

**DOCUMENTATION**

**for**

**PSYCHOSOCIAL  
CONSTRUCTS and  
COMPOSITE VARIABLES**

**in**

**MIDUS 2  
BIOMARKER PROJECT  
(P4)**

University of Wisconsin ♦ Institute on Aging  
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## INTRODUCTION

This document is intended as a basic reference for psychosocial constructs and other composite variables in the MIDUS 2 Project 4 Biomarker data. The document provides comprehensive information regarding construction and usage of these variables.

For each construct (scales) or composite variable, items used to create the scale, coding, and methods of scale construction are described. Also described is how missing data are dealt with for each scale. In addition, information regarding psychometric properties, source articles, published studies that use the scale, and other important notes are also included.

The variable name of a scale is presented in brackets with uppercase letters (e.g., [B4QPS\_PS] for perceived stress). Most of the scales and composites appear only in the Biomarker data. However, there are few that update information collected in the MIDUS 2 Project 1 interview or self-administered questionnaire and one that includes items from MIDUS I. If the scale construct or composite updates information from another part of the MIDUS data it is so noted. In addition, a number of the psychosocial constructs in the biomarker SAQ were added to facilitate comparisons with parallel data collection occurring in Japan (MIDJA: Midlife in Japan). These constructs are marked with an \*.

Scale name and description is followed by individual items and by the description of how the scale score is constructed. Unless otherwise noted, psychosocial constructs are created as described in the source article and the mean value of completed items was imputed for an item with a missing value. When more than one item is missing, the scale is not calculated for the case, and is coded as 'missing.' If a scale score is not created due to missing data it is coded as "98" for "NOT CALCULATED (Due to missing data)." If a scale score is not created because the items did not apply to the respondent (e.g. not married or not working) it is coded as "99" for NOT CALCULATED (Due to INAPP data)".

Cronbach's alpha reliability coefficient is reported for most scales. Alpha reliability coefficients are reported for four different samples: The total sample, Main RDD sample, Twin sample, and African American samples. Along with alpha, mean and standard deviation of the scale score are reported for each sample.

"Sources" refer to articles, or other published studies that originally discussed the scale. There are a few scales for which sources could not be identified. Additional information regarding the scales has been added in the "Notes" sections, as appropriate. This document will be periodically revised and updated as more information is gathered, and researchers continue to work with the MIDUS 2 Biomarker data. If there are suggestions or comments, please contact [midus\\_help@aging.wisc.edu](mailto:midus_help@aging.wisc.edu). Moreover, if additional scales are constructed using these data, please contact us, so the work can be shared.

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\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## MOOD AND SYMPTOM QUESTIONNAIRE (MASQ)

### Scales/Items:

#### **General Distress-Depressive Symptoms [B4QMA\_D]:**

Items: 12 items- Question 1 (a, e, i, l, u, w, cc, ee, hh, jj, ll, ss)

(How much have you felt or experienced things this way during the past week, including today)

- a. "Felt sad."
- e. "Felt discouraged."
- i. "Felt worthless."
- l. "Felt depressed."
- u. "Felt like a failure."
- w. "Blamed myself for a lot of things."
- cc. "Felt inferior to others."
- ee. "Felt like crying."
- hh. "Was disappointed in myself."
- jj. "Felt hopeless."
- ll. "Felt sluggish or tired."
- ss. "Felt pessimistic about the future."

#### **General Distress-Anxious Symptoms [B4QMA\_A]:**

Items: 11 items- Question 1 (d, h, k, n, p, t, z, ff, ii, ccc, ggg)

(How much have you felt or experienced things this way during the past week, including today)

- d. "Felt Afraid."
- h. "Had diarrhea."
- k. "Felt nervous."
- n. "Felt uneasy."
- p. "Had a lump in my throat."
- t. "Had an upset stomach."
- z. "Felt keyed up, on edge."
- ff. "Was unable to relax."
- ii. "Felt nauseous."
- ccc. "Felt tense or high-strung."
- ggg. "Muscles were tense or sore."

**Loss Of Interest [B4QMA\_LI]:**

Items: 8 items- Question 1 (r, y, gg, oo, xx, yy, eee, iii)

(How much have you felt or experienced things this way during the past week, including today)

r. "Felt unattractive."

y. "Felt withdrawn from other people."

gg. "Felt really slowed down."

oo. "Felt really bored."

xx. "Felt took extra effort get started."

yy. "Felt nothing was very enjoyable."

eee. "Felt nothing fun/interesting to do."

iii. "Thought about death or suicide."

**Anxious Arousal [B4QMA\_AA]:**

Items: 17 items- Question 1 (b, f, m, q, s, x, bb, dd, kk, nn, pp, rr, tt, vv, zz, bbb, jjj)

(How much have you felt or experienced things this way during the past week, including today)

b. "Startled easily."

f. "Hands were shaky."

m. "Was short of breath."

q. "Felt faint."

s. "Had hot or cold spells."

x. "Hands were cold or sweaty."

bb. "Was trembling or shaking."

dd. "Had trouble swallowing."

kk. "Felt dizzy or lightheaded."

nn. "Had pain in my chest."

pp. "Felt like I was choking."

rr. "Muscles twitched or trembled."

tt. "Had a very dry mouth."

vv. "Was afraid I was going to die."

zz. "Heart was racing or pounding."

bbb. "Felt numbness or tingling in body."

jjj. "Had to urinate frequently."

### High Positive Affect [B4QMA\_PA]:

Items: 14 items- Question 1 (c, g, j, o, v, aa, mm, qq, uu, ww, aaa, ddd, fff, hhh)  
(How much have you felt or experienced things this way during the past week, including today)  
c. "Felt cheerful."  
g. "Felt optimistic."  
j. "Felt really happy."  
o. "Was proud of myself."  
v. "Felt like I was having a lot of fun."  
aa. "Felt like I had a lot of energy."  
mm. "Felt really up or lively."  
qq. "Looked forward with enjoyment."  
uu. "Had a lot of interesting things to do."  
ww. "Felt like I had accomplished a lot."  
aaa. "Felt had a lot to look forward to."  
ddd. "Felt hopeful about the future."  
fff. "Seemed to move quickly and easily."  
hhh. "Felt really good about myself."

Coding: 1 Not at all; 2 A little bit; 3 Moderately; 4 Quite a bit; 5 Extremely.

Scaling: The five scales were constructed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

Note: There are two additional items (b4q1kkk and b4q1lll) in the MIDUS version of the instrument. They are not included in the above scale construction.

### Psychometrics:

#### GENERAL DISTRESS-DEPRESSIVE SYMPTOMS

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.903	18.62	6.753
M2 Main RDD Sample (666)	.896	18.79	6.591
M2 Twin Sample (388)	.910	17.63	6.289
M2 African American Sample (201)	.905	19.96	7.843

**GENERAL DISTRESS-ANXIOUS SYMPTOMS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.818	16.70	4.906
M2 Main RDD Sample (666)	.802	16.84	4.746
M2 Twin Sample (388)	.772	16.17	4.190
M2 African American Sample (201)	.886	17.32	6.475

**LOSS OF INTEREST**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.817	12.06	4.206
M2 Main RDD Sample (666)	.810	12.11	4.129
M2 Twin Sample (388)	.808	11.50	3.756
M2 African American Sample (201)	.838	13.00	5.070

**ANXIOUS AROUSAL**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.810	22.09	5.619
M2 Main RDD Sample (666)	.801	22.08	5.494
M2 Twin Sample (388)	.751	21.15	4.447
M2 African American Sample (201)	.854	24.03	7.427

**POSITIVE AFFECT**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.928	44.54	10.190
M2 Main RDD Sample (666)	.936	44.44	10.333
M2 Twin Sample (388)	.926	45.32	9.595
M2 African American Sample (201)	.908	43.28	10.754

**Source(s):**

- Clark, L.A., and Watson, D. 1991. "Tripartite Model of Anxiety and Depression: Psychometric Evidence and Taxonomic Implications." *Journal of Abnormal Psychology*, 100(3), p. 316-336.
- Watson, D., Clark, L.A., Weber, K., Assenheimer, J.S., Strauss, M.E., and McCormick, R.A. 1995. "Testing a Tripartite Model: I. Evaluation the Convergent and Discriminant Validity of Anxiety and Depression Symptom Scales." *Journal of Abnormal Psychology*, 104(1), p.3-14.
- Watson, D., Clark, L.A., Weber, K., Assenheimer, J.S., Strauss, M.E., and McCormick, R.A. 1995. "Testing a Tripartite Model: II. Exploring the Symptom Structure of Anxiety and Depression in Student, Adult, and Patient Samples." *Journal of Abnormal Psychology*, 104(1), p. 15-25.



## CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION INVENTORY (CES-D)

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

### Scales/Items:

#### **CES-D DEPRESSION SCALE [B4QCESD]:**

Items: 20 items – Question 3 (a - t)

"During the past week...?"

- a." I was bothered by things that usually don't bother me."
- b." I did not feel like eating; my appetite was poor."
- c." I felt that I could not shake off the blues even with the help of my family and friends."
- d." I felt that I was just as good as other people."(R)
- e." I had trouble keeping my mind on what I was doing."
- f." I felt depressed."
- g." I felt that everything I did was an effort."
- h." I felt hopeful about the future."(R)
- i." I thought my life had been a failure."
- j." I felt fearful."
- k." My sleep was restless."
- l." I was happy."(R)
- m." I talked less than usual."
- n." I felt lonely."
- o." People were unfriendly."
- p." I enjoyed life."(R)
- q." I had crying spells."
- r." I felt sad."
- s." I felt that people dislike me."
- t." I could not get "going".

Coding: 1 Rarely or none of the time; 2 Some or a little of the time; 3 Occasionally or moderate amount of the time; 4 Most or all of the time.

Scaling: To maintain consistency with the literature, all items were recoded to a 0-3 scale (1=0, 2=1, 3=2, 4=3). Items marked with (R) were then reverse-coded so that high scores reflect higher standing in the scale. Unless otherwise indicated above, scale scores were computed by summing

across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

**CES-D Depressive Affect Subscale [B4QCESDDA]:**

Items: 7 items - Question 3 (c, f, l, j, n, q, r) above.

**CES\_D Positive Affect Subscale [B4QCESDPA] :**

Items: 4 items - Question 3 (d, h, l, p) above.

**CES\_D Somatic Complaints Subscale [B4QCESDSC] :**

Items: 7 items - Question 3 (a, b, e, g, k, m, t) above.

**CES-D Interpersonal Subscale [B4QCESDI] :**

Items: 2 items - Question 3 (o, s) above.

Coding: 1 Rarely or none of the time; 2 Some or a little of the time; 3 Occasionally or moderate amount of the time; 4 Most or all of the time.

Scaling: To maintain consistency with the literature, all items were recoded to a 0-3 scale (1=0, 2=1, 3=2, 4=3. Scale scores were computed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

**Psychometrics:**

**CES-D Depression Inventory:**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.894	8.67	8.129
M2 Main RDD Sample (666)	.894	8.45	7.949
M2 Twin Sample (388)	.887	7.26	7.275
M2 African American Sample (201)	.883	12.30	9.265

**CES-D Depressive Affect Subscale**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.864	1.98	3.191
M2 Main RDD Sample (666)	.854	1.82	2.975
M2 Twin Sample (388)	.847	1.52	2.651
M2 African American Sample (201)	.876	3.45	4.285

**CES-D Positive Affect Subscale**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.780	9.29	2.710
M2 Main RDD Sample (666)	.799	9.33	2.719
M2 Twin Sample (388)	.767	9.61	2.575
M2 African American Sample (201)	.725	8.48	2.786

**CES-D Somatic Complaints Subscale**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.745	3.60	3.243
M2 Main RDD Sample (666)	.736	3.60	3.171
M2 Twin Sample (388)	.742	3.00	2.965
M2 African American Sample (201)	.749	4.77	3.683

**CES-D Interpersonal Subscale**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.583	.43	.861
M2 Main RDD Sample (666)	.576	.38	.797
M2 Twin Sample (388)	.553	.35	.738
M2 African American Sample (201)	.593	.76	1.173

**Source(s):**

- Devins, G.M., and Orme, C.M. 1985. "Center for Epidemiologic Studies Depression Scale." *Test Critiques*, 21(3), 267-283.
- Radloff, L.S. 1977. "The CES-D Scale: A self-report depression scale for research in the general population." *Applied Psychology Measurement*, 1(3), 385-401.
- Roberts, R.E., and Vernon, S.W. 1983. "The center for epidemiologic studies depression scale: Its use in a community sample." *American Journal of Psychiatry*, 140(1), 41-46.
- Turner, R.J., and Avison, W.R. 1992. "Innovations in the measurement of life stress: Crisis theory and the significance of event resolution." *Journal of Health and Social Behavior*, 33, 36-50.

## PERCEIVED STRESS SCALE-10 ITEM VERSION (PSS)

Note: throughout the following “R” indicates item is reverse coded before constructing the scale score.

### Scales/Items:

#### **Perceived Stress [B4QPS\_PS]:**

Items: 10 items – Question 4 (a – j)

In the last month, how often have you...

- a. “been upset because of something that happened unexpectedly? “
- b. “felt that you were unable to control the important things in your life?”
- c. “felt nervous and “stressed”?”
- d. “felt confident about your ability to handle your personal problems?” (R)
- e. “felt that things were going your way?” (R)
- f. “found that you could not cope with all the things that you had to do? “
- g. “been able to control irritations in your life?” (R)
- h. “felt that you were on top of things?” (R)
- i. “been angered because of things that were outside of your control?”
- j. “felt difficulties were piling up so high that you couldn’t overcome them?”

Coding: 1 Never; 2 Almost never; 3 Sometimes; 4 Fairly often; 5 Very often

Scaling: Items marked with (R) were reverse-coded so that high scores reflect higher standing in the scale. Unless otherwise indicated above, scale scores were computed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

### Psychometrics:

#### **PERCEIVED STRESS SCALE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.864	22.22	6.320
M2 Main RDD Sample (666)	.864	21.95	6.085
M2 Twin Sample (388)	.859	21.18	6.216
M2 African American Sample (201)	.837	25.21	6.448

### Source(s):

- Cohen, S., Kamarck, T., Mermelstein, R. 1983. “A global measure of perceived stress.” *Journal of Health and Social Behavior*, 24, 385-396.
- Cohen, S., and Williamson, G. 1988. “Perceived stress in a probability sample of the United States.” In S. Spacapan & S. Oskamp (Eds.). *The social psychology of health: Claremont Symposium on applied social psychology*. Newbury Park, CA: Sage.

## **SPIELBERGER ANGER EXPRESSION INVENTORY**

### **Scales/Items:**

#### **Anger Expression-In (AX/IN) (8 ITEMS) [B4QAE\_AI]**

Items: 8 items –Question 5 (a-h).

In general when I feel angry or furious ....

- a. "I withdraw from people. "
- b. "I pout or sulk. "
- c. "I am angrier than I'm willing to admit. "
- d. "I am secretly critical of others. "
- e. "I boil inside, but don't show it. "
- f. "I harbor grudges. "
- g. "I keep things in. "
- h. "I am irritated more than others are aware. "

#### **Anger Expression-Out (AX/Out) (8 ITEMS) [B4QAE\_AO]**

Items: 8 items –Question 5 (i-p).

In general when I feel angry or furious ....

- i. "I slam doors. "
- j. "I say nasty things. "
- k. "I make sarcastic remarks. "
- l. "I argue with others. "
- m. "I lose my temper. "
- n. "I strike out at whatever infuriates me. "
- o. "I express my anger. "
- p. "If someone annoys me I tell them how I feel. "

#### **Anger Expression – Control (AX/Con) (4 ITEMS) [B4QAE\_AC]**

Items: 4 items –Question 5 (q-t).

In general when I feel angry or furious ....

- q. "I control my temper."
- r. "I keep my cool."
- s. "I calm down faster."
- t. "I make threats."

Coding: 1 Almost never; 2 Sometimes; 3 Often; 4 Almost always.

Scaling: Scale scores were computed by summing across all items for which there were no, or only one missing value. Mean substitution was used in cases with only one missing value.

**Psychometrics:**

**SPIELBERGER TRAIT ANGER-IN (AX/IN)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.815	14.65	4.174
M2 Main RDD Sample (666)	.806	14.76	4.095
M2 Twin Sample (388)	.818	14.32	4.036
M2 African American Sample (201)	.838	14.94	4.670

**SPIELBERGER TRAIT ANGER-OUT (AX/OUT)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.767	12.90	3.298
M2 Main RDD Sample (666)	.750	12.91	3.183
M2 Twin Sample (388)	.745	12.58	3.026
M2 African American Sample (201)	.826	13.53	4.039

**SPIELBERGER TRAIT ANGER CONTROL (AX/CON)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.686	9.94	2.286
M2 Main RDD Sample (666)	.671	10.03	2.212
M2 Twin Sample (388)	.711	10.20	2.214
M2 African American Sample (201)	.673	9.08	2.472

**Source(s):**

Spielberger, C. D. 1996. "State-Trait Anger Expression Inventory: Professional manual." Odessa, FL.

## ANGER EXPRESSION - ADJUSTMENT

### Scales/Items:

#### Anger Expression- Adjustment (2 ITEMS) [B4QAE\_AA]

Items: 2 items – Question 5 (u, v).

In general when I feel angry or furious ....

u: "I do nothing. "

v: "Ignore the situation or person who angers me. "

Coding: 1 Almost never; 2 Sometimes; 3 Often; 4 Almost always.

Scaling: Scale scores were computed by finding the **mean** across all items.

Missing Values: Scale scores were not constructed cases having more than 1 missing value. For cases having a single valid response, that response is used as the scale score.

### Psychometrics:

#### SPIELBERGER ANGER ADJUSTMENT

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.527	2.094	.673
M2 Main RDD Sample (666)	.590	2.108	.680
M2 Twin Sample (388)	.512	2.080	.678
M2 African American Sample (201)	.315	2.074	.638

### Source(s):

- Markus, H. R., and Kitayama, S. 2004. "Models of agency: Sociocultural diversity in the construction of action." In V. Murphy-Berman & J. Berman (Eds.), *The 49th Annual Nebraska Symposium for Motivation: Cross-Cultural Differences in Perspectives on Self*. pp. 1-57.
- Kitayama, S., Karasawa, M., Curhan, K. B., Ryff, C., and Markus, H. R. 2006. "Independence, Interdependence, and Well-Being: Divergent Patterns in the United States and Japan." Paper under review.

## **SPIELBERGER TRAIT ANGER**

### **Scales/Items:**

#### **Trait Anger [B4QTA\_AG]:**

Items: 15 items - Question 6 (a - o)

(Circle the number that best describes how you generally feel.)

- a. "I have a fiery temper."
- b. "I am quick tempered."
- c. "I am a hotheaded person."
- d. "I get annoyed when I am singled out for correction."
- e. "It makes me furious when I am criticized in front of others."
- f. "I get angry when I'm slowed down by others mistakes."
- g. "I feel infuriated when I do a good job and get a poor evaluation."
- h. "I fly off the handle."
- i. "I feel annoyed when I am not given recognition for doing good work."
- j. "People who think they are always right irritate me."
- k. "When I get mad, I say nasty things."
- l. "I feel irritated."
- m. "I feel angry."
- n. "When I get frustrated, I feel like hitting someone."
- o. "It makes my blood boil when I am under pressure."

#### **Trait Anger/Angry Temperament [B4QTA\_AT]:**

Items: 4 items - Question 6 (a, b, c, h) above.

#### **Trait Anger/Angry Reaction [B4QTA\_AR]**

Items: 4 items - Question 6 (e, f, g, i) above.

Coding: 1 Almost never; 2 Sometimes; 3 Often; 4 Almost always.

Scaling: Scale scores were computed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.



**Psychometrics:**

**TRAIT ANGER**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.844	23.78	5.452
M2 Main RDD Sample (666)	.821	23.96	5.141
M2 Twin Sample (388)	.842	23.36	5.271
M2 African American Sample (201)	.896	24.01	6.692

**TRAIT ANGER/ANGRY TEMPERAMENT**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.826	5.14	1.711
M2 Main RDD Sample (666)	.803	5.08	1.593
M2 Twin Sample (388)	.829	5.01	1.588
M2 African American Sample (201)	.856	5.62	2.188

**TRAIT ANGER/ANGRY REACTION**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.734	7.63	2.390
M2 Main RDD Sample (666)	.728	7.74	2.415
M2 Twin Sample (388)	.731	7.59	2.340
M2 African American Sample (201)	.760	7.33	2.387

**Source(s):**

Spielberger, C. D. 1996. "State-Trait Anger Expression Inventory: Professional manual." Odessa, FL.

## SPIELBERGER TRAIT ANXIETY INVENTORY

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

### Scales/Items:

#### TRAIT ANXIETY [B4QTA\_AX]:

Items: 20 items - Question 7(a-t).

Circle the number that best describes how you *generally* feel.

- a. "I feel pleasant. "(R)
- b. "I tire quickly. "
- c. "I feel like crying. "
- d. "I wish I could be as happy as others seem to be. "
- e. "I am losing out on things because I can't make up my mind soon enough. "
- f. "I feel rested. "(R)
- g. "I am "calm, cool, and collected". (R)
- h. "I feel that difficulties are piling up so that I cannot overcome them. "
- i. "I worry too much over something that really doesn't matter. "
- j. "I am happy. "(R)
- k. "I am inclined to take things hard. "
- l. "I lack self-confidence. "
- m. "I feel secure. "(R)
- n. "I try to avoid facing a crisis or difficulty. "
- o. "I feel blue. "
- p. "I am content. "(R)
- q. "Some unimportant thought runs through my mind and bothers me. "
- r. "I take disappointments so keenly that I can't put them out of my mind. "
- s. "I am a steady person. "(R)
- t. "I get in a state of tension or turmoil as I think over my recent concerns and interests. "

Coding: 1 Almost never; 2 Sometimes; 3 Often; 4 Almost always.

Scaling: Items marked with (R) were reverse-coded so that high scores reflect higher standing in the scale. Unless otherwise indicated above, scale scores were computed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

**Psychometrics:**

**ANXIETY TRAIT INVENTORY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.908	34.28	9.089
M2 Main RDD Sample (666)	.910	34.09	9.044
M2 Twin Sample (388)	.899	32.70	8.381
M2 African American Sample (201)	.904	38.20	9.560

**Source(s):**

- Spielberger, C. D. 1983. "Manual for the state–trait anxiety inventory (Form Y) ("Self-evaluation questionnaire")." Consulting Psychologists Press, Palo Alto, CA.
- Spielberger, C. D. 1989. "State–trait anxiety inventory: a comprehensive bibliography." Consulting Psychologists Press, Palo Alto, CA.

## SOCIAL ANXIETY SCALE\*

### Scales/Items:

#### **Social Anxiety [B4QSA\_SA]:**

Items: 9 items – Question 8 (a- i).

Please circle the number that best describes how much fear or anxiety you generally feel in the following situations.

- a. "Talking to people in authority. "
- b. "Going to a party."
- c. "Working while being observed."
- d. "Calling someone you don't know very well."
- e. "Talking with people you don't know very well."
- f. "Being the center of attention."
- g. "Expressing a disagreement or disapproval to people you don't know very well."
- h. "Returning goods to a store."
- i. "Resisting a high-pressure salesperson."

Coding: 1 None; 2 Mild; 3 Moderate; 4 Severe.

Scaling: The scale score was constructed by computing the mean across all items for cases having 0 or 1 missing value.

### Psychometrics:

#### **SOCIAL ANXIETY SCALE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.852	1.836	.543
M2 Main RDD Sample (666)	.847	1.827	.530
M2 Twin Sample (388)	.853	1.855	.534
M2 African American Sample (201)	.869	1.829	.598

### Source(s):

Fresco, D., Coles, M., Heimberg, R., Liebowitz, M., Hami, S., Stein, M., and Goetz, D. 2001. "The Liebowitz social anxiety scale: a comparison of the psychometric properties of self-report and clinician-administered formats." *Psychological Medicine*, 31, 1025-1035.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## CHILDHOOD TRAUMA QUESTIONNAIRE (CTQ)

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

### **Scales/Items:**

#### **Emotional Abuse [B4QCT\_EA]:**

Items: 5 items - Question 9 (c, h, n, r, y)

- c. "People in my family called me things like "stupid," "lazy," or "ugly." "
- h. "I thought that my parents wished I had never been born."
- n. "People in my family said hurtful or insulting things to me."
- r. "I felt that someone in my family hated me."
- y. "I believe that I was emotionally abused."

#### **Physical Abuse [B4QCT\_PA]:**

Items: 5 items - Question 9 (i, k, l, o, q).

- i. "I got hit so hard by someone in my family that I had to see a doctor or go to the hospital."
- k. "People in my family hit me so hard that it left me with bruises or marks."
- l. "I was punished with a belt, a board, a cord, or some other hard object."
- o. "I believe that I was physically abused."
- q. "I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor."

#### **Sexual Abuse [B4QCT\_SA]:**

Items: 5 items - Question 9 (t, u, w, x, aa)

- t. "Someone tried to touch me in a sexual way, or tried to make me touch them."
- u. "Someone threatened to hurt me or tell lies about me unless I did something sexual with them."
- w. "Someone tried to make me do sexual things or watch sexual things."
- x. "Someone molested me."
- aa. "I believe that I was sexually abused."

#### **Emotional Neglect [B4QCT\_EN]:**

Items: 5 items - Question 9 (e, g, m, s, bb)

- e. "There was someone in my family who helped me feel that I was important or special." (R)
- g. "I felt loved." (R)
- m. "People in my family looked out for each other." (R)

- s. "People in my family felt close to each other." (R)
- bb. "My family was a source of strength and support." (R)

**Physical Neglect [B4QCT\_PN]:**

Items: 5 items - Question 9 (a, b, d, f, z)

- a. "I didn't have enough to eat."
- b. "I knew that there was someone to take care of me and protect me." (R)
- d. "My parents were too drunk or high to take care of me."
- f. "I had to wear dirty clothes."
- z. "There was someone to take me to the doctor if I needed it." (R)

**Minimization/Denial [B4QCT\_MD]**

Items: 3 items - Question 9 (j, p, v)

- j. "There was nothing I wanted to change about my family."
- p. "I had the perfect childhood."
- v. "I had the best family in the world."

Coding: 1 Never true; 2 Rarely true; 3 Sometimes true; 4 Often true; 5 Very often true.

Scaling: For all subscales except Minimization/Denial, items marked with (R) were reverse-coded so that high scores reflect higher standing in the scale. Unless otherwise indicated above, scale scores were computed by summing across all items for which there was no missing data. Mean substitution was used in cases with only one missing value.

For Minimization/Denial, the responses are coded as follows:

5 is coded as 1

1-4 are coded as 0.

The new scores are then added to derive the Minimization/Denial Scale Total Score. This score reflects the tendency of the respondent to give exaggerated, desirable responses.

**Psychometrics:**

**EMOTIONAL ABUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.878	8.04	4.210
M2 Main RDD Sample (666)	.871	8.15	4.173
M2 Twin Sample (388)	.882	7.62	3.959
M2 African American Sample (201)	.887	8.50	4.747

**PHYSICAL ABUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.794	6.97	3.020
M2 Main RDD Sample (666)	.802	6.83	2.920
M2 Twin Sample (388)	.758	6.75	2.654
M2 African American Sample (201)	.806	7.89	3.792

**SEXUAL ABUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.942	6.58	3.969
M2 Main RDD Sample (666)	.944	6.50	3.830
M2 Twin Sample (388)	.919	6.30	3.388
M2 African American Sample (201)	.954	7.45	5.230

**EMOTIONAL NEGLECT**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.892	9.77	4.560
M2 Main RDD Sample (666)	.892	9.87	4.520
M2 Twin Sample (388)	.890	9.33	4.262
M2 African American Sample (201)	.892	10.34	5.191

**PHYSICAL NEGLECT**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.698	6.91	2.770
M2 Main RDD Sample (666)	.718	6.79	2.757
M2 Twin Sample (388)	.665	6.65	2.438
M2 African American Sample (201)	.674	6.74	3.246

**MINIMIZATION/DENIAL**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.701	.54	.910
M2 Main RDD Sample (666)	.669	.50	.867
M2 Twin Sample (388)	.770	.61	.999
M2 African American Sample (201)	.622	.54	.861

**Source(s):**

Bernstein, D., and Fink, L. 1998. "Manual for the Childhood Trauma Questionnaire." The Psychological Corporation. New York (1998).

## POSITIVE EVENTS SCALE

Note: scale scores have not been constructed for this scale as yet.

### Scales/Items:

#### **Positive Events Scale:**

Items: 49 items - Question 10 (a-ww)

The following questions are about positive experiences you may have had over the past month. Please indicate how often you had each experience and whether it was pleasant, enjoyable or rewarding. Over the past month how often did you spend time.... (If at least once, how Pleasant, Enjoyable, or Rewarding was this?)

- a. Appreciating nature
- b. Meeting someone new
- c. Planning trips or vacations
- d. Reading stories, novels, poems, or plays
- e. Helping someone
- f. Breathing clean air
- g. Saying something clearly.
- h. Thinking about something good in the future.
- i. Laughing
- j. Being with animals
- k. Having a frank and open conversation
- l. Going to a party
- m. Giving thanks for daily life.
- n. Being with friends
- o. Being popular at a gathering
- p. Enjoying TV or movies
- q. Sitting in the sun
- r. Seeing good things happen to family & friends
- s. Planning or organizing something
- t. Having a lively talk
- u. Being with family
- v. Taking a relaxing bath
- w. Seeing beautiful scenery
- x. Eating good meals
- y. Having spare time



- z. Being noticed as sexually attractive
- aa. Learning to do something new
- bb. Complimenting or praising someone
- cc. Thinking about people I like
- dd. Kissing
- ee. Praying or meditating
- ff. Doing a project my way
- gg. Having peace and quiet
- hh. Being relaxed
- ii. Sleeping soundly at night
- jj. Having a good fitness workout
- kk. Amusing people
- ll. Being with someone I love
- mm. Having satisfying sexual relations with a partner.
- nn. Watching sports
- oo. Being with happy people
- pp. Smiling at people
- qq. Being with my spouse/partner
- rr. Teaching or advising someone
- ss. Being complimented or told that I have done well
- tt. Being told that I am loved
- uu. Seeing old friends
- vv. Shopping
- ww. Feeling no pain.

Coding:

How often? 1 Never; 2 1-6 times; 3 7+ times

How Pleasant, Enjoyable, or Rewarding was this? 1 Neutral or unpleasant; 2 Somewhat; 3 Very.

Scaling:

We are not currently constructing scale scores for these items.

**Psychometrics: Not Applicable at this time**

**Source(s):**

MacPhillamy, D.J.,and Lewinsohn, P.M. 1982. "The Pleasant Events Schedule: Studies on reliability, validity, and scale intercorrelation." *Journal of Consulting and Clinical Psychology*, 50, 363-380.

Note: The above items include a subset of items in the Pleasant Events Schedule. In addition some items were modified to be more inclusive, and others were created by the investigators.

## SINGELIS SELF-CONSTRUAL SCALE\*

### Scales/Items:

**Note:** The items below include 17 (of 23) items across 2 subscales from the Singelis Self-Construal scale. The full scale contains these 17 items plus an additional 6 items found in the P1 SAQ (items B1SE4T-Y). The response options are the same in P1 and P4, but they are reversed (e.g.

1=Strongly Agree in P1, but in P4 1=Strongly Disagree).

### **Independence [B4QSC\_ID]:**

Items: 7 items- Question 11 (b, d, e, f, h, k, p)

The following questions are about the ways you generally interact with others, including your sense of obligation towards others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- b. "I'd rather say "NO" directly, than risk being misunderstood."
- d. "Speaking up is not a problem for me."
- e. "Having a lively imagination is important to me."
- f. "I am comfortable with being singled out for praise or rewards."
- h. "I am the same person at home that I am at work or in other social settings."
- k. "I prefer to be direct and forthright when dealing with people I've just met."
- \*p. "It is important to have my own ideas."

\*This item adds the dimension "idea generation" to the original interdependence self-construal subscale. It was recommended for inclusion in MIDUS by Hazel Markus based on personal communication with Ted Singelis.

### **Interdependence [B4QSC\_IT]:**

Items: 10 items- Question 11 (a, c, g, i, j, l, m, n, o, q)

The following questions are about the ways you generally interact with others, including your sense of obligation towards others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- a. "I have respect for the authority figures with whom I interact."
- c. "It is important for me to maintain harmony or smooth relationships within my group."
- g. "I respect people who are modest about themselves."
- i. "I will sacrifice my self-interest for the benefit of the group I am in."
- j. "I should take into consideration others' advice when making work or family plans."
- l. "It is important to me to respect decisions made by the group."

- m. "I will stay in a group if they need me, even when I'm not happy with the group."
- n. "If people in my family fail, I feel responsible."
- o. "Even when I strongly disagree with group members, I avoid an argument."
- \*q. "It is important to listen to others' opinions."

\*This item adds the dimension "idea generation" to the original interdependence self-construal subscale. It was recommended for inclusion in MIDUS by Hazel Markus based on personal communication with Ted Singelis.

**Coding:** 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

**Scaling:** The scales were constructed by computing the mean across all items for cases having 0 or 1 missing value.

#### **Psychometrics:**

##### **INDEPENDENCE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.666	5.200	.823
M2 Main RDD Sample (666)	.646	5.196	.791
M2 Twin Sample (388)	.669	5.145	.810
M2 African American Sample (201)	.713	5.321	.941

##### **INTERDEPENDENCE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.690	5.172	.662
M2 Main RDD Sample (666)	.634	5.210	.592
M2 Twin Sample (388)	.657	5.244	.608
M2 African American Sample (201)	.782	4.900	.888

#### **Source(s):**

Singelis, T. M. 1994. "The measurement of independent and interdependent self-construals." *Personality and Social Psychology Bulletin*, 20, 580-591.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## **SOCIAL OBLIGATION SCALE\***

### **Scales/Items:**

#### **Public Community [B4QSO\_PC]:**

Items: 3 items- Question 11 (r, s, t)

The following questions are about the ways you generally interact with others, including your sense of obligation towards others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

r. "I feel obligated to keep fully informed about national news and public issues."

[A1SK7J]<sup>a</sup>

s. "I feel obligated to vote in local and national elections." [A1SK7L]<sup>a</sup>

t. "I feel obligated to volunteer time or money to social causes I support." [A1SK7Q]<sup>a</sup>

<sup>a</sup> Item was taken from MIDUS 1 Community /Work Social Responsibility Scales. However item and response format were modified for Project 4. MIDUS 1 question number is in [ ].

#### **PRIVATE FAMILY/FRIENDS**

##### **3 ITEMS [B4QSO\_PF]:**

Items: 3 items- Question 11 (u, v, w - below)

##### **4 ITEMS [B4QSO\_PX]:**

Items: 4 items- Question 11 (u, v, w, x)

u. "I feel obligated to drop plans when members of my family seem very troubled."

[A1SK7A]<sup>b</sup>

v. "I feel obligated to contact family members on a regular basis." [A1SK7B]<sup>b</sup>

w. "I feel obligated to give money to a friend in need, even if this makes it hard to meet my own needs." [A1SK7H]<sup>b</sup>

x. "I feel obligated to take my divorced or unemployed adult child back into my home." [A1SK7E]<sup>b</sup>

<sup>b</sup> Item was taken from MIDUS 1 Family Obligation scale. However item and response format were modified for Project 4 MIDUS 1 question number is in [ ].

#### **Private/Ingroup Work [B4QSO\_IW]:**

Items: 3 items- Question 11 (aa, bb, cc - below)

#### **Good Work [B4QSO\_GW]:**

Items: 5 items- Question 11 (y, z, aa, bb, cc)

The following questions are about the ways you generally interact with others, including your sense of obligation towards others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

y. "My work makes the world a better place." <sup>c</sup>

z. "I think about the harm my work might do to other people." <sup>c</sup>

aa. "I help out my colleagues/coworkers at work." <sup>c</sup>

bb. "I am the one to volunteer to do unwanted tasks at work." <sup>c</sup>

cc. "I am known for my honesty and integrity at work." <sup>c</sup>

<sup>c</sup> New item to assess obligation in the work place in a way that is more sensitive to the Japanese cultural context.

**Coding:** 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

**Scaling:** The scales were constructed by computing the mean across all items for cases having 0 or 1 missing value.

#### **Psychometrics:**

##### **PUBLIC COMMUNITY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.715	5.384	1.176
M2 Main RDD Sample (666)	.704	5.436	1.130
M2 Twin Sample (388)	.738	5.412	1.188
M2 African American Sample (201)	.700	5.153	1.274

##### **PRIVATE FAMILY/FRIENDS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.640	5.011	1.095
M2 Main RDD Sample (666)	.655	5.039	1.090
M2 Twin Sample (388)	.634	5.046	1.030
M2 African American Sample (201)	.635	4.845	1.220

##### **PRIVATE FAMILY/FRIENDS (EXTRA ITEM)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.668	4.817	1.058
M2 Main RDD Sample (666)	.669	4.856	1.050
M2 Twin Sample (388)	.666	4.839	1.000
M2 African American Sample (201)	.677	4.640	1.182

**PRIVATE/INGROUP WORK**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.684	5.462	.954
M2 Main RDD Sample (666)	.645	5.473	.859
M2 Twin Sample (388)	.660	5.588	.920
M2 African American Sample (201)	.754	5.179	1.231

**GOOD WORK**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.526	4.848	.817
M2 Main RDD Sample (666)	.480	4.845	.746
M2 Twin Sample (388)	.469	4.953	.765
M2 African American Sample (201)	.657	4.653	1.075

**Source(s):**

Gardner, H., Csikszentmihalyi, M., and Damon, W. 2001. "Good work: When excellence and ethics meet." New York, NY: Basic Books.

Rossi, A.S. 2001. "Caring and doing for others: Social responsibility in the domains of family, work, and community." *Chicago: University of Chicago Press.: Ch. 3 Domains and Dimensions of Social Responsibility: A sociodemographic profile.*

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## RELATIONAL-INTERDEPENDENT SELF CONSTRUAL SCALE\*

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

### Scales/Items:

#### Interdependence [B4QRISC]:

Items: 10 Items- Question 12(a-j).

The following questions are about how your views of yourself are linked to your relations with others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- a. "My close relationships are an important reflection of who I am."
- b. "When I feel very close to someone, it often feels to me like that person is an important part of who I am."
- c. "I usually feel a strong sense of pride when someone close to me has an important accomplishment."
- d. "I think one of the most important parts of who I am can be captured by looking at my close friends and understanding who they are."
- e. "When I think of myself, I often think of my close friends or family also."
- f. "If a person hurts someone close to me, I feel personally hurt as well."
- g. "Overall, my close relationships have very little to do with how I feel about myself."(R)
- h. "My close relationships are unimportant to my sense of what kind of person I am."(R)
- i. "My sense of pride comes from knowing whom I have as close friends."
- j. "When I establish a close friendship with someone, I usually develop a strong sense of identification with that person."

Note: Items k & l are new and not currently included in constructed scores.

Coding: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

Scaling: Items marked with (R) were reverse-coded so that high scores reflect higher standing in the scale. The scales were constructed by computing the mean across all items for cases having 0 or 1 missing value.

**Commented [GL1]:** Fixing error found during MIDAJ 1 Bio Update



**Psychometrics:**

**RISC**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.843	4.979	.949
M2 Main RDD Sample (666)	.868	5.025	.971
M2 Twin Sample (388)	.834	5.058	.889
M2 African American Sample (201)	.747	4.666	.930

**Source(s):**

Cross, S. E., Bacon, P. L., and Morris, M. L. 2000. "The Relational-Interdependent Self-Construal and Relationships." *Journal of Personality and Social Psychology*, 78 (4), 791-808.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

### SYMPATHY SCALE\*

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

#### **Scales/Items:**

##### **Sympathy [B4QSYMP]:**

Items: 4 items- Question 12(m,n,o,p).

The following questions are about how your views of yourself are linked to your relations with others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

m. "Even when things are going well for me, I can't be happy if I have a friend who is in trouble."

n. "I am moved when I hear of another person's hardship."

o. "I think nothing is more important than to be sympathetic to others."

p. "My sympathy has its limits."(R)

Note: Items k & l are new and not currently included in a scale.

Coding: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

Scaling: Items marked with (R) were reverse-coded so that high scores reflect higher standing in the scale. The scales were constructed by computing the mean across all items for cases having 0 or 1 missing value.

#### **Psychometrics:**

##### **SYMPATHY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.443	4.329	.851
M2 Main RDD Sample (666)	.525	4.315	.843
M2 Twin Sample (388)	.482	4.316	.841
M2 African American Sample (201)	.178	4.401	.893

#### **Source(s):**

Uchida, Y., and Kitayama, S. 2001. "Development and validation of a sympathy scale." *Japanese Journal of Psychology*, 72, 275-282.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## ADJUSTMENT SCALE\*

### Scales/Items:

#### Adjustment [B4QADJ]:

Items: 5 items- Question 12(q-u).

The following questions are about how your views of yourself are linked to your relations with others. Please circle the number that corresponds to how much you agree or disagree with the following statements.

q. "I usually follow the opinions of people I can respect."

r. "When many people have an opinion different from mine, I can adjust mine to theirs."

s. "When values held by others sound more reasonable, I can adjust my values to theirs."

t. "Once something has happened, I try to adjust myself to it because it is difficult to change it myself."

u. "It is useless to try to change what is going to happen in life because it is impossible to predict it."

Coding: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

Scaling: The scales were constructed by computing the mean across all items for cases having 0 or 1 missing value

### Psychometrics:

#### Adjustment

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.539	4.108	.867
M2 Main RDD Sample (666)	.488	4.103	.807
M2 Twin Sample (388)	.610	4.100	.877
M2 African American Sample (201)	.582	4.141	1.032

### Source(s):

Markus, H. R., and Kitayama, S. 2004. "Models of agency: Sociocultural diversity in the construction of action." In V. Murphy-Berman & J. Berman (Eds.), *The 49th Annual Nebraska Symposium for Motivation: Cross-Cultural Differences in Perspectives on Self*. (pp. 1-57).

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## **SUPPORT & STRAIN GIVEN TO FRIENDS SCALE\***

### **Scales/Items:**

#### **Support Given to Friends [B4QSUGF]:**

Items: 4 items- 13 (a-d)

- a. "How much do you really care about your friends?"
- b. "How much do you understand the way your friends feel about things?"
- c. "How much can your friends rely on you for help if they have a serious problem?"
- d. "How much can your friends open up to you if they need to talk about their worries?"

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse coding all the items and then computing the mean across all items for cases having 0 or 1 missing value.

#### **Strain Given to Friends [B4QSTGF]:**

Items: 4 items- 13 (e-h)

- e. "How often do you make too many demands on your friends?"
- f. "How often do you criticize your friends?"
- g. "How often do you let your friends down when they are counting on you?"
- h. "How often do you get on your friends' nerves?"

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse coding all the items and then computing the mean across all items for cases having 0 or 1 missing value.

#### **Affectual Solidarity Given to Friends [B4QSOGFD] :**

Items: 8 item scale combining the four "support to friends" and four "strain to friends" items.

Scaling: The scale is constructed by calculating the **mean** of the values of the items. Items for the "support to friends" were recoded, so that a high score signifies high levels of friend affectual solidarity. The scale is computed for cases that had valid values for **at least one** item on the scale. For cases with only one missing value mean substitution is used.

**Psychometrics:**

**SUPPORT GIVEN TO FRIENDS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.714	3.628	.405
M2 Main RDD Sample (666)	.687	3.637	.383
M2 Twin Sample (388)	.695	3.659	.371
M2 African American Sample (201)	.774	3.536	.516

**STRAIN GIVEN TO FRIENDS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.640	1.581	.449
M2 Main RDD Sample (666)	.632	1.576	.426
M2 Twin Sample (388)	.584	1.508	.403
M2 African American Sample (201)	.671	1.739	.559

**AFFECTUAL SOLIDARITY GIVEN TO FRIENDS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.634	3.524	.319
M2 Main RDD Sample (666)	.600	3.531	.296
M2 Twin Sample (388)	.606	3.575	.289
M2 African American Sample (201)	.681	3.398	.404

**Source(s):**

MIDJA pilot items on the topic of social support *given* to friends based on the existing MIDUS social support *received* from friends items. The Support Given to Friends Scale should be constructed in a similar way to the corresponding MIDUS2 scale (in which friends are giving support to the respondent).

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## **FRIENDSHIP SUPPORT\***

### **Scales/Items:**

#### **FRIENDSHIP SUPPORT [B4Q13H1]:\*\***

Items: 1 items- Self-Administered Questionnaire, Section B, Question 13h1

h1. "How many friends do you have?"

Coding: 1=0-5, 2=6-10, 3=11-20, 4=21-50, 5=51+

### **Source(s):**

Adams, G., and Plaut, V. C. 2003. "The cultural grounding of personal relationship: Friendship in North American and West African worlds." *Personal Relationships*, 10, 333–348.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

\*\*This scale only has one item, thus the variable name was changed from B4QSGFA to the original variable name as it appears in the data [B4Q13H1].

## **SUPPORT GIVEN TO FAMILY SCALE\***

### **Scales/Items:**

#### **Support Given To Family [B4QSUGFA]:**

Items: 2 items- Question 13 (i, j)

With regard to your family (not including spouse/partner):

- i. "How much can your family (not including your spouse or partner) rely on you for help if they have a serious problem?"
- j. "How much can your family open up to you if they need to talk about their worries?"

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse the item codes first and then computing the mean across all items for cases having no, or only 1 missing value.

#### **Strain Given To Family [B4QSTGFA]:**

Items: 4 items- Question 13 (k to n)

- k. "How often do you make too many demands on members of your family?"
- l. "How often do you criticize your family?"
- m. "How often do you let your family down when they are counting on you?"
- n. "How often do you get on your family's nerves?"

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse the item codes first and then computing the mean across all items for cases having no, or only 1 missing value.

#### **Affectual Solidarity Given to Family [B4QSOGFM] :**

Items: 6 item scale combining the two "support to family" and four "strain to family" items.

Scaling: The scale is constructed by calculating the **mean** of the values of the items. Items for the "support to family" were recoded, so that a high score signifies high levels of family affectual solidarity. The scale is computed for cases that had valid values for **at least one** item on the scale. For cases with only one missing value mean substitution is used.

**Psychometrics:****SUPPORT GIVEN TO FAMILY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.650	3.776	.436
M2 Main RDD Sample (666)	.659	3.769	.447
M2 Twin Sample (388)	.618	3.820	.377
M2 African American Sample (201)	.664	3.712	.499

**STRAIN GIVEN TO FAMILY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.640	1.745	.480
M2 Main RDD Sample (666)	.629	1.733	.455
M2 Twin Sample (388)	.596	1.688	.435
M2 African American Sample (201)	.675	1.892	.602

**AFFECTUAL SOLIDARITY GIVEN TO FAMILY**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.603	3.429	.368
M2 Main RDD Sample (666)	.584	3.434	.352
M2 Twin Sample (388)	.549	3.482	.325
M2 African American Sample (201)	.661	3.308	.461

**Source(s):**

MIDJA pilot items on the topic of social support *given* to family based on the existing MIDUS social support *received* from family items. The Support Given to Family Scale should be constructed in a similar way to the corresponding MIDUS2 scale (in which family is giving support to the respondent).

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

**Notes:**

- The Support Given to Family scale was intended to be a 4 item scale, but unfortunately the following 2 items were accidentally dropped when finalizing the MIDUS 2 Biomarker Self-Administered questionnaire. This omission was inadvertently carried forward to MIDJA.

The missing items are:

- "How much do you really care about your friends?"
- "How much do you understand the way your friends feel about things?"



### **SUPPORT GIVEN TO SPOUSE SCALE\***

Note: throughout the following “R” indicates item is reverse coded before constructing the scale score.

#### **Scales/Items:**

##### **Support Given To Spouse/partner [B4QSUGS]:**

Items: 6 items- Question 13 (o-t)

With regard to your spouse/partner:

- o. “How much do you really care about your spouse/partner?”
- p. “How much do you understand the way your spouse/partner feels about things”
- q. “How much do you appreciate your spouse/partner?”
- r. “How much can your spouse/partner rely on you for help if he/she has a serious problem?”
- s. “How much can your spouse/partner open up to you if he/she needs talk about his/her worries?”
- t. “How much can your spouse/partner relax and be his/herself around you?”

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse the item codes first and then computing the mean across all items for cases having no, or only 1 missing value.

##### **Strain Given To Spouse/partner [B4QSTGS]:**

Items: 6 items- Question 13 (u-z)

- u. “How often do you make too many demands on your spouse/partner?”
- v. “How often do you make your spouse/partner feel tense?”
- w. “How often do you argue with your spouse/partner?”
- x. “How often do you criticize you spouse/partner?”
- y. “How often do you let your spouse/partner down when he/she is counting on you?”
- z. “How often do you get on your spouse/partner nerves?”

Coding: 1 A lot; 2 Some; 3 A little; 4 Not at all.

Scaling: The scales were constructed by reverse the item codes first and then computing the mean across all items for cases having no, or only 1 missing value.

##### **Affectual Solidarity Given to Spouse/partner [B4QSOGFM] :**

Items: 12 item scale combining the six “support to spouse” and six “strain to spouse” items.

Scaling: The scale is constructed by calculating the **mean** of the values of the items. Items

for the “support to spouse” were recoded, so that a high score signifies high levels of spousal affectual solidarity. The scale is computed for cases that had valid values for **at least one** item on the scale. For cases with only one missing value mean substitution is used.

**Psychometrics:**

**SUPPORT GIVEN TO SPOUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.783	3.831	.311
M2 Main RDD Sample (666)	.726	3.848	.271
M2 Twin Sample (388)	.633	3.865	.219
M2 African American Sample (201)	.908	3.604	.596

**STRAIN GIVEN TO SPOUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.747	2.006	.484
M2 Main RDD Sample (666)	.740	2.018	.475
M2 Twin Sample (388)	.750	1.951	.464
M2 African American Sample (201)	.755	2.146	.581

**AFFECTUAL SOLIDARITY GIVEN TO SPOUSE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.766	3.412	.319
M2 Main RDD Sample (666)	.748	3.416	.302
M2 Twin Sample (388)	.735	3.456	.282
M2 African American Sample (201)	.819	3.226	.450

**Source(s):**

MIDJA pilot items on the topic of social support *given* to the spouse/partner based on the existing MIDUS social support *received* from spouse/partner items. The Support Given to Spouse/Partner Scale should be constructed in a similar way to the corresponding MIDUS2 scale (in which spouse/partner are giving support to the respondent).

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## SELF-CONTROL SCALE\*

Note: throughout the following "R" indicates item is reverse coded before constructing the scale score.

### Scales/Items:

#### **Self-Control Scale [B4QSC\_SC]**

Items: 19 items- Question 14 (a-s).

The following questions are about your views of yourself. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- a. "I can make myself do things I don't want to do."
- b. "When something bad happens to me, I think of all the others who are much worse off than I am."
- c. "I can control my thoughts and desires if I need to."
- d. "It is important to me to be able to think, feel, and act differently depending on the needs and demands of the situation."
- e. "One can be a better person only through changing one's thoughts and feelings."
- f. "It is important for me to be strong in body and mind."
- g. "I control my emotions by changing the way I think about the situation I'm in."
- h. "I keep my emotions to myself."
- i. "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm."
- j. "When I am feeling negative emotions (such as sadness or anger), I make sure not to express them."
- k. "I am known as an emotional person."(R)
- l. "It is important to me that I not bother others."
- m. "I try to behave so as not to cause trouble to others."
- n. "I sometimes worry that I am a burden on others."
- o. "I know my own limitations."
- p. "I do my best to maintain a calm mind."
- q. "A top priority in my life is to do well what I am supposed to do."
- r. "I feel very tense when I am being evaluated by others."
- s. "I am often concerned about how other people might respond to me."

#### **Cognition Control [B4QSC\_CC]:**

Items: 6 items- Question 14(a-f).

**Emotion Control [B4QSC\_EC]:**

Items: 6 Items- Question 14(g-k, p).

**Burden Consciousness [B4QSC\_BC]:**

Items: 7 Items- Question 14 (l, m, n, o, q, r, s).

Coding: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

Scaling: The scales were constructed by reverse coding the flagged items and computing the mean across all items for cases having 0, or only 1 missing value.

**Psychometrics:****SELF-CONTROL**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.710	4.950	.547
M2 Main RDD Sample (666)	.684	4.946	.511
M2 Twin Sample (388)	.707	4.913	.535
M2 African American Sample (201)	.773	5.034	.668

**COGNITION CONTROL**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.591	5.298	.735
M2 Main RDD Sample (666)	.557	5.305	.686
M2 Twin Sample (388)	.594	5.265	.713
M2 African American Sample (201)	.692	5.343	.917

**EMOTION CONTROL**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.547	4.712	.783
M2 Main RDD Sample (666)	.557	4.685	.766
M2 Twin Sample (388)	.562	4.647	.781
M2 African American Sample (201)	.465	4.928	.809

**BURDEN CONSCIOUSNESS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.639	4.854	.784
M2 Main RDD Sample (666)	.632	4.863	.759
M2 Twin Sample (388)	.669	4.839	.790
M2 African American Sample (201)	.620	4.853	.853

**Source(s):**

Markus, H. R. and Kitayama, S. 1991. "Culture and the self: Implications for cognition, emotion, and motivation." *Psychological Review*. 98(2), 224-253.

Gross, J.J., and John, O.P. 2003. "Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being." *Journal of Personality and Social Psychology*, 85, 348-362.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## SUBJECTIVE WELL-BEING SCALE\*

### Scales/Items:

#### **Subjective Happiness Scale<sup>1</sup>:**

Items: 1 item- Question 15a.

The next questions are about your evaluations of your life overall. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- a. "Compared to most of my peers, I consider myself to be more happy."

<sup>1</sup> Item is taken from Lyubomirsky & Ross (1997) below.

#### **Satisfaction With Life Scale<sup>2</sup> [B4QSW\_SL]**

Items: 5 items- Question 15 (b-f).

The next questions are about your evaluations of your life overall. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- b. "In most ways my life is close to my ideal."  
c. "The conditions of my life are excellent."  
d. "I am satisfied with my life."  
e. "So far I have gotten the important things I want in life."  
f. "If I could live my life over, I would change almost nothing."

<sup>2</sup> From Pavot & Diener (1993) below.

#### **Gratitude Scale<sup>3</sup> [B4QSW\_GR]**

Items: 2 items- Question 15 (g-h).

The next questions are about your evaluations of your life overall. Please circle the number that corresponds to how much you agree or disagree with the following statements.

- g. "I have so much in life to be thankful for."  
h. "I am grateful to a wide variety of people."

<sup>3</sup> Items taken from McCullough, Emmons & Tsang (2002) below.

Coding: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree

Scaling: The scales were constructed by computing the mean across all items.

**Psychometrics:**

**SUBJECTIVE HAPPINESS**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	---	4.88	1.428
M2 Main RDD Sample (666)	---	4.93	1.401
M2 Twin Sample (388)	---	4.90	1.388
M2 African American Sample (201)	---	4.70	1.583

**SATISFACTION WITH LIFE SCALE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.877	4.779	1.309
M2 Main RDD Sample (666)	.880	4.809	1.295
M2 Twin Sample (388)	.885	5.051	1.230
M2 African American Sample (201)	.820	4.144	1.303

**GRATITUDE SCALE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.714	6.259	.842
M2 Main RDD Sample (666)	.718	6.252	.837
M2 Twin Sample (388)	.725	6.344	.742
M2 African American Sample (201)	.689	6.119	1.009

**Source(s):**

Lyubomirsky, S. and Ross, L. 1997. "Hedonic consequences of social comparison: A contrast of happy and unhappy people." *Journal of Personality & Social Psychology*, 73, 1141-1157 (1 of 4 items)

Pavot, W., and Diener, E. 1993. "Review of the Satisfaction with Life Scale." *Psychological Assessment*, 5, 164-172.

McCullough, M. E., Emmons, R. A., and Tsang, J. 2002. "The grateful disposition: A conceptual and empirical topography." *Journal of Personality & Social Psychology*, 82, 112-127. (2 of 6 items).

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## **SUBJECTIVE WELL-BEING: JAPANESE COMPARISON SCALE\***

Based on the MIDJA pilot and the Everyday Well-Being Study. The items are expected to be important components of a "good" life in Japan

### **Scales/Items:**

#### **Subjective Well-Being: Japanese comparison Scale [B4QSW\_JP]:**

Items: 8 items- Question 16 (a-h).

How important do you think the following things are for having a good life? Please circle the appropriate number for each item. It is important to...

- a. Be critical and reflect upon your actions.
- b. Be needed by others.
- c. Be in harmony with others and surrounding events.
- d. Have the ability to make a good effort at something and stick to it.
- e. Have a sense of peace and satisfaction.
- f. To receive sympathy from others.
- g. To receive respect from others.
- h. To give something back to society.

Coding: 1 Not at all important; 2 Somewhat important; 3 Very important; 4 Extremely important.

Scaling: The scale was constructed by computing the mean across all items for cases having 0, or only 1 missing value.

### **Psychometrics:**

#### **Subjective Well-Being Japanese Comparison**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.727	2.877	.430
M2 Main RDD Sample (666)	.737	2.881	.432
M2 Twin Sample (388)	.708	2.872	.412
M2 African American Sample (201)	.740	2.871	.460

### **Source(s):**

This is a newly developed scale to assess well-being in a way that is more sensitive to the Japanese cultural context. Item selection was influenced by the following.

- Uchida, Y., Norasakkunkit, V., and Kitayama, S. 2004. "Cultural constructions of happiness: theory and empirical evidence." *Journal of happiness studies* 5: 223-239.
- Kitayama, S. and Markus, H.R. 2000. "The pursuit of happiness and the realization of sympathy: Cultural patterns of self, social relations, and well-being." In E. Diener & E. M. Suh (Eds.), *Cultural and subjective well-being* (pp.113-161). Cambridge, MA: MIT Press.
- Kitayama, S., Markus, H.R., and Kurokawa, M. 2000. "Culture, emotion and well-being: Good feelings in Japan and the United States." *Cognition and Emotion*, 14, 93-124.



Kitayama, S., Mesquita, B., and Karasawa, M. 2006. "Cultural affordances and emotional experience: Socially engaging and disengaging emotions in Japan and the United States." *Journal of Personality and Social Psychology*, 91, 890-903.

\*Items included to facilitate comparison with parallel data collection in Japan (MIDJA: Midlife in Japan).

## PITTSBURGH SLEEP QUALITY (PSQ)

Note: The PSQ measures 7 components of sleep. These are constructed using the 19 self-rated items. There are no constructed scores for 5 items rated by the respondent's roommate/bed partner. Some of the items comprising these components have different response formats, thus, coding and scaling information is provided separately for each component.

### Sleep Components/Items:

#### **Subjective Sleep Quality [B4SSQ\_S1]:**

Item: - PSQ, Question 5.

During the past month, how would you rate your sleep quality overall?

Coding: 1 Very good; 2 Fairly good; 3 Fairly bad; 4 Very bad

Scaling: This sleep component is constructed by re-coding responses to Q5 such that 1=0, 2=1, 3=2, 4=3.

#### **Sleep Latency [B4SSQ\_S2]:**

Items: - PSQ, Question 2 and 11a.

Q2. During the past month, how long (in minutes has it taken you to fall asleep at night?.

Q11a. During the past month, how often have you had trouble sleeping because you could not get to sleep within 30 minutes?

Coding: Responses to Q2 are reported in minutes. Q11a is coded as follows: 1 Not during the past month; 2 Less than once a week; 3 Once or twice a week; 4 Three or more times per week.

Scaling: This sleep component is constructed by converting minutes reported in Q2 to the following categories: 0 ≤ 15 minutes; 1 16-30 minutes; 2 31-60 minutes; 4 > 60 minutes. Responses to Q11a are recoded such that: 1=0, 2=1, 3=2, 4=3. These categorical values are then summed and assigned to the following categories: 0 0; 1 1-2; 2 3-4; 3 5-6.

#### **Sleep Duration [B4SSQ\_S3]:**

Item: - PSQ, Question 4.

Q4. During the past month, how many hours of actual sleep did you get at night (This may be different than the number of hours you spend in bed).

Coding: Responses to Q4 are reported in hours.

Scaling: This sleep component is constructed by converting hours reported in Q4 to the following categories: 0 > 7 hours; 1 6-7 hours; 2 5-6 hours; 4 < 5 hours.

#### **Habitual Sleep Efficiency [B4SSQ\_S4]:**

Items: - PSQ, Question 1, 3, and 4.

Q1. During the past month, when have you usually gone to bed at night?

Q3. During the past month, when have you usually gotten up in the morning?

Q4. During the past month, how many hours of actual sleep did you get at night (This may be different than the number of hours you spend in bed).

Coding: Responses to Q1 and 3 are reported as time of day. Responses to Q4 are reported in hours.

Scaling: This sleep component is constructed using the following algorithm:  $\{ \{ Q4 / (Q1 - Q3) \} \times 100 \}$ . The percentages are then converted to categories as follows: 0 85-100%; 1 75-84%; 2 65-74%; 3 < 65%; 4 > 100%. Percentages above 100% are possible because due to inconsistencies between the time to bed, time to rise, and the number of hours of actual sleep reported by some participants.

#### **Sleep Disturbance [B4SSQ\_S5]:**

Items: - PSQ, Question 11b-j.

During the past month, how often have you had trouble sleeping because you...

b. Woke up in the middle of the night or early in the morning.

c. Had to get up to use the bathroom.

d. Could not breathe comfortably.

e. Coughed and snored.

f. Felt too cold.

g. Felt too hot.

h. Had bad dreams.

i. Had pain.

j. Other reason(s).

Coding: 1 Not during the past month; 2 Less than once a week; 3 Once or twice a week; 4 Three or more times per week.

Scaling: This sleep component is constructed by recoding responses to 11b-j, as follows: 1=0, 2=1, 3=2, 4=3. These items were summed for all cases with no missing data on these items. Mean substitution was used to create a score for cases with only one missing value. The scores were then converted to the following categories: 0 0; 1 1-9; 2 10-18; 3 19-27.

#### **Use of Sleeping Meds [B4SSQ\_S6]:**

Item: - PSQ, Question 7.

During the past month, how often have you taken medicine (prescribed or “over the counter”) to help you sleep?

Coding: 1 Not During the Past Month; 2 Less than once a week; 3 Once or twice a week; 4 Three or more times a week.

Scaling: This sleep component is constructed by re-coding responses to Q7 such that 1=0, 2=1, 3=2, 4=3.

#### **Daytime Dysfunction [B4SSQ\_S7]:**

Items: - PSQ, Question 6, 8.

Q6. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?

Q8. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

Coding: Responses to Q6 are coded as follows: 1 No problem at all; 2 Only a very slight problem; 3 Somewhat of a problem; 4 A very big problem. Responses to Q8 are coded as follows: 1 Not During the Past Month; 2 Less than once a week; 3 Once or twice a week; 4 Three or more times a week.

Scaling: This sleep component is constructed by re-coding responses to Q6 & 8 such that 1=0, 2=1, 3=2, 4=3. These responses are then summed and converted to the following categories: 0 0; 1 1-2; 2 3-4; 3 5-6.

#### **Global Sleep Scale [B4SSQ\_GS]:**

Items: - Sleep Components S1-S7 as described above.

Coding: Each sleep component is a 4 category item with values ranging from 0-3. The category descriptions vary across the components as described above.

Scaling: The Global Sleep score is constructed by summing the 7 sleep components for each case with complete data. Global Sleep scores are not computed for cases with a Habitual Sleep Efficiency greater than 100%.

#### **Psychometrics:**

##### **SUBJECTIVE SLEEP QUALITY (Sleep Component 1)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	1.011	.704
M2 Main RDD Sample (666)	-----	0.990	.705
M2 Twin Sample (388)	-----	0.935	.622
M2 African American Sample (201)	-----	1.230	.800

**SLEEP LATENCY (Sleep Component 2)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	0.940	.941
M2 Main RDD Sample (666)	-----	0.915	.944
M2 Twin Sample (388)	-----	0.807	.870
M2 African American Sample (201)	-----	1.286	.987

**SLEEP DURATION (Sleep Component 3)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	0.831	.802
M2 Main RDD Sample (666)	-----	0.816	.757
M2 Twin Sample (388)	-----	0.724	.747
M2 African American Sample (201)	-----	1.090	.978

**HABITUAL SLEEP EFFICIENCY (Sleep Component 4)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	0.848	1.248
M2 Main RDD Sample (666)	-----	0.690	1.138
M2 Twin Sample (388)	-----	0.762	1.200
M2 African American Sample (201)	-----	1.540	1.449

**SLEEP DISTURBANCE (Sleep Component 5)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	.7046	1.3116	.5803
M2 Main RDD Sample (666)	.6904	1.3117	.57984
M2 Twin Sample (388)	.6623	1.2235	.5223
M2 African American Sample (201)	.759	1.4827	.6508

**USE OF SLEEPING MEDICATION (Sleep Component 6)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	0.585	1.080
M2 Main RDD Sample (666)	-----	0.571	1.078
M2 Twin Sample (388)	-----	0.576	1.049
M2 African American Sample (201)	-----	0.652	1.148

**DAYTIME DYSFUNCTION (Sleep Component 7)**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	0.832	.680
M2 Main RDD Sample (666)	-----	0.871	.697
M2 Twin Sample (388)	-----	0.698	.606
M2 African American Sample (201)	-----	0.960	.722

**GLOBAL SLEEP SCORE**

Sample (N)	Alpha	Mean	Std. dev
M2 Total Sample (1255)	-----	6.225 <del>30</del>	3.681
M2 Main RDD Sample (666)	-----	6.076 <del>82</del>	3.605
M2 Twin Sample (388)	-----	5.629	3.178
M2 African American Sample (201)	-----	8.043 <del>54</del>	4.35 <del>10</del>

**Source(s):**

Buysse, Daniel J., Reynolds, Charles F., Monk, Timothy H., Berman, Susan R., and Kupfer, David J. 1988. "The Pittsburgh Sleep Quality Index: A New Instrument for Psychiatric Practice and Research." *Psychiatry Research*, 28, p. 193-213.

## SYMPTOMS AND CONDITIONS

### Total Number of Symptoms and Conditions (Ever) [B4HSYMN]:

Items: P4 Medical History, Question 1a-w, plus the total # of 'other' conditions reported.

(Have you ever had any of the following conditions/illnesses?)

Coding: 1 Yes; 2 No.

Scaling: [B4HSYMN] is constructed by counting the **total number** of "Yes" responses to the questions and adding the value of [B4H1TOTH].

Note: Items X and Y in this set allow the respondent to report "Other" conditions or symptoms not included on the list. Sometimes respondents reported more than two "Other" conditions. The total number of "Other" conditions is entered as variable [B4H1TOTH].

Missing Values: [B4HSYMN] is computed for all cases having at least one valid response to this set of items.

### Any Symptoms and Conditions? [B4HSYMX]:

Items: A dummy variable based on [B4HSYMN]

= 1 if [B4HSYMN] is greater than or equal to 1

= 0 if [B4HSYMN] is 0

## COUNTS OF HEALTH EVENTS

### Total Number of Broken Bones (Ever) [B4HBRKB]:

Items: P4 Medical History, Question 2 and 2a-n.

(Have you ever broken a bone? If yes, have you broken your....? If yes, how often?)

Coding: Number of times respondent reports having broken the indicated bone.

Scaling:

If the response to Q2 is No, then [B4HBRKB] is 0.

If the response to Q2 is Yes, then [B4HBRKB] is constructed by summing across items 2a-n.

Missing Values: [B4HBRKB] is computed for all cases.

### Total Number of Surgeries (Ever) [B4HSURG]:

Items: P4 Medical History, Question 3 and 3a-j.

(Have you had surgery? If yes, describe each surgery.)

Coding: Number of times respondent reports having had any type of surgery.

Scaling:

If the response to Q3 is No, then [B4HSURG] is 0.

If the response to Q3 is Yes, then [B4HSURG] is constructed by summing across items 3a-j.

Missing Values: [B4HSURG] is computed for all cases.

### Total Number of Head Injuries (Ever) [B4HHEAD]:

Items: P4 Medical History, Question 4 and 4a-c.

(Have you had a head injury? If yes, describe each head injury.)

Coding: Number of times respondent reports having had any type of surgery.

Scaling:

If the response to Q4 is No, then [B4HHEAD] is 0.

If the response to Q4 is Yes, then [B4HHEAD] is constructed by summing across items 4a-c.

Missing Values: [B4HHEAD] is computed for all cases.



**Total Number of Joint Injuries (Ever) [B4HJNT]:**

Items: P4 Medical History, Question 5 and 5a-c.

(Have you had a joint injury? If yes, describe joints (knee, shoulder, etc.) and injury.)

Coding: Number of times respondent reports having had any type of joint injury.

Scaling:

If the response to Q5 is No, then [B4HJNT] is 0.

If the response to Q5 is Yes, then [B4HJNT] is constructed by summing across items 5a-c.

Missing Values: [B4HJNT] is computed for all cases.

**Total Number of Motor Vehicle Accident Injuries (Ever) [B4HMVA]:**

Items: P4 Medical History, Question 6 and 6a-d.

(Have you ever been injured in a motor vehicle accident? If yes, describe the injury.)

Coding: Number of times a respondent reports having been injured in any type of motor vehicle accident.

Scaling:

If the response to Q6 is No, then [B4HMVA] is 0.

If the response to Q6 is Yes, then [B4HMVA] is constructed by summing across items 6a-d.

Missing Values: [B4HMVA] is computed for all cases.

**Total Number of Permanent Amputations [B4HAMPU]:**

Items: P4 Medical History, Question 7 and 7a-c.

(Have you permanently lost all or part of a limb (including tip of a finger or toe)? If yes, describe the amputation.)

Coding: Number of times a respondent reports having permanently lost all or part of a limb.

Scaling:

If the response to Q7 is No, then [B4HAMPU] is 0.

If the response to Q7 is Yes, then [B4HAMPU] is constructed by summing across items 7a-c.

Missing Values: [B4HAMPU] is computed for all cases.

**Total Number of Other Major Injuries, Illnesses or Other Health Events Requiring  
Hospitalization (Ever) [B4HOHLTH]:**

Items: P4 Medical History, Question 8 and 8a-d.

(Have you had any other major injuries, illnesses, or other health events that may or may not have required hospitalization? If yes, describe other injuries/illnesses.)

Coding: Number of times respondent reports having had other major injuries, illnesses or other health events.

Scaling:

If the response to Q8 is No, then [B4HOHLTH] is 0.

If the response to Q8 is Yes, then [B4HOHLTH] is constructed by summing across items 8a-d.

Missing Values: [B4HOHLTH] is computed for all cases.

## **FAMILY MEDICAL HISTORY**

### **Total Number of Family Medical Conditions (Ever) [B4HFMHN]:**

Items: P4 Medical History, Question 14, 14a,15 and 15a-q, plus the total # of 'other' family medical conditions reported.

(Are you adopted? If No, do you know the medical history of your natural (or biological ) mother, father, sisters or brothers? If yes, has anyone in your immediate family (blood relatives only) had...? If yes, which family members?)

Coding: 1 Yes; 2 No.

Scaling: [B4HFMHN] is constructed by counting the **total number** of "Yes" responses to the questions and adding the value of [B4H15OTH].

Note: Items R and S in this set allow the respondent to report "Other" conditions or symptoms not included on the list. Sometimes respondents reported more than two "Other" conditions. The total number of "Other" conditions is entered as variable [B4H15OTH].

Missing Values: [B4HFMHN] is not computed if the respondent is adopted (Yes, at Q14) and/or reports having no knowledge of the medical history of his or her natural mother, father etc and is coded as "99" for INAPP.

### **Any conditions in immediate family? [B4HFMHX]:**

Items: A dummy variable based on [B4HFMHN]

= 1 if [B4HFMHN] is greater than or equal to 1

= 0 if [B4HFMHN] is 0

= 99 if [B4HFMHN] is 99

## MARITAL STATUS

### Marital Status at P4 Interview [B4HMARR]

Items: P4 Medical History Questions 51a-53 (integrated to create variable [B4H54C]), and 55.

[B4H54C]. Now I'd like to ask you about experiences you've had since you completed the MIDUS phone interview in \_\_\_\_\_. Since that time, have you gotten married, separated, divorced, become widowed, or begun living with someone in a steady, marriage-like relationship?

Q55 [B4H55]. What is your current marital status?

**and** P1 Phone Interview Questions B19, B30.

B19. [B1PB19] Are you married, separated, divorced, widowed, or never married?

B30. [B1PB30] Are you currently living with someone in a steady, marriage-like relationship?

Coding: There are marital status 6 categories:

- 1 "MARRIED"
- 2 "SEPARATED"
- 3 "DIVORCED"
- 4 "WIDOWED"
- 5 "NEVER MARRIED"
- 6 "LIVING W/ SOMEONE".

Scaling: Information about marital status at the Project 1 phone interview is combined with new information about change in marital status since then to create a single variable indicating marital status at the P4 clinic visit.

If marital status changed, [B454C] = 1, then B4HMARR = [B4H55]

If marital status did not change, [B454C] = 2, then B4HMARR = [B1PB19] or [B1PB30]

Missing Values: [B4HMARR] is computed for all cases.

## COUNTS OF INTERVENING EVENTS

### Total Number of Significant Deaths (Since P1 Interview) [B4HDIED] :

Items: P4 Medical History, Question 56 and 56a-e.

(Now I'd like to ask about (other/any) losses you may have experienced. Has anyone (else) close to you, a close friend or relative, passed away since we last interviewed you in (\_\_\_\_\_)?)

Coding: Number of times respondent reports losing someone close friend or relative.

Scaling:

If the response to Q56 is No, then [B4HDIED] is 0.

If the response to Q56 is Yes, then [B4HDIED] is constructed by summing across items 56a-e.

Missing Values: [B4HDIED] is computed for all cases.

## MEDICATION USE

### Taking Any Prescription Medications (Current) [B4XPMD]:

Items: A dummy variable based on [B4XPM]

= 1 if [B4XPM] is greater than or equal to 1

= 2 if [B4XPM] is 0

### Taking Any Over the Counter Medications (Current) [B4XOMD]:

Items: A dummy variable based on [B4XOM]

= 1 if [B4XOM] is greater than or equal to 1

= 2 if [B4XOM] is 0

### Taking Any Alternative Medications (Current) [B4XAMD]:

Items: A dummy variable based on [B4XAM]

= 1 if [B4XAM] is greater than or equal to 1

= 2 if [B4XAM] is 0

**Note:** At MIDUS 2 original release, Yes/No and Count variables were created for the following types of medications:

- Blood Pressure
- Cholesterol
- Corticosteroid
- Sex Hormones
- Depression

*These variables were removed in the updated release as more comprehensive data about pharmacologic and therapeutic effects are available via the linkage to the Lexi-Data database®. See the Documentation for Medication Data and the MIDUS-MIDJA Medication Documentation for more details.*

## BODY INDICES

### Body Mass Index [B4PBMI]:

Items: P4 Physical Exam Question 1a-b.  
(Height, Weight)

Coding: Measurement obtained by staff.

Scaling: [B4PBMI] is computed by dividing weight (in kilograms) by height squared (in meters. Height measure (in centimeters) was ~~divided~~~~multiplied~~ by 100 to get the height in meters.

Missing Values: [B4PBMI] is not computed if there is missing data for either measurement and is coded as "999998" for MISSING.

Note(s):

1. The MIDUS I and MIDUS 2 Project 1 data also include a composite Body Mass Index (BMI) variable (see the Project 1 Documentation of Psychosocial Constructs and Composite Variables for details) based on measurements based on self-reported data. The Biomarker measures are obtained by clinical staff according to a standardized protocol and are thus more accurate. Consequently, the adjustments applied to BMI ratios based on self-report measures are not applied to the biomarker measures.

### Alternate Average Systolic [B4P1GS23] and Diastolic [B4P1GD23] Blood Pressure:

Items: P4 Physical Exam Question 1f2s & d, 1f3s & d  
(BP sitting – 2nd and 3<sup>rd</sup> measurements)

Coding: Measurement obtained by staff.

Scaling:

[B4P1GS23] is computed by taking the mean of the second and third systolic blood pressure measurements.

[B4P1GD23] is computed by taking the mean of the second and third diastolic blood pressure measurements.

Scaling is based on the protocol used in the MacArthur Study of Successful Aging.

Missing Values: [B4P1GS23] and [B4P1GD23] are not computed if there is missing data for either measurement and are coded as "998" for MISSING.

Source(s):

Gruenewald, T.L., Seeman, T.E., Ryff, C. D., Karlamangla, A.S., and Singer, B.S. 2006. "Combinations of biomarkers predictive of later life mortality." *Proceedings of the National Academy of Sciences*, 103(38), p.14158-14163.

#### **Waist to Hip Ratio [B4PWHR]:**

Items: P4 Physical Exam Question 2a and 2c.  
(Waist, Hip 2: Maximum extension)

Coding: Measurement obtained by clinical staff using a Gulik Tape Measure (see PhysExam instructions V7 02-21-05 on LINUS for details).

Scaling: [B4PWHR] is computed by dividing waist measurement (in centimeters) by the maximum hip extension measurement (in centimeters). A filter variable [B4PWHRF] is also created to flag cases with values more than 4 standard deviations above or below the mean.

Missing Values: [B4PWHR] is not computed if there is missing data for either measurement and is coded as "999998" for MISSING.

#### Note(s):

1. The MIDUS I and MIDUS 2 (Project 1) data also include a composite Waist to Hip Ratio variable (see the Project 1 Documentation of Psychosocial Constructs and Composite Variables for details) based on measurements obtained by the respondent using a tape measure included with the Self-Administered Questionnaire. The Biomarker measures are obtained by clinical staff using a Gulik Tape measure according to a standardized protocol and are thus more accurate. Consequently, the adjustments applied to waist-to-hip ratios based on self-report measures are not applied to the biomarker measures. Rather, extreme values are flagged using the filter variable [B4PWHRF] identified above.

#### **HOMA-IR: Insulin Resistance [B4BHOMAIR]:**

Item: Blood fasting glucose level in mg/dL, Blood fasting insulin levels .

Scaling:  $([B4BGLIC] * [B4BINSLIN]) / 405$

Missing Values: [B4BHOMAIR] is not computed if there is missing data for either measurement .

#### Source:

Matthews. D.R. et al. 1985. "Homeostasis model assessment: insulin resistance and beta-cell function from fasting plasma glucose and insulin concentrations in man." *Diabetologia*. 28(7): p. 412-9.



**12 hour values for Norepinephrine [B4BNE12], Epinephrine [B4BEPI12], and Dopamine [B4BDOP12] (ug/12h):**

Items: Urine norepinephrine, epinephrine, and dopamine values (ug/dL) and Urine Volume (mL).

Coding: Measurements obtained from laboratory assay.

Scaling: Values adjusted to 12 hour collection period are computed as follows:  
$$((\text{Urine Volume} * \text{Catecholamine ug/dL}) / 100)$$

Missing Values: [B4BNE12], [B4BEPI12], [B4BDOP12], are not computed if 1) the collection period is less than 11 hours, 2) the collection period is greater than 13 hours, or 3) there is missing data for any of the items.

**Creatinine Adjusted Norepinephrine [B4BNOCRE], Epinephrine [B4BEPCRE], and Dopamine [B4BDOCRE] (ug/g):**

Items: Urine norepinephrine, epinephrine, and dopamine values (ug/dL) and Urine Creatinine (mg/dL).

Coding: Measurements obtained from laboratory assay.

Scaling: Creatinine adjusted levels are computed as follows:  
$$(\text{Catecholamine ug/dL}) / (\text{Urine Creatinine mg/d} * .001)$$

Missing Values: [B4BNOCRE], [B4BEPCRE], [B4BDOCRE], are not computed if there is missing data for any of the items.

**Glomerular Filtration Rate [B4BGFR]:**

Items: Urine and Serum Creatinine levels, urine volume and urine collection period in hours.

Coding: Measurement obtained by staff and laboratory assay.

Scaling: GFR is computed as follows:

$$\text{GFR} = [\text{Ur. Creatinine} * \text{Ur. Volume}] / [\text{Serum Creatinine} * \text{Time (of urine collection)}]$$

The above is divided by 60 to convert to a filtration rate of ml/minute.

Missing Values: [B4BGFR] is not computed if there is missing data for any of the items.

## THE EDINBURGH HANDEDNESS INVENTORY

### Scales/Items:

**Scales:** Laterality Quotient [B4VHALQ]

**Left-handedness Total** [B4VHALT]

**Left-handedness Decile** [B4VHADL]

**Right-handedness Total** [B4VHART]

**Right-handedness Decile** [B4VHADR]

**Left-Right equally used (Zero decile)** [B4VHADZ]

Items: PsychoPhysiology Protocol Hand Usage Questionnaire, 12 items- Question 1 (1-10,i,ii)

(Please indicate your hand usage preferences in the following activities. Put an X in the appropriate column. If with any activity you use **both hands confidently**, mark the "Either hand or both hands" column. Some of the activities require both hands. In these cases, the part of the task or object for which hand preference is wanted is indicated in brackets. Try to answer all the questions, and only leave a blank if you have no experience at all with the object or activity.)

1. "Writing"
2. "Drawing"
3. "Throwing"
4. "Scissors"
5. "Toothbrush"
6. "Knife [without fork] (e.g. cutting vegetables)"
7. "Spoon"
8. "Broom [upper hand]"
9. "Striking Match [match]"
10. "Opening box [lid]"
- i. "Which foot do you prefer to kick with?"
- ii. "Which eye do you use when using only one? (e.g. using a camera) "

Note: Two items (i, ii) in the instrument are not included in the scale construction, per scoring instructions in Oldfield, 1971.

### Coding:

Raw item coding: 1 Strongly left hand; 2 Left hand; 3 Either hand or both hands; 4 Right hand; 5 Strongly right hand.

### Recoding raw items for handedness:

The five-point coding of scale items was a modification in MIDUS 2 of the Inventory's original item presentation (Oldfield,1971) designed to make item rating easier for respondents. Items were then recoded into Oldfield's original scaling. Ratings for each item are recoded into a three-point scale

(0, 1 or 2) for both left-handedness and right-handedness. The table below shows the conversion from the five-point raw item coding into two three-point handedness coding schemes.

Item coding for handedness:

	Right handedness	Left handedness
1 Strongly left hand	0	2
2 Left hand	0	1
3 Either hand or both hands	1	1
4 Right hand	1	0
5 Strongly right hand	2	0

Scaling:

A Right Handedness Total **[B4VHART]** and Left Handedness Total **[B4VHALT]** are constructed by summing across all items. Scale scores were valid if at least 8 of 10 items had valid values (not missing). Mean item substitution was not used to replace missing values.

The two handedness Total scores are used to compute a Laterality Quotient **[B4VHALQ]** with this equation:  $(B4VHART - B4VHALT) / (B4VHART + B4VHALT) \times 100$ . Possible LQ values range from -100 (extreme left handedness) to 100 (extreme right handedness).

Distribution into Deciles:

Oldfield's (1971) population deciles of handedness were applied to LQ scores and respondents' decile status for left handedness **[B4VHADL]** or right handedness **[B4VHADR]** are provided. A few cases had equivalent left and right handedness totals, resulting in an LQ=0 (zero). Oldfield provides no decile status or explanation of LQ =0 value, so a special zero decile status was created **[B4VHADZ]**.

Source(s):

Oldfield, R. C. 1971. "The assessment and analysis of handedness: The Edinburgh inventory." *Neuropsychologia*, 9, 97-113.

## AGE AT CLINIC VISIT

### Age at Clinic Visit

Age at clinic visit is constructed by computing the differences in years between Biomarker completion date and participant's birthday. (Biomarker completion date and birthday are not available in public released data file for privacy reasons.)

There are two age at clinic visit variables [B4ZAGE] and [B4ZAGE\_D].

[B4ZAGE] is the P4 age variable included in the original Biomarker data release, it is computed as -

$$B4ZAGE = \text{RND}((B4IDATE - \text{Birth\_Date}) / (365.25 * \text{time.days}(1)))$$

[B4ABG\_D] is new in updated release. It is computed by rounding down, to be consistent with how the age variable was constructed in Project 1 and Project 4 Refresher. It is computed as –

$$B4ZAGE\_D = \text{DATEDIF}(B4IDATE, \text{Birth\_Date}, "years")$$

## METABOLIC EQUIVALENT OF TASK (MET)

### Total number of MET minutes per week [B4HMETMW]

Items: Medical History Interview Question set 25-25g ([B4H25] TO [B4H25GI]). This set of items assesses regular exercise or activity performed by the participant.

36. We define 3 general types of regular exercise or activity. It can be:

VIGOROUS- Which causes your heart to beat so rapidly you can feel it in your chest and you perform it long enough to work up a good sweat and breathe heavily (e.g., competitive sports, running, vigorous swimming, high intensity aerobics, digging in the garden, or lifting heavy objects).

MODERATE- Which causes your heart rate to increase slightly and you typically work up a sweat (e.g., leisurely sports like light tennis, slow or light swimming, low intensity aerobics or golfing without a power cart, brisk walking, mowing the lawn with a walking lawnmower).

LIGHT - Which requires little physical effort (e.g., light housekeeping like dusting or laundry, bowling, archery, easy walking, golfing with a power cart or fishing).

Keeping in mind our definitions of vigorous, moderate and light levels of activity, in general, do you engage in regular exercise, or activity, of any type for 20 minutes or more at least 3 times/week?

25a. Please name one type of exercise/activity that you do.

25as. Is this a seasonal activity? If so, which season(s)?

25afd. How many times per day do you do this activity/exercise?\*

25afw. How many times per week do you do this activity/exercise?\*

25am. What is the average number of minutes that you exercise per session?\*

25ai. What is the intensity of this activity/exercise?\*

1=VIGOROUS, 2=MODERATE, 3=LIGHT

\*Item is used on computing MET value

Coding: Number of MET minutes per week respondent reports engaging in any regular exercise/physical activity.

Scaling:

If Q25 is No, then [B4HMETMW] is 0.

If Q25 is Yes, then [B4HMETMW] is constructed by multiplying the number of times per week [e.g., B4H25AFD\*B4H25AFW] by the average number of minutes per session [e.g., B4H25AM] by an intensity factor [6=vigorous, 3=moderate, 1.1 = light] and summing across all reported activities.

Notes. In accordance with definitions from the American College of Sports Medicine and the American Heart Association, self-reported vigorous activity is assigned a value of 6 METs, moderate exercise is assigned a value of 3 METs, and light activity is assigned a value of 1.1 METs.

Missing Values: [B4HMETMW] is computed for all cases with valid value for exercise time and intensity. [B4HMETMW] is assigned a value of 0 if participant reports "No" (2) on engaging in regular exercise, or activity, of any type for 20 minutes or more at least 3 times/week [B4H25]? When no valid exercise time or intensity were available, 99998 were used to indicate 'NOT CALCULATED (Due to missing data)'.

**Sources:**

Haskell, W. L., Lee, I.-M., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., ... Bauman, A. 2007. "Physical Activity and Public Health." *Medicine & Science in Sports & Exercise*, 39(8), 1423–1434. <http://doi.org/10.1249/mss.0b013e3180616b27>.