

## MESA EXAM 5 ANCILLARY STUDY 113 SLEEP QUESTIONNAIRE DATA SET VARIABLE GUIDE

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Order	Variable	Variable Description	Value Labels
1	idno	PARTICIPANT ID NUMBER	
2	bedtmwkday5c	BEDTIME WEEKDAY (24 HOUR FORMAT)	<b>Please note:</b> Hour : Minute (HH:MM) date format may not have been preserved for STATA program users. Please contact CC for further guidance.
3	waketmwkday5c	WAKETIME WEEKDAY (24 HOUR FORMAT)	
4	wkdaysleepdur5c	SLEEP DURATION WEEKDAY (HOURS:MINUTES)	
5	wkdaysleepdur5t	SLEEP DURATION WEEKDAY (HOURS)	
6	bedtmwkend5c	BEDTIME WEEKEND (24 HOUR FORMAT)	<b>Please note:</b> Hour : Minute (HH:MM) date format may not have been preserved for STATA program users. Please contact CC for further guidance.
7	waketmwkend5c	WAKETIME WEEKEND (24 HOUR FORMAT)	
8	wkendsleepdur5c	SLEEP DURATION WEEKEND (HOURS:MINUTES)	
9	wkendsleepdur5t	SLEEP DURATION WEEKEND (HOURS)	
10	nap5	USUAL WEEK: NUMBER OF NAPS (5 MINUTES OR MORE)	0: NONE 1: ONE OR MORE TIMES
11	trbleslpng5	PAST 4 WEEKS: TROUBLE FALLING ASLEEP	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
12	wakeup5	PAST 4 WEEKS: WAKE UP SEVERAL TIMES A NIGHT	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK

Order	Variable	Variable Description	Value Labels
13	wakeearly5	PAST 4 WEEKS: WAKE UP EARLIER THAN PLANNED	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
14	bcksleep5	PAST 4 WEEKS: TROUBLE GETTING BACK TO SLEEP AFTER YOU WAKING TOO EARLY	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
15	slpngpills5	PAST 4 WEEKS: TAKE SLEEPING PILLS TO HELP SLEEP	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
16	irritable5	PAST 4 WEEKS: HAVE SLEEP DIFFICULTIES CAUSING IRRITABILITY	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
17	sleepy5	PAST 4 WEEKS: FEEL OVERLY SLEEPY DURING DAY	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
18	typicalslp5	PAST 4 WEEKS: OVERALL TYPICAL NIGHT SLEEP	0: VERY SOUND OR RESTFUL 1: SOUND AND RESTFUL 2: AVERAGE QUALITY 3: RESTLESS 4: VERY RESTLESS
19	readng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING AND READING	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE

Order	Variable	Variable Description	Value Labels
20	tv5	CHANCE OF DOZING / FALL ASLEEP WHILE: WATCHING TV	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
21	sittng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING INACTIVE IN PUBLIC	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
22	riding5	CHANCE OF DOZING / FALL ASLEEP WHILE: RIDING AS PASSENGER IN CAR	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
23	lyngdwn5	CHANCE OF DOZING / FALL ASLEEP WHILE: LYING DOWN TO REST IN AFTERNOON	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
24	talkng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING AND TALKING TO SOMEONE	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
25	quietly5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING QUIETLY AFTER LUNCH (NO ALCOHOL)	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
26	car5	CHANCE OF DOZING / FALL ASLEEP WHILE: IN CAR STOPPED IN TRAFFIC	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
27	dinner5	CHANCE OF DOZING / FALL ASLEEP WHILE: AT DINNER TABLE	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE

Order	Variable	Variable Description	Value Labels
28	driving5	CHANCE OF DOZING / FALL ASLEEP WHILE: WHILE DRIVING	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
29	snored5	PAST 4 WEEKS: SNORED	1: NEVER 2: RARELY (1-2 NIGHTS A WEEK) 3: SOMETIMES (3-5 NIGHTS A WEEK) 4: ALWAYS OR ALMOST ALWAYS (6-7 NIGHTS A WEEK) 9: DON'T KNOW
30	stpbrthng5	PAST 4 WEEKS: STOP BREATHING DURING SLEEP	1: NEVER 2: RARELY (1-2 NIGHTS A WEEK) 3: SOMETIMES (3-5 NIGHTS A WEEK) 4: ALWAYS OR ALMOST ALWAYS (6-7 NIGHTS A WEEK) 9: DON'T KNOW
31	legsdscmfrt5	EXPERIENCE DESIRE TO MOVE LEGS BECAUSE OF DISCOMFORT / DISAGREEABLE SENSATIONS IN LEGS	0: NO 1: YES 9: DO NOT KNOW
32	rubbnglgs5	FEEL NEED TO MOVE TO RELIEVE DISCOMFORT BY WALKING OR RUB LEGS	0: NO 1: YES 9: DO NOT KNOW
33	wrserest5	SYMPTOMS WORSE WHEN AT REST WITH TEMPORARY RELIEF BY ACTIVITY	0: NO 1: YES 9: DO NOT KNOW
34	wrseltr5	SYMPTOMS WORSE LATER IN DAY OR NIGHT	0: NO 1: YES 9: DO NOT KNOW
35	feelngbstr5	TIME OF DAY FEELING BEST	1: 5:00 - 6:30 AM 2: 6:30 - 7:45 AM 3: 7:45 - 9:45 AM 4: 9:45 - 11:00 AM 5: AFTER 11:00 AM

Order	Variable	Variable Description	Value Labels
36	tired5	HOW TIRED DURING FIRST HALF HOUR AFTER HAVING WOKEN IN MORNING	1: VERY TIRED 2: FAIRLY TIRED 3: FAIRLY REFRESHED 4: VERY REFRESHED
37	mosttired4	TIME IN EVENING FEEL MOST TIRED AND IN NEED OF SLEEP	1: 8:00 - 9:00 PM 2: 9:00 - 10:15 PM 3: 10:15 - 12:45 AM 4: 12:45 - 2:00 AM 5: AFTER 2:00 AM
38	feelngbstpk5	TIME OF DAY REACHING BEST FEELING PEAK	1: 5:00 - 8:00 AM 2: 8:00 - 10:00 AM 3: 10:00 - 4:45 PM 4: 4:45 - 9:45 PM 5: AFTER 9:45 PM
39	types5	TYPE OF PERSON: MORNING OR EVENING	1: DEFINITELY A MORNING TYPE 2: RATHER MORE A MORNING THAN AN EVENING TYPE 3: RATHER MORE AN EVENING THAN A MORNING TYPE 4: DEFINITELY AN EVENING TYPE 5: NEITHER A MORNING OR AN EVENING TYPE
40	slpapnea5	TOLD BY DOCTOR AS HAVING: SLEEP APNEA	0: NO 1: YES
41	cpap5	RECEIVE TREATMENT FOR SLEEP APNEA: CPAP OR BIPAP MACHINE	0: NO 1: YES
42	dntaldv5	RECEIVE TREATMENT FOR SLEEP APNEA: DENTAL (ORAL) DEVICE	0: NO 1: YES
43	uvula5	RECEIVE TREATMENT FOR SLEEP APNEA: THROAT/UVULA SURGERY	0: NO 1: YES
44	insomnia5	TOLD BY DOCTOR AS HAVING: INSOMNIA	0: NO 1: YES

Order	Variable	Variable Description	Value Labels
45	rstlesslgs5	TOLD BY DOCTOR AS HAVING: RESTLESS LEGS	0: NO 1: YES
46	wrksched5	USUAL WORK SCHEDULE	1: DAY SHIFT 2: AFTERNOON SHIFT 3: NIGHT SHIFT 4: SPLIT SHIFT 5: IRREGULAR SHIFT/ON-CALL 6: ROTATING SHIFTS 7: DO NOT WORK
47	extrahrs5	DAYS PER MONTH WORKING EXTRA HOURS BEYOND USUAL SCHEDULE	
48	sleepqsid	SLEEP QUESTIONNAIRE STAFF ID	
49	whiirs5c	WOMENS HEALTH INITIATIVE (WHI) INSOMNIA RATING SCALE	
50	epslpscl5c	EPWORTH SLEEPINESS SCALE IN MESA	
51	hoostmeq5c	MODIFIED HORNE-OSTBERG MORNINGNESS-EVENINGNESS QUESTIONNAIRE (MEQ) SCORE	

## Sleep Questionnaire Computed Variables

### Variable [whiirs5c] WHI Insomnia Rating Scale (WHIIRS)

The Women's Health Initiative Insomnia Rating Scale (WHIIRS) is a 5 item questionnaire intended to assess sleep latency, sleep maintenance insomnia, early morning awakening, and sleep quality. Each question is scored on a 5 point scale (from 0-4). The MESA sleep questionnaire questions 4-7 and 11 correspond to the WHIIRS. Questions 4-7 are scored such that an answer of "no, not in the past 4 weeks" equals zero points, "yes, less than once a week" is 1 point, "Yes, 1 or 2 times a week" is 2 points, "yes, 3 or 4 times a week" is 3 points, and "yes, 5 or more times a week" is 4 points. For Question 5, "very sound or restful" sleep is zero points and each category above that is 1, 2, 3 and 4 points (so "very restless" is 4 points). The score for each question is then added for a summary score that may range from 0 to 20. The higher the score, the more severe the insomnia, but a score of greater than or equal to 9 is considered clinically significant insomnia.

### MESA Sleep Questionnaire Items

*The next questions ask about your sleep habits. Please choose one of the answers for each of the following questions. Pick the answer that best describes how often you experienced the situation in the **past 4 weeks**.*

	No, not in the <u>past 4 weeks</u>	Yes, less than <u>once a week</u>	Yes, 1 or 2 <u>times a week</u>	Yes, 3 or 4 <u>times a week</u>	Yes, 5 or more <u>times a week</u>
4. Did you have trouble falling asleep?	<input type="radio"/> 0 <sub>1</sub>	<input type="radio"/> 0 <sub>2</sub>	<input type="radio"/> 0 <sub>3</sub>	<input type="radio"/> 0 <sub>4</sub>	<input type="radio"/> 0 <sub>5</sub>
5. Did you wake up several times a night?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Did you wake up earlier than you planned to?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Did you have trouble getting back to sleep after you woke up too early?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Overall, was your typical night's sleep during the <b>past 4 weeks</b> :					
	<input type="radio"/> 0 <sub>0</sub> Very sound or restful				
	<input type="radio"/> 0 <sub>1</sub> Sound and restful				
	<input type="radio"/> 0 <sub>2</sub> Average quality				
	<input type="radio"/> 0 <sub>3</sub> Restless				
	<input type="radio"/> 0 <sub>4</sub> Very restless				

## Sleep Questionnaire Computed Variables

Variable [whiirs5c] WHI Insomnia Rating Scale (WHIIRS) (continued)

### MESA Variables

Variable	Variable Description	Value Labels
trbleslpng5	PAST 4 WEEKS: TROUBLE FALLING ASLEEP	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
wakeup5	PAST 4 WEEKS: WAKE UP SEVERAL TIMES A NIGHT	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
wakeearly5	PAST 4 WEEKS: WAKE UP EARLIER THAN PLANNED	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
bcksleep5	PAST 4 WEEKS: TROUBLE GETTING BACK TO SLEEP AFTER YOU WAKING TOO EARLY	1: NO, NOT IN THE PAST 4 WEEKS 2: YES, LESS THAN ONCE A WEEK 3: YES, 1 OR 2 TIMES A WEEK 4: YES, 3 OR 4 TIMES A WEEK 5: YES, 5 OR MORE TIMES A WEEK
typicalslp5	PAST 4 WEEKS: OVERALL TYPICAL NIGHT SLEEP	0: VERY SOUND OR RESTFUL 1: SOUND AND RESTFUL 2: AVERAGE QUALITY 3: RESTLESS 4: VERY RESTLESS

**PLEASE NOTE: MESA variables (with exception of typicalslp5) need to be recoded to conform to the values applied to score the scale.**



## Sleep Questionnaire Computed Variables

### Variable [whiirs5c] WHI Insomnia Rating Scale (WHIIRS) *(continued)*

#### Skip pattern

It appears that there should be a skip pattern applied to the questionnaire, such that if a respondent answers “No, not in the past 4 weeks” to Q6, they should not answer Q7. The majority of respondents (n=1,023) did skip Q7 if they answered “No, not in the past 4 weeks” to Q6. We attempted to contact Dr. Levine, who designed the WHI questionnaire, to ask about the skip pattern, but did not receive a response. It was decided that Q7 will be assigned a value of zero for all respondents that answered “No, not in the past 4 weeks” to Q6.

#### Summary of steps for calculation of WHIIRS in MESA

1. Recode variables: trbleslpng5 wakeup5 wakeearly5 bcksleep5 :
  - 1=0
  - 2=1
  - 3=2
  - 4=3
  - 5=4
2. After recoding, replace [bcksleep5] =0 if [wakeearly5] =0 (variable [bcksleep5] may be missing or have a value).
3. Sum the values in the variables [trbleslpng5], [wakeup5], [wakeearly5], [bcksleep5], and [typicalslp5] **if none are missing**. Participants with any missing values for the 5 variables are set to missing for the WHIIRS.

## Sleep Questionnaire Computed Variables

### Variable [epslp scl5c] Epworth Sleepiness Scale

The Epworth Sleepiness Score (ESS) is an 8 item questionnaire designed to measure general sleepiness. Each question is rated on a 4 point scale (0-3) with a summary score ranging from 0-24. A score of 9 or 10 and above is considered abnormal. MESA questionnaire Q 12, items a through h correspond to the ESS. The scoring of the ESS is as follows: if someone responds with "would never doze" they are assigned zero points, "slight doze chance" they are assigned 1 point, "moderate doze chance" with 2 points, and finally "high doze chance" with 3 points.

### MESA Sleep Questionnaire Items

12. What is the chance that you would doze off or fall asleep (not just "feel tired") in each of the following situations? If you are never or rarely in the situation, please give your best guess for what would happen. (*Mark only one for each item*)

	<u>No Chance</u>	<u>Slight Chance</u>	<u>Moderate Chance</u>	<u>High Chance</u>
a. Sitting and reading	<input type="radio"/> O <sub>1</sub>	<input type="radio"/> O <sub>2</sub>	<input type="radio"/> O <sub>3</sub>	<input type="radio"/> O <sub>4</sub>
b. Watching TV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sitting inactive in public place (such as a theater or a meeting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Riding as a passenger in a car for an hour without a break	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Lying down to rest in the afternoon when circumstances permit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Sitting and talking to someone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Sitting quietly after a lunch without alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. In a car, while stopped for a few minutes in traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sleep Questionnaire Computed Variables

### Variable [eps1psc15c] Epworth Sleepiness Scale (continued)

#### MESA Variables

Variable	Variable Description	Value Labels
readng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING AND READING	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
tv5	CHANCE OF DOZING / FALL ASLEEP WHILE: WATCHING TV	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
sittng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING INACTIVE IN PUBLIC	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
riding5	CHANCE OF DOZING / FALL ASLEEP WHILE: RIDING AS PASSENGER IN CAR	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
lyngdwn5	CHANCE OF DOZING / FALL ASLEEP WHILE: LYING DOWN TO REST IN AFTERNOON	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
talkng5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING AND TALKING TO SOMEONE	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
quietly5	CHANCE OF DOZING / FALL ASLEEP WHILE: SITTING QUIETLY AFTER LUNCH (NO ALCOHOL)	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE
car5	CHANCE OF DOZING / FALL ASLEEP WHILE: IN CAR STOPPED IN TRAFFIC	1: NO CHANCE 2: SLIGHT CHANCE 3: MODERATE CHANCE 4: HIGH CHANCE

**PLEASE NOTE: All MESA variables used in calculating the ESS need to be recoded to conform to the values applied to score the scale.**

## Sleep Questionnaire Computed Variables

### Variable [epslpsc15c] Epworth Sleepiness Scale (*continued*)

#### Summary of steps for calculation of Epworth Sleepiness Scale in MESA

1. Recode variables [lyngdwn5], [talkng5], [quietly5], [car5], [riding5], [readng5], [sittng5], and [tv5]:
  - 1=0
  - 2=1
  - 3=2
  - 4=3
2. Sum the values [readng5], [tv5], [sittng5], [riding5], [lyngdwn5], [talkng5], [quietly5], and [car5] **if none are missing**. Participants with any missing values for the 8 variables are set to missing (n=12).

## Sleep Questionnaire Computed Variables

### Variable [hoostmeq5c] Modified Horne-Ostberg Morningness-Eveningness Questionnaire

The Morningness-Eveningness Questionnaire (MEQ) is a questionnaire designed to assess morningness and eveningness. The modified version used in MESA consists of 5 items. Questions 16-20 from the MESA questionnaire correspond to the MEQ. Each answer has a value attached to it and the values are summed to calculate the total score. We maintained the same scales for these five questions with one exception: for the MESA question 20, one additional choice was added: "neither a morning nor an evening type." This is an intermediate answer and was given an intermediate score ranking (approximately equivalent to the median/mean of the other points for that particular question). In order to obtain a summary score we simply added the points from each question as is done with the MEQ.

#### MESA Sleep Questionnaire Items

16. Considering only your own "feeling best" rhythm, at what time would you get up if you were entirely free to plan your day?

- O<sub>1</sub> 5:00 - 6:30 am
- O<sub>2</sub> 6:30 - 7:45 am
- O<sub>3</sub> 7:45 - 9:45 am
- O<sub>4</sub> 9:45 - 11:00 am
- O<sub>5</sub> After 11:00 am

17. During the first half hour after having woken in the morning, how tired do you feel?

- O<sub>1</sub> Very tired
- O<sub>2</sub> Fairly tired
- O<sub>3</sub> Fairly refreshed
- O<sub>4</sub> Very refreshed

18. At what time in the evening do you feel most tired and, as a result, most in need of sleep?

- O<sub>1</sub> 8:00 - 9:00 pm
- O<sub>2</sub> 9:00 - 10:15 pm
- O<sub>3</sub> 10:15 pm - 12:45 am
- O<sub>4</sub> 12:45 - 2:00 am
- O<sub>5</sub> After 2:00 am

19. At what time of the day do you think that you reach your "feeling best" peak?

- O<sub>1</sub> 5:00 - 8:00 am
- O<sub>2</sub> 8:00 - 10:00 am
- O<sub>3</sub> 10:00 - 4:45 pm
- O<sub>4</sub> 4:45 - 9:45 pm
- O<sub>5</sub> After 9:45 pm

20. One hears about "morning" and "evening" types of people. Which ONE of these types do you consider yourself to be?

- O<sub>1</sub> Definitely a "morning" type
- O<sub>2</sub> Rather more a "morning" than an "evening" type
- O<sub>3</sub> Rather more an "evening" than a "morning" type
- O<sub>4</sub> Definitely an "evening" type
- O<sub>5</sub> NEITHER a "morning" or an "evening" type

## Sleep Questionnaire Computed Variables

### Variable [hoostmeq5c] Modified Horne-Ostberg Morningness-Eveningness Questionnaire (continued)

#### MESA Variables

Variable	Variable Description	Value Labels
feelngbstr5	TIME OF DAY FEELING BEST	1: 5:00 - 6:30 AM 2: 6:30 - 7:45 AM 3: 7:45 - 9:45 AM 4: 9:45 - 11:00 AM 5: AFTER 11:00 AM
tired5	HOW TIRED DURING FIRST HALF HOUR AFTER HAVING WOKEN IN MORNING	1: VERY TIRED 2: FAIRLY TIRED 3: FAIRLY REFRESHED 4: VERY REFRESHED
mosttired4	TIME IN EVENING FEEL MOST TIRED AND IN NEED OF SLEEP	1: 8:00 - 9:00 PM 2: 9:00 - 10:15 PM 3: 10:15 - 12:45 AM 4: 12:45 - 2:00 AM 5: AFTER 2:00 AM
feelngbstpk5	TIME OF DAY REACHING BEST FEELING PEAK	1: 5:00 - 8:00 AM 2: 8:00 - 10:00 AM 3: 10:00 - 4:45 PM 4: 4:45 - 9:45 PM 5: AFTER 9:45 PM
types5	TYPE OF PERSON: MORNING OR EVENING	1: DEFINITELY A MORNING TYPE 2: RATHER MORE A MORNING THAN AN EVENING TYPE 3: RATHER MORE AN EVENING THAN A MORNING TYPE 4: DEFINITELY AN EVENING TYPE 5: NEITHER A MORNING OR AN EVENING TYPE

**PLEASE NOTE: All but one of the MESA variables used in calculating the MEQ need to be recoded to conform to the values applied to score the scale.**

## Sleep Questionnaire Computed Variables

### Variable [hoostmeq5c] Modified Horne-Ostberg Morningness-Eveningness Questionnaire (continued)

#### Summary of steps for calculation of Morning-Eveningness Score

1. Recode variables: feelngbstr5, mosttired4, feelngbstpk5:

- 1=5
- 2=4
- 3=3
- 4=2
- 5=1

Recode types5:

- 1=6
- 2=4
- 3=2
- 4=0
- **5=3**

Variable tired5 does not need to be recoded.

2. Sum the values feelngbstr5, tired5, mosttired4, feelngbstpk5, types5 **if none are missing**. Participants with any missing values for the 5 variables are set to missing (n=11).