot"
STAIR	55	Climbing one flight of stairs	3="No, not limited at all" to 1="Yes, limited a lot"
BENDING	56	Bending, kneeling, stooping	3="No, not limited at all" to 1="Yes, limited a lot"
WALK1M	57	Walking more than a mile	3="No, not limited at all" to 1="Yes, limited a lot"
WALKBLKS	58	Walking several blocks	3="No, not limited at all" to 1="Yes, limited a lot"
WALK1BLK	59	Walking one block	3="No, not limited at all" to 1="Yes, limited a lot"
BATHING	60	Bathing or dressing yourself	3="No, not limited at all" to 1="Yes, limited a lot"

Algorithm: Average recoded response values (recode: 3=100, 2=50, 1=0) of the ten questions

SAS code:

```
/*************************************************************************************/
/* CREATE QUALITY OF LIFE / FUNCTIONAL STATUS CONSTRUCT                              */
/*************************************************************************************/

**********************;
*Physical functioning;
**********************;

IF vigact=1 THEN vigactr=0;
ELSE IF vigact=2 THEN vigactr=50;
```

```
ELSE IF vigact=3 THEN vigactr=100;

IF modact=1 THEN modactr=0;
ELSE IF modact=2 THEN modactr=50;
ELSE IF modact=3 THEN modactr=100;

IF liftgroc=1 THEN liftgrcr=0;
ELSE IF liftgroc=2 THEN liftgrcr=50;
ELSE IF liftgroc=3 THEN liftgrcr=100;

IF stairs=1 THEN stairsr=0;
ELSE IF stairs=2 THEN stairsr=50;
ELSE IF stairs=3 THEN stairsr=100;

IF stair=1 THEN stairr=0;
ELSE IF stair=2 THEN stairr=50;
ELSE IF stair=3 THEN stairr=100;

IF bending=1 THEN bendingr=0;
ELSE IF bending=2 THEN bendingr=50;
ELSE IF bending=3 THEN bendingr=100;

IF walk1m=1 THEN walk1mr=0;
ELSE IF walk1m=2 THEN walk1mr=50;
ELSE IF walk1m=3 THEN walk1mr=100;

IF walkblks=1 THEN walkblksr=0;
ELSE IF walkblks=2 THEN walkblksr=50;
ELSE IF walkblks=3 THEN walkblksr=100;

IF walk1blk=1 THEN wlk1blkr=0;
ELSE IF walk1blk=2 THEN wlk1blkr=50;
ELSE IF walk1blk=3 THEN wlk1blkr=100;

IF bathing=1 THEN bathingr=0;
ELSE IF bathing=2 THEN bathingr=50;
ELSE IF bathing=3 THEN bathingr=100;

physfun=(vigactr+modactr+liftgrcr+stairsr+stairr+bendingr+walk1mr+walkblksr+wlk1blkr+bathingr)/10;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale #6 - ROLE LIMITATIONS DUE TO EMOTIONAL PROBLEMS

Variable Name: EMOLIMIT

EMOLIMIT Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to emotional health

Description: Score assessing the participant's quality of life in regards to her ability to function physically

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		In the past 4 weeks, as a result of any emotional problem (feeling depressed or anxious), have any of the following occurred?	
LESSWRKE	68	You cut down on the amount of time spent on work or other activities	0="No", 1="Yes"
LESSACCE	69	You accomplished less than would have liked	0="No", 1="Yes"
LESSCARE	70	You did work or other things less carefully than usual	0="No", 1="Yes"

Algorithm: Average recoded response values (recode: 0=100, 1=0) of the three questions

SAS code:

```
*****************************************;
* Role limitation due to emotional problems;
*****************************************;

IF lesswrke=0 THEN lesswrker=100;
ELSE IF lesswrke=1 THEN lesswrker=0;

IF lessacce=0 THEN lessaccer=100;
ELSE IF lessacce=1 THEN lessaccer=0;

IF lesscare=0 THEN lesscarer=100;
ELSE IF lesscare=1 THEN lesscarer=0;

emolimit=(lesswrker+lessaccer+lesscarer)/3;
```

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale #7 - ROLE LIMITATIONS DUE TO PHYSICAL HEALTH

Variable Name: PHYLIMIT

PHYLIMIT Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to limitations due to physical health

Description: Score assessing the participant's quality of life in regards to her ability to function physically

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		The next questions are about your regular daily activities like work, child care, or community activities. As a result of your physical health, have any of the following problems occurred during the past 4 weeks?	
LESSWRKP	64	You cut down on the amount of time you spent on work or other activities	0="No", 1="Yes"
LESSACCP	65	You accomplished less than you would have liked	0="No", 1="Yes"
LESSKNDP	66	You were limited in the kind of work or other activities you did	0="No", 1="Yes"
WRKDIFFP	67	You had difficulty performing work or other activities (it took extra effort)	0="No", 1="Yes"

Algorithm: Average recoded response values (recode: 0=100, 1=0) of the four questions

SAS code:

```
*****************************************;
* Role limitation due to physical health;
*****************************************;
IF lesswrkp=0 THEN lesswrkpr=100;
ELSE IF lesswrkp=1 THEN lesswrkpr=0;

IF lessaccp=0 THEN lessaccpr=100;
ELSE IF lessaccp=1 THEN lessaccpr=0;

IF lesskndp=0 THEN lesskndpr=100;
ELSE IF lesskndp=1 THEN lesskndpr=0;

IF wrkdiffp=0 THEN wrkdiffpr=100;
ELSE IF wrkdiffp=1 THEN wrkdiffpr=0;wrkdiffp

phylimit=(lesswrkpr+lessaccpr+lesskndpr+wrkdiffpr)/4;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: Quality of Life Subscale #8 - SOCIAL FUNCTIONING

Variable Name: SOCFUNC

SOCFUNC Values: Score scale: 0 - 100; a higher score indicates a more favorable health state in regards to social functioning

Long Description: Quality of life will be evaluated using a general health status measure. The measure, Rand 36-Item Health Survey (SF-36) was developed for the medical outcomes study. The SF-36 is perhaps the most widely used health questionnaire in the world today. It has gone through very extensive validity and reliability evaluation. The SF-36 provides the following eight quality of life subscales. In each of these subscales, higher scores indicate better health (Ware and Sherbourne, 1992).

Quality of life subscale	**Form 37, v6, Item #s**	**Form 38, v6.2, Item #s**	**Form 151, v9.2, Item #s**	**Form 155, v1, Item #s**
1 - Emotional well being	77-79, 81, 83	31-33, 35, 37		99-101, 103, 105
2 - Energy/fatigue	76, 80, 82, 84	30, 34, 36, 38		98, 102, 104, 106
3 - General health	49, 71-74	3, 25-28		
4 - Pain	62, 63	16-17		115, 116
5 - Physical functioning	51-60	5-14	7-16	10-19
6 - Role limitations due to emotional problems	68-70	22-24		
7 - Role limitations due to physical health	64-67	18-21		
8 - Social functioning	61, 75	15, 29		

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
INTSOC	61	During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, neighbors, friends, or groups?	1="Not at all" to 5="Extremely (A lot)"
INTSOC2	75	During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends and relatives)?	1="All of the time" to 5="None of the time"

Algorithm: Average recoded response values (recode: for question 61: 1=100, 2=75, 3=50, 4=25, 5=0; for question 75: 1=0, 2=25, 3=50, 4=75, 5=100) of the two questions

SAS code:

```
**********;
* Social functioning;
**********

IF intsoc=1 THEN intsocr=100;
ELSE IF intsoc=2 THEN intsocr=75;
ELSE IF intsoc=3 THEN intsocr=50;
ELSE IF intsoc=4 THEN intsocr=25;
ELSE IF intsoc=5 THEN intsocr=0;

IF intsoc2=1 THEN intsoc2r=0;
ELSE IF intsoc2=2 THEN intsoc2r=25;
ELSE IF intsoc2=3 THEN intsoc2r=50;
ELSE IF intsoc2=4 THEN intsoc2r=75;
ELSE IF intsoc2=5 THEN intsoc2r=100;

socfunc = (intsocr + intsoc2r)/2;
```

References

Hays R, Sherbourne C, Mazel R. The Rand 36-Item Survey 1.0. Health Economics 1993; 2: 217-227.

Stewart A, Shebourne C, Hays R, et al. Summary and discussion of MOS measures in A Stewart & J Ware (eds.), Measuring functioning and well-being: The medical outcome study approach. Duke University Press. 1992; 345-371.

Ware J, Sherbourne C. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Medical Care. 1992; 30:473-483.

Wiklund I, Gorkin L. p Pawitan Y, Schron E, Schoenberger J, Jared L, Shumaker S. Methods for assessing quality of life in the Cardiac Arrhythmia Suppression Trial (CAST). Quality of Life Research 1992; 1:187-201.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: BRIEF RESILIENCE SCALE

Variable Name: BRS

BRS Values: Score scale: 1 – 5; a higher score indicates a high level of resilience

Category: Behavioral

Description: Score designed to assess the ability to bounce back or recover from stress

Long Description: Changes in the ability to bounce back from stress occur with age and relate to health status and co-morbidities. In the WHI Study, degree of reselience is assessed by three items included on Form 155/version 1, questions 86-88.

Purpose: Computed construct variable for resilience

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 86-88

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		The following questions are about emotions you may have been feeling. Mark the answer that best corresponds to how much you agree with each statement.	
BOUNCEBACK	86	I tend to bounce back quickly after hard times	1="Strongly disagree", 2="Disagree somewhat", 3="Disagree slightly", 4="Agree slightly", 5="Agree somewhat", 6="Agree strongly"
STRESSRCVR	87	It does not take me long to recover from a stressful event	1="Strongly disagree", 2="Disagree somewhat", 3="Disagree slightly", 4="Agree slightly", 5="Agree somewhat", 6="Agree strongly"
STRESSHARD	88	I have a hard time making it through stressful events	1="Strongly disagree", 2="Disagree somewhat", 3="Disagree slightly", 4="Agree slightly", 5="Agree somewhat", 6="Agree strongly"

Algorithm: Reverse code the response to question 88, collapse the responses to each question from six to five categories , and then take the average of all three responses.

SAS code:

```
/*************************************/
/* CREATE  BRIEF RESILIENCE SCALE   */
/*************************************/
IF bounceback=1 THEN bouncebackr=1;
ELSE IF bounceback=2 THEN bouncebackr=2;
ELSE IF bounceback IN (3,4) THEN bouncebackr=3;
ELSE IF bounceback=5 THEN bouncebackr=4;
ELSE IF bounceback=6 THEN bouncebackr=5;

IF stressrcvr=1 THEN stressrcvrr=1;
ELSE IF stressrcvr=2 THEN stressrcvrr=2;
ELSE IF stressrcvr IN (3,4) THEN stressrcvrr=3;
ELSE IF stressrcvr=5 THEN stressrcvrr=4;
ELSE IF stressrcvr=6 THEN stressrcvrr=5;

IF stresshard=1 THEN stresshardr=5;
ELSE IF stresshard=2 THEN stresshardr=4;
ELSE IF stresshard IN (3,4) THEN stresshardr=3;
```

ELSE IF stresshard=5 THEN stresshardr=2;
ELSE IF stresshard=6 THEN stresshardr=1;

brs=(bouncebackr+stressrcvrr+stresshardr)/3

References:

Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., Bernard, J. (2008). The Brief Resilience Scale: Assessing the Ability to Bounce Back. *International Journal of Behavioral Medicine* , 15(3), 194-200.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SATISFACTION WITH LIFE SCALE

Variable Name: SWLS

SWLS Values: Score scale: 5 – 35; a higher score indicates a higher level of satisfaction with life

Description: Score designed to measure global cognitive judgements of satisfaction with one's life

Long Description: Changes in life satisfaction occur with age and relate to health status and co-morbidities. In the WHI Study, degree of satisfaction with life is assessed by five items included on Form 155/version 1, questions 151-155.

Purpose: Computed construct variable for satisfaction with life

Data available on (denominator): All Extension Study 2010-2015 participants alive at time of collection

Form Used: 155, v1, Items 151-155

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		The following questions are about emotions you may have been feeling. Mark the answer that best corresponds to how much you agree with each statement.	
LIFEIDEAL	151	In most ways my life is close to my ideal	1="Strongly agree", 2="Disagree", 3="Slightly disagree", 4="Neither agree nor disagree", 5="Slightly agree", 6="Agree", 7="Strongly agree"
LIFEEXCEL	152	The conditions of my life are excellent	1="Strongly agree", 2="Disagree", 3="Slightly disagree", 4="Neither agree nor disagree", 5="Slightly agree", 6="Agree", 7="Strongly agree"
LIFESATISFIED	153	I am satisfied with my life	1="Strongly agree", 2="Disagree", 3="Slightly disagree", 4="Neither agree nor disagree", 5="Slightly agree", 6="Agree", 7="Strongly agree"
LIFEIMPORTANT	154	So far I have gotten the important things I want in life	1="Strongly agree", 2="Disagree", 3="Slightly disagree", 4="Neither agree nor disagree", 5="Slightly agree", 6="Agree", 7="Strongly agree"
LIFENOCHANGE	155	If I could live my life over, I would change almost nothing	1="Strongly agree", 2="Disagree", 3="Slightly disagree", 4="Neither agree nor disagree", 5="Slightly agree", 6="Agree", 7="Strongly agree"

Algorithm: Sum response values of all five questions

SAS code:

```
/*************************************************************/
/* CREATE  SATISFACTION WITH LIFE SCALE CONSTRUCT    */
/*************************************************************/
swls=lifeideal+lifeexcel+lifesatisfied+lifeimportant+lifenochange
```

References:

Diener, E., Emmons, R.A., Larsen, R.J., Griffen, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SLEEP DISTURBANCE

Variable Name: SLPDSTRB

SLPDSTRB Values: Score scale: 0 - 20; a higher score indicates greater sleep disturbance

Description: Score assessing participant's level of sleep disturbance

Long Description: The aging process is associated with changes in sleep patterns. It is also possible that sleep patterns change as a function of HT. Sleep disturbance is also an important variable in predicting health outcomes and an important aspect of depression in older adults (Kripke et al, 2001).

Form Used: 37, v6, Items 114-117, 119
38, v6.2, Items 61-64, 66
155, v1, Items 92-96

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		These next questions are about your sleep habits. Please mark one of the answers for each of the following questions. Pick the answer that best describes how often you experienced the situation in the past 4 weeks.	
TRBSLEEP	114	Did you have trouble falling asleep?	1="No, not in the past 4 weeks=" to 5="Yes, 5 or more times a week"
WAKENGHT	115	Did you wake up several times at night?	1="No, not in the past 4 weeks=" to 5="Yes, 5 or more times a week"
UPEARLY	116	Did you wake up earlier than you planned?	1="No, not in the past 4 weeks=" to 5="Yes, 5 or more times a week"
BACKSLP	117	Did you have trouble getting back to sleep after you woke up too early?	1="No, not in the past 4 weeks=" to 5="Yes, 5 or more times a week"
QUALSLP	119	Overall, was your typical night's sleep during the past 4 weeks:	1="Very restless" to 5="Very sound or restful"

Algorithm: Recode the response values of questions 114-117, shifting to a 0-4 scale, and reverse code and shift to a 0-4 scale the response values of question 119, before summing all five responses.

SAS code:

```
/*************************************************************************************/
/* CREATE SLEEP DISTURBANCE CONSTRUCT                                                */
/*************************************************************************************/
trbsleepr = trbsleep – 1;
wakenghtr = wakenght – 1;
upearlyr = upearly – 1;
backslpr = backslp – 1;

IF qualslp=5 THEN qualslpr=0;
ELSE IF qualslp=4 THEN qualslpr=1;
ELSE IF qualslp=3 THEN qualslpr=2;
ELSE IF qualslp=2 THEN qualslpr=3;
ELSE IF qualslp=1 THEN qualslpr=4;

slpdstrb=trbsleepr+wakenghtr+upearlyr+backslpr+qualslpr;
```

References

Kripke et al, 2001

Levine DW, Kaplan RM, Kripke DF, Naughton MJ, Shumaker SA. Factor structure and measurement invariance of the Women's Health Initiative Insomnia Rating Scale. Psychoo Assess. 2003 Jun; 15(2):123-36.

Levine DW, Kaplan RM, Kripke DF, Bowen DJ, Naughton MJ, Shumaker SA. Factor structure and measurement invariance of the Women's Health initiative Insomnia Rating Scale. Pschol Assess. 2003 Jun; 15(2):123-36.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SOCIAL STRAIN

Variable Name: SOCSTRN

SOCSTRN Values: Score scale: 4 - 20; a higher score indicates greater social strain

Description: Score assessing strain on existing support systems based on measurement of negative aspects of social relationships

Long Description: Social relationships may have either positive or negative effects. Social strain is often called "negative social support." For women, strain on existing support systems might interfere with social support and could have a negative effect on health status. The items were obtained from a measure of negative aspects of social relationships developed by Antonucci et al, 1989.

Form Used: 37, v6, Items 16-19

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		Of the people who are important to you, how many…	
NERVES	16	Get on your nerves?	1="None" to 5="All"
TOOMUCH	17	Ask too much of you?	1="None" to 5="All"
EXCLUDE	18	Do not include you?	1="None" to 5="All"
COERCE	19	Try to get you to do things you don't want to?	1="None" to 5="All"

Algorithm: Sum response values of all four questions

SAS code:

```
/*************************************************************************************/
/* CREATE SOCIAL STRAIN CONSTRUCT                                                    */
/*************************************************************************************/

socstrn=nerves+toomuch+exclude+coerce
```

References

Antonucci TA, Kahn RC, Akiyama H. Psychosocial factors and the response to cancer symptoms in R Yancid & JW Yates (eds.), Cancer in the elderly: Approaches to early detection and treatment. Spring, New York. 1989; Chapter 4.

Abbey et al (1985)

Vinokun & Van Ryan. JPSP. 1992; 65:350-359.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SOCIAL SUPPORT

Variable Name: SOCSUPP

SOCSUPP Values: Score scale: 9 - 45; a higher score indicates greater support

Description: Score assessing the amount of social support the participant has available

Long Description: Supportive interpersonal relationships have been shown to be an important predictor of morbidity and mortality. Social support may work in at least two different ways. First, those with good support systems may be more protected from chronic illnesses. The second possibility is that social support may "buffer" stress from life events (Shumaker and Hill, 1991). To evaluate social support, a questionnaire from the Medical Outcomes Study (MOS) has been included. The questionnaire is designed to assess the amount of social support the patient has available. The nine questions ask respondents to indicate how often each of nine different types of support is available to them. Responses are scored on a five-point scale ranging from "none of the time" to "all of the time." The nine questions form an overall score formed from four subscales: emotional/informal support, affection, tangible support, and positive social interaction (Sherbourne and Stewart, 1991).

Form Used: 37, v6, Items 1-9
155, v1, Items 38-46

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		People sometimes look to others for help, friendship, or other types of support. Next are some questions about the support that you have. How often is each of the following kinds of support available to you if you need it?	
LISTEN	1	Someone you can count on to listen to you when you need to talk	1="None of the time" to 5="All of the time"
GOODADVC	2	Someone to give you good advice about a problem	1="None of the time" to 5="All of the time"
TAKEDR	3	Someone to take you to the doctor if you need it	1="None of the time" to 5="All of the time"
GOODTIME	4	Someone to have a good time with	1="None of the time" to 5="All of the time"
HLPPROB	5	Someone to help you understand a problem when you need it	1="None of the time" to 5="All of the time"
HLPCHORS	6	Someone to help you with daily chores if you are sick	1="None of the time" to 5="All of the time"
SHARE	7	Someone to share your most private worries and fears	1="None of the time" to 5="All of the time"
FUN	8	Someone to do something fun with	1="None of the time" to 5="All of the time"
LOVE	9	Someone to love you and make you feel wanted	1="None of the time" to 5="All of the time"

Intermediate subscales:

Variable Name	Description	Scale
EMOINF	Emotional/information support subscale (Items 1, 2, 5, 7)	4-20
LOVYOU	Affection support subscale (Item 9)	1-5
TANG	Tangible support subscale (Items 3, 6)	2-10
POSINT	Positive social interaction subscale (Items 4, 8)	2-10

Algorithm: Sum response values of all nine questions

SAS code:

```
/*************************************************************************/
/* CREATE SOCIAL SUPPORT SCORE                                           */
/*************************************************************************/
```

```
* Subscales for Social Support ;

* Emotional/Informational;
emoinf=listen+goodadvc+hlpprob+share;

*Affectionate          ;
*love variable only;

*Tangible              ;
tang=takedr+hlpchors;

*Positive Interaction   ;
posint=goodtime+fun;

************************;
*Overall Social Support ;
************************;
socsupp=emoinf+love+tang+posint;
```

References

Sherbourne SD, Stewart AL. The MOS Social Support Survey. Social Science & Medicine. 1991; 32:705-714.

Shumaker S, Hill D. Gender differences in social support and physical health. Health Psychology 1991; 10:102-111.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SEXUAL FUNCTIONING

Description: Each item in the scale can be used separately to predict health and as an endpoint. Each item is scored as on the questionnaire.

Description: Sexual function is currently considered an integral component of quality of life. There is some evidence of imporvement in vaginal dryness with exogenous extrogen use.

Form Used: 37, v6, Items 128-132
38, v6.2, Items 75-79

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		The last questions in this booklet ask about some personal topics. Although the following questions are sensitive and personal, they are important. Your answers will help us understand the health of women and may help us find better treatments for their health problems. Please be assured that your responses to these questions will remain confidential.	
MARRIED	128	Are you currently married or in an intimate relationship with at least one person?	0=”No”, 1=”Yes”
SEXACTIV	129	Did you have any sexual activity with a partner in the last year?	0=”No”, 1=”Yes”, 9=”Don’t want to answer”
SATSEX	130	How satisfied are you with your current sexual activities, either with a partner or alone?	1=”Very satisfied”, 2=”A little satisfied”, 3=”Somewhat satisfied”, 4=”Very satisfied”, 9=”Don’t want to answer”
SATFRQSX	131	Are you satisfied with the frequency of your sexual activity, or would you like to have sex more or less often?	1=”Less often”, 2=”Satisfied with current frequency”, 3=”More often”, 9=”Don’t want to answer”
SEXWORRY	132	Are you worried that sexual activities will affect your health?	1=”Not at all worried”, 2=”A little worried”, 3=”Somewhat worried”, 4=”Very worried”, 9=”Don’t want to answer”

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SEXUAL ORIENTATION

Description: Score as coded on the form. Answers to item 133 can be combined to form a homosexual/other dichotomy (1 vs. all other) or a heterosexual/other dichotomy (2 vs. all other). Item 133.1 has a simialr scoring pattern.

Long Description: Item 133 provides information on lifetime sexual orientation. For women who have had sexual experiences with both women and men of their lifetime, the item 133.1 indicates recent experiences.

Form Used: 37, v6, Items 133-133.1

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	#	Question syntax	Response values
		The last questions in this booklet ask about some personal topics. Although the following questions are sensitive and personal, they are important. Your answers will help us understand the health of women and may help us find better treatments for their health problems. Please be assured that your responses to these questions will remain confidential.	
SEX	133	Regardless of whether you are currently sexually active, which response best describes who you have had sex with over your adult lifetime?	1="Have never had sex", 2="Sex with a woman or with women", 3="Sex with a man or with men", 3="Sex with both men and women", 3="Prefer not to answer"
SEX45	133.1	Which response best describes who you have had sex with after 45 years of age?	1="Never had sex", 2="Sex with a woman or with women", 3="Sex with a man or with men", 3="Sex with both men and women"

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: SOCIAL INTETRATION

Description: These items are eclectic, pooled, and modified from other studies. An overall method of scaling is not available

Long Description: Items 10-14 measure the number and identity of people in one's life and provide an index of how connected the respondent is with other people. Item 10 has seven subcomponents that assess living arrangements. The items are based on measures derived from a California Human Population Laboratory, Alameda County Study (Berkman, 1984, 1986), and have been modified as part of the EPESE. Each subset of items in this pool can be used separately to predict health. An overall method of scaling is not available.

Form Used: 37, v6, Items 10-14
155, v1, Item 29 (for comparison to Item 10 only)

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		The next questions are about your living and social activities.	
	10	Who lives with you? (Mark one oval for each item.)	
LIVALN	10.1	I live alone	0="No", 1="Yes"
LIVPRT	10.2	I live with my husband or partner	0="No", 1="Yes"
LIVCHLD	10.3	I live with my children	0="No", 1="Yes"
LIVSIBL	10.4	I live with my brother and/or sister	0="No", 1="Yes"
LIVREL	10.5	I live with other relatives	0="No", 1="Yes"
LIVFRNDS	10.6	I live with friends	0="No", 1="Yes"
LIVOTH	10.7	Other (please describe)	0="No", 1="Yes"
PET	11	Do you have a pet?	0="No", 1="Yes"
	11.1	What kind of pet do you have? (Mark all that apply)	
DOG		Dog(s)	0="No", 1="Yes"
CAT		Cat(s)	0="No", 1="Yes"
BIRD		Bird(s)	0="No", 1="Yes"
FISH		Fish	0="No", 1="Yes"
OTHPET		Other	0="No", 1="Yes"
RELGTIME	12	How often have you gone to a religious service or to a church during the <u>past month</u>?	1="Not at all in the past month", 2="Once in the past month", 3="2 or 3 times in the past month", 4="Once a week", 5="2 to 6 times a week", 6="Every day"
RELSTRN	13	How much does religion give you strength and comfort?	1="None", 2="A little", 3="A great deal"
CLUB	14	How often have you gone to meetings of clubs, lodges, or parent groups in the last month?	1="Not at all in the past month", 2="Once in the past month", 3="2 or 3 times in the past month", 4="Once a week", 5="2 to 6 times a week", 6="Every day"

References

Antonucci T, Akijama H. Social networks in adult life and a preliminary examination of the convoy mode. Journal of Gerontology 1987; 42:519-527.

Ellison C. Religious involvement and subjective well-being. Journal of Health and Social Behavior 1991; 32:80-99.

Berkman LF, Syme L. Social networks, host resistance and mortality: A nine-year follow-up study of Alameda County residents. Am J Epidemiol 1979; 109:186-204.

Berkman LF. Assessing the physical health effects of social networks and social support. Annual Review of Public Health. 1984; 5:413-432.

Berkman LF. Social networks, support, and health: Taking the next step forward. Am J Epidemiol. 1986; 123:559-562.

Behavioral Constructed Variables from Forms 37, 38, 151, 155, 157 and 159

Title: URINARY INCONTINANCE

Description: 7 items with various response scale.

Long Description: Each item can be used separately as an endpoint.

Form Used: 37, v6, Items 121-127
38, v6.2, Items 68-74

Questions (number, syntax, and response values) and algorithms used to create the variable:

Variable Name	F37 #	Question syntax	Response values
		Many women report that they leak urine (or pee). The next questions are about problems you may have had with leaking urine.	
INCONT	121	Have you ever leaked even a very small amount of urine involuntarily and you couldn't control it?	0="No", 1="Yes"
FRQINCON	122	How often does this leaking urine occur?	0="No", 1="Yes", 9="Don't want to answer"
	123	When do you usually leak urine? (Mark all that apply.)	1="Very satisfied", 2="A little satisfied", 3="Somewhat satisfied", 4="Very satisfied", 9="Don't want to answer"
NOINCON		No longer leak urine	0="No", 1="Yes"
CGHINCON		When I cough, laugh, sneeze, lift, stand up, or exercise	0="No", 1="Yes"
TOINCON		When I feel the need to urinate and can't get to a toilet fast enough	0="No", 1="Yes"
SLPINCON		When I am sleeping	0="No", 1="Yes"
OTHINCON		Other (Please describe)	0="No", 1="Yes"
LEAKAMT	124	How much urine do you usually lose when it leaks?	1="Less often", 2="Satisfied with current frequency", 3="More often", 9="Don't want to answer"
	125	What protection do you wear in case you leak urine? (Mark all that apply.)	
NOPRTCT		None	0="No", 1="Yes"
MINIPAD		Mini-pad, tissue or paper towel	0="No", 1="Yes"
MENSPAD		Menstrual pad or shield	0="No", 1="Yes"
DIAPER		Diaper, towel, Attends, Depends	0="No", 1="Yes"
OTHPRTCT		Other	0="No", 1="Yes"
INCONLMT	126	How often does the leakage of urine limit your daily activities?	1="Never", 2="Almost never", 3="Sometimes", 4="Fairly often", 5="Very often"
INCONDIS	125	How much does the leakage of urine bother or disturb you?	1="Not at all disturbing", 2="A little disturbing", 3="Somewhat disturbing", 4="Very disturbing", 5="Extremely disturbing"

References

HERS